SERGS
Society of European Robotic Gynaecological Surgery
Issue 07
November 2026

THE CONSOLE

SERGS Publication



Medtronic

See the innovation, trust the seal.

A proven choice in open and lap, now available for robotic surgery.

LigaSure™ RAS Maryland on the Hugo™ RAS system



Disclaimer: The Medtronic Hugo™ RAS system is commercially available in certain geographies. Regulatory requirements of individual countries and regions will determine approval, clearance, or market availability. In the EU, the Hugo™ RAS system is CE marked. In the U.S., the Hugo™ system is an investigational device not for sale.

The LigaSure™ RAS Mar yland jaw vessel sealer/divider is not commercially available in all regions.

©2026 Medtronic. All Rights Reserved. emea-rp-2500172-ligasure-ras-maryland-advert-a4-en-emea-22082173

www.medtronic.com/covidien/uk



Message from the Editor-in-Chief

From Stockholm to Paris:
Advancing Robotic Gynaecological Surgery Through Innovation, Collaboration and Education

Dear Colleagues, dear Friends,

Robotic gynaecological surgery continues to evolve at a remarkable pace, transforming not only the way we perform surgical procedures but also how we educate, collaborate, conduct research and care for our patients. As our scientific community grows, so does our responsibility to ensure that technological progress is accompanied by scientific excellence, equitable access to training and, above all, a commitment to patient safety and quality of care.

It is with great pleasure that I welcome you to this new issue of The Console, which reflects the dynamic spirit of the Society of European Robotic Gynaecological Surgery (SERGS) and highlights the people, initiatives and ideas shaping the future of our specialty.

The 18th SERGS Annual Meeting, held in Stockholm in 2026, represented an important milestone in the Society's journey. Bringing together robotic surgeons, researchers, educators and industry partners from around the world, the congress demonstrated the increasingly international character of our community. In this issue, **Henrik Falconer reflects on this memorable meeting, sharing its scientific highlights, achievements and key messages.** Beyond the exchange of scientific knowledge, Stockholm reminded us that the true strength of SERGS lies in its people, their enthusiasm and their willingness to share experiences and learn from one another.

Looking ahead, we turn our attention to the **19th SERGS Annual Meeting, scheduled for May 27–29, 2027, at the Cité des Sciences et de l'Industrie in Paris. Thomas Hebert presents his vision for a congress that promises to strengthen international collaboration and explore new horizons in robotic surgery.** With a scientific programme encompassing training and simulation, step-by-step surgical education, live surgery and emerging technologies, Paris 2027 offers an exciting opportunity to bring together different surgical traditions, perspectives and experiences under a common commitment to excellence.

Scientific progress, however, requires more than innovation. It demands a clear understanding of our current clinical practice and the challenges faced by surgical centres across different

healthcare systems. In this context, the **SERGS CORE Project - Centres Of Robotic Excellence - represents a particularly important initiative.** In his contribution, **Sergi Fernández** presents the objectives and development of this ambitious project, which **aims to map robotic gynaecological surgery across Europe,** identify differences in infrastructure, surgical activity and educational opportunities, and establish the foundations for future multicentre collaborative research. By understanding where we stand today, we can better identify where improvements are needed and build a stronger evidence-based future.

Equally important is our investment in the next generation of robotic surgeons. We are delighted to feature **a message from Eleni Karatrasoglou, the new President of the Young European Advocates of Robotic Surgery (YEARS).** Her vision places particular **emphasis on education, mentorship, networking and equal opportunities for young colleagues, irrespective of their geographical or institutional background.** Initiatives such as MIRGS - Mentoring in Robotic Gynaecological Surgery - demonstrate how experienced surgeons can help younger colleagues develop their knowledge, confidence and professional opportunities. Complementing this perspective, our **Mentors' Corner**, with a contribution from **Martin Martino**, **highlights the value of experience, professional guidance and the transmission of surgical knowledge between generations.**

The international dimension of robotic gynaecological surgery is another central theme of this issue. Through a perspective from Brazil, **Vanessa Alvarenga-Bezerra explores the opportuni- ties and challenges associated with the development of robotic surgery,** including access to technology, education and structured training. Such contributions remind us that, despite differences in resources and healthcare systems, our professional aspirations are shared across borders. International dialogue can help us recognise common challenges, learn from different experiences and promote more inclusive surgical progress.

Innovation remains at the heart of our specialty, and this issue also invites readers to reconsider established surgical practices. In a thought-provoking masterclass, **Dr. Gaurav Desai examines whether robotic myomectomy can become independent of the traditional assistant port.** By questioning familiar surgical workflows and exploring alternative technical approaches, this contribution encourages critical reflection on how robotic technology can be used to its fullest potential, always with appropriate consideration for surgical safety and clinical judgement.

Yet technological development must never overshadow the human dimension of surgery. In an inspiring interview, **Vanna Zanagnolo shares her professional journey, her experiences as a woman in surgery and her perspective on the future of robotics.** Her reflections remind us of the importance of determination, mentorship, diversity and equal opportunities in shaping the surgical profession. Encouraging women to take active roles in surgical innovation, research and leadership is essential to building a more representative and progressive scientific community.

Our responsibility also extends beyond the operating theatre and the scientific congress. Patients increasingly seek clear, reliable and accessible information about robotic surgery, its indications, benefits, limitations and recovery. **The SERGS Patient Portal represents an important step towards addressing this need**. By providing understandable educational resources in multiple languages, the portal helps patients and their families navigate complex medical information and supports informed discussions with their healthcare professionals.

Patient-centred communication is not an accessory to surgical excellence; it is one of its fundamental components.

Finally, **the Scientific Abstracts presented at SERGS 2026 provide an important record of the research, innovation and academic activity of our community.** They reflect the breadth of work being undertaken across institutions and countries and underline the essential role of scientific exchange in advancing our specialty.

Taken together, the contributions in this issue convey a clear message: **the future of robotic gynaecological surgery will not be determined by technology alone, but by our ability to combine innovation with education, research, mentorship, collaboration and compassion.**

As Editor of The Console, I firmly believe that our journal should serve not only as **a platform for communicating scientific developments**, but also as **a meeting point for ideas, experiences and perspectives**. It should give visibility to established leaders and emerging voices alike, encourage constructive scientific dialogue and strengthen the sense of belonging within our growing international community.

From the achievements celebrated in Stockholm to the opportunities awaiting us in Paris, SERGS continues to demonstrate that progress is most meaningful when it is shared.

I would like to express my sincere gratitude to all the distinguished colleagues who have contributed to this issue, to the leadership of SERGS for its continued vision and commitment, and to our readers for their engagement and support.

I invite you to explore the articles, reflect on the perspectives presented and remain actively involved in the scientific and educational initiatives of our Society.

Together, we are not simply witnessing the evolution of robotic gynaecological surgery. We are actively shaping its future.

With warmest regards,

Christos Iavazzo

Editor, *'The Console'*

Official Journal of the Society of European Robotic Gynaecological Surgery (SERGS)

Contents

01 SERSG Annual meeting Stockholm 2026 – A Meeting to Remember
Henrik Falconer, Sweden PAGE 1

02 SERGS 2027 Annual Meeting
Paris, France
Thomas Hebert, France PAGE 3

03 SERGS CORE Project: Mapping Robotic Gynaecology and Building the Foundations for Collaborative Research
Sergi Fernández-Gonzalez, Spain PAGE 5


Sergi Fernández-Gonzalez

04 YEARS CORNER
Connecting, Educating and Growing Together: A Message from the New YEARS President
Eleni Karatrasoglou, Greece PAGE 8

05 MENTOR'S CORNER
Beyond the Robot: The Legacy of Mentorship
Martin A. Martino, USA PAGE 10

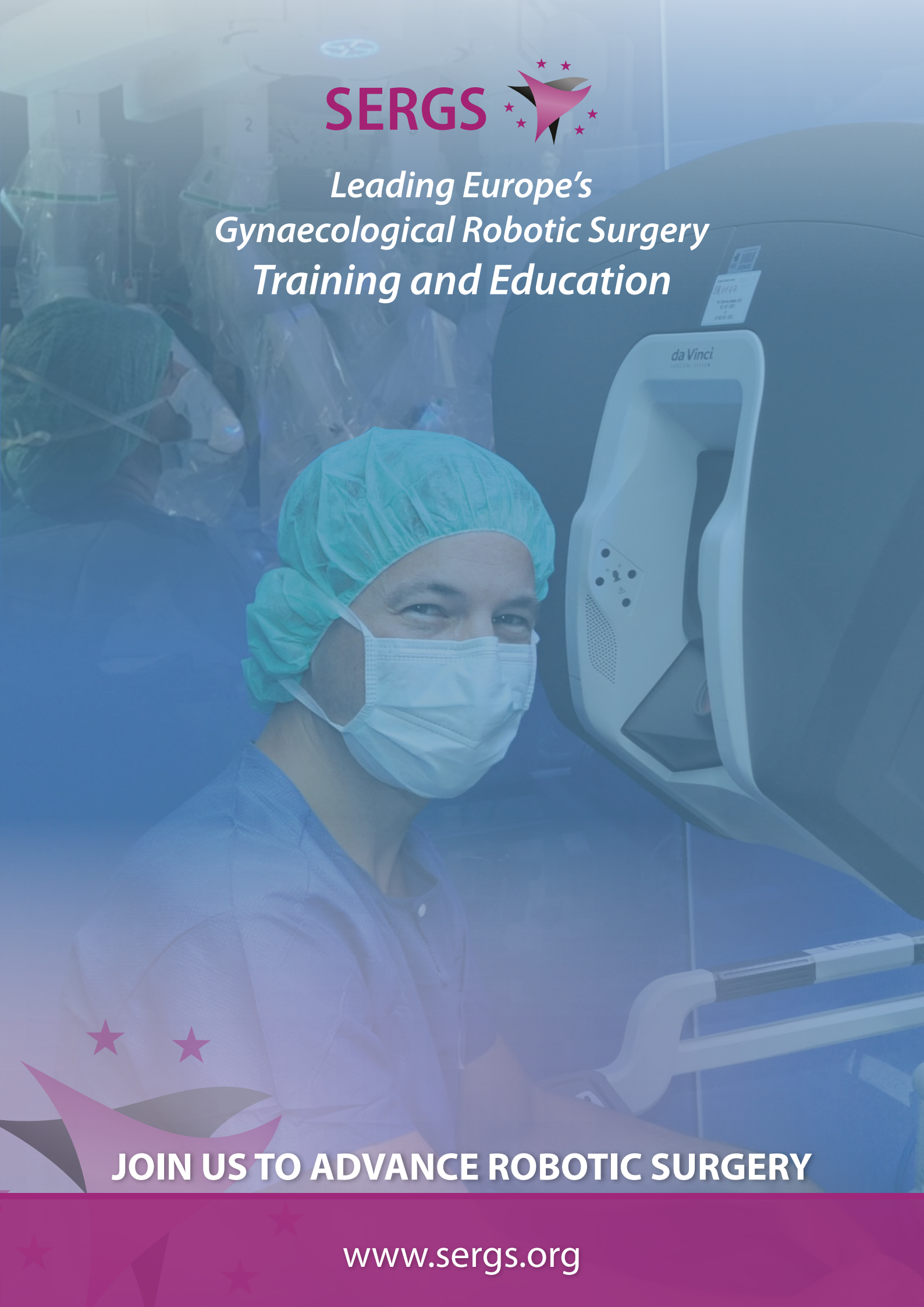
06 Manuscript SERGS: an international perspective on the current reality of gynaecological robotic surgery in Brazil, including opportunities, challenges, training and access to robotic technology
Vanessa Alvarenga-Bezerra, Luiza Gama Ancona de Faria, Ana Flávia Nunes de Souza, Mariana Costa Rossette, Renato Moretti-Marques PAGE 11

07 SERGS Masterclass
Gaurav Desai, India PAGE 14

08 Women in surgery and the future of robotics
Vanna Zanagnolo, Italy PAGE 16


Vanna Zanagnolo

09 SERGS PATIENT PORTAL
Knowledge reassurance and support beyond the consultation PAGE 19


SERGS
Leading Europe's
Gynaecological Robotic Surgery
Training and Education
da Vinci
JOIN US TO ADVANCE ROBOTIC SURGERY
www.sergs.org

SERSG ANNUAL MEETING

Stockholm 2026 – A Meeting to Remember

Henrik Falconer, Sweden

Dear robotic friends!

As both **President of SERGS** and **Congress President,** I had high hopes for the 18th Annual SERGS Meeting in Stockholm - but I think it is fair to say that Stockholm exceeded even my own expectations.

Perhaps we had some help from above: Stockholm showed itself from its very best side, with glorious sunshine throughout the meeting. But it was the people who truly made these days special.

We welcomed a record number of participants, travelling not only from all over Europe, but also from Asia, the Middle East, the United States and South America. Walking through the congress venue and hearing conversations in so many languages was a wonderful reminder of how international SERGS has become. We also had a record number of exhibitors and sponsors, reflecting the enormous interest, energy and innovation that currently surrounds robotic surgery.



A very exciting moment was when we brought professional e-sporters onto the congress stage to compete against experienced robotic surgeons from around the world in surgical simulation. Who has the best hand-eye coordination? Who performs best under pressure? And does spending thousands of hours gaming give you skills that can challenge years of robotic surgical experience?



The atmosphere was fantastic. Swedish national television, TV4, came to cover the event and the competition became much more exciting than I think any of us had anticipated. After a remarkably close final, **the winner was our Polish colleague Magdalena Bizon. Congratulations Magdalena!**

During the congress, the first teleoperated robotic surgery was performed on a patient in Sweden, with the surgeon sitting in Belgium and operating on the patient in Stockholm. What sounded like science fiction not so long ago was suddenly happening in front of us. It was an extraordinary milestone and a powerful demonstration of where our field may be heading.

But SERGS is, of course, about much more than technology and competition. At the heart of the meeting was an outstanding scientific programme.

We listened to inspiring lectures, heard new ideas, challenged old truths, and had discussions that sometimes raised as many questions as they answered - exactly as a good scientific meeting should.

What made me particularly happy was that the discussions did not stop when the sessions ended. They continued in the corridors, over coffee, during lunch and late into the evening.

Everywhere I looked, people were talking, debating, laughing, sharing experiences and making new connections. For me, this is the true spirit of SERGS. Science moves forward through data and innovation, but also through curiosity, openness, friendship and the willingness to learn from one another.



And speaking of memorable evenings - what better place for our gala dinner than the Vasa Museum? Dining beside one of Sweden's most extraordinary historical treasures was something very special. It was an evening filled with friendship, laughter and wonderful conversations - one that I hope our international guests will remember for many years.

I want to express my heartfelt thanks to all our speakers and faculty who shared their knowledge and experience; to our sponsors and exhibitors for their invaluable support; and, most importantly, to every participant who came to Stockholm and contributed with such enthusiasm, curiosity and energy.

I also want to thank everyone who worked so hard for months to make this meeting possible. And I would especially like **to recognise our General Manager, Lucie Lamlova.** Lucie, your dedication, energy, patience and enormous amount of hard work were fundamental to the success of SERGS 2026. Thank you!

As President of SERGS, I am immensely proud of what our society has become. As Congress President, I am equally proud that we were able to welcome this remarkable community to my home city of Stockholm.

Thank you to everyone who made SERGS 2026 possible.



SERGS 2027

Annual Meeting — Paris, France

Thomas Hebert, France

19th Annual Meeting on Robotic Gynaecological Surgery

May 27–29, 2027
Cité des Sciences
et de l'Industrie, Paris, France



Dear colleagues and friends,

It is with great enthusiasm that we invite you to the **19th SERGS Annual Meeting on Robotic Gynaecological Surgery, to be held in the heart of Paris** at the Cité des Sciences et de l'Industrie Museum and Congress Centre, **from May 27 to 29, 2027.**

This edition promises a truly global programme. Together with our international partners — **the Society of Robotic Surgery (SRS), the Asian Gynaecological Robotic Society (AGRS),** and colleagues from **Latin American Robotics** — we will bring together renowned international faculty and surgeons from every continent for three days of knowledge-sharing, innovation and friendship.

The scientific programme will address the full spectrum of robotic gynaecological surgery: **training and simulation**, with an in-depth look at educational curricula around the world; **didactic step-by-step surgical sessions**; and a bold exploration of **innovation and the future of surgery**.

Attendees will witness **multiple live surgeries broadcast from multiple robotic platforms**, supported by most of the key players in the robotic surgery industry.

Academic sessions will cover the latest developments in urogynaecology, endometriosis and adenomyosis, complex benign pathology and gynaecological oncology - including the latest news of the **RACC trial** presented by Prof. Henrik Falconer.



A dedicated **YEARS session** (Young European Advocates for Robotic Surgery) will spotlight the next generation of robotic surgeons, and national societies are warmly invited to hold their own session on the morning of May 27.

Beyond science, we are preparing social events worthy of the occasion — including a Party at an exclusive Parisian location and a YEARS evening — to promote the friendship, networking and intellectual curiosity that make SERGS meetings so special.

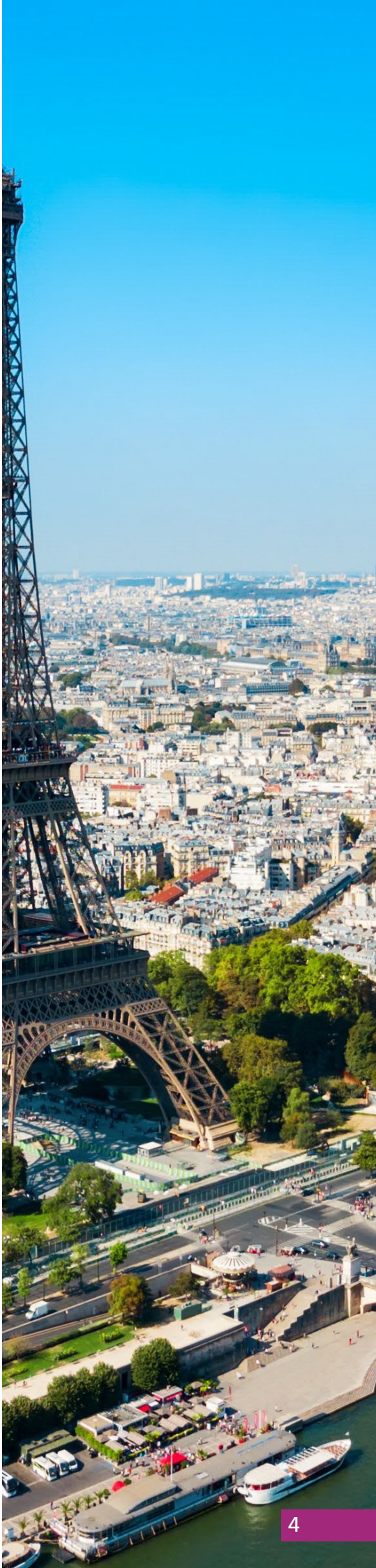
Paris in the spring, world-class surgery, and warm company: we cannot think of better ingredients for an unforgettable meeting. **Mark your calendars now** — **we look forward to welcoming you to the City of Light!**

Thomas Hebert

SERGS 2027 Local Chair & Chair of the International Scientific Programme Committee

SAVE THE DATE:
May 27–29, 2027 — Paris





SERGS CORE PROJECT:

Mapping Robotic Gynaecology and Building the Foundations for Collaborative Research

Sergi Fernández-Gonzalez, Spain

A rapidly growing robotic community

Robotic surgery has become an essential component of modern gynaecological surgical care. Across Europe, its implementation has expanded rapidly over the last two decades, particularly in gynaecological oncology, complex benign surgery, endometriosis, and pelvic floor procedures. This growth is also reflected within SERGS itself: in 2026, the society is approaching 1,000 registered members, highlighting the increasing relevance of robotic surgery within our community and the need to better understand how robotic gynaecology is being delivered across different centres.

However, the development of robotic programmes has not followed a uniform pathway. Some centres have long-standing, high-volume programmes with structured training and mature robotic infrastructure, while others are in earlier stages of implementation or operate within different institutional, logistical and economic frameworks.

Why mapping matters

This heterogeneity is not a weakness. It reflects the diversity of European healthcare systems and the different ways in which robotic gynaecology has evolved across institutions. Yet, to improve collaboration, training, research and quality of care, we first need to understand this landscape. This is the rationale behind the **SERGS CORE Project – Centres Of Robotic Excellence.**

The SERGS CORE Project was developed as a society-driven initiative to identify and characterise active robotic gynaecology centres, map their institutional and surgical activity, and create the foundations for a future collaborative research network. The project is structured in two phases.



Phase 1: the European Robotic Gynaecology Mapping Survey

Phase 1 the European Robotic Gynaecology Mapping Survey, aims to identify participating centres and describe key characteristics of their robotic programmes. Beyond simple mapping, it also seeks to identify potential gaps, unmet needs, and opportunities for improvement in the delivery of robotic gynaecological surgery.

The survey collects information on centre location, institutional profile, robotic infrastructure, year of programme launch, annual robotic volume, activity distribution, operating room capacity, safety protocols, training pathways, simulation and feasibility for future collaborative data collection.

Phase 2: building the CORE Registry

Phase 2 is envisioned as an anonymous patient-level CORE Registry. This second phase will aim to create a multicentre dataset capable of supporting collaborative research in robotic gynaecology, with particular

attention to surgical outcomes, institutional variability, case-mix, training models, safety standards and quality improvement.

A highly encouraging response

At the time of writing, recruitment for **Phase 1** is still ongoing, and the response from the SERGS community has been highly encouraging. So far, **70 unique centres remain in the dataset after duplicate removal.** These centres represent a broad and diverse network of robotic gynaecology programmes, including both established high-volume units and emerging robotic programmes. One of the most motivating findings has been the willingness of centres to collaborate in the next phase.

Among the 70 unique centres, ***51 expressed a clear interest in participating in Phase 2,*** *while* ***16 requested more information.*** *Overall,* ***67 of 70 centres, corresponding to 95.7%, were either positive or open to participation*** *in the future CORE Registry. This level of engagement highlights the strong appetite within the SERGS community for structured collaboration and multicentre research. Among the data that can already be shared with The Console are some preliminary figures generated from the responses analysed to date, including the initial dataset reviewed within the SERGS Council.*

Programme maturity across centres

Beyond the numerical response, **Phase 1** has already provided important insights. It shows that the SERGS network includes programmes with very different degrees of maturity. Some centres launched robotic gynaecology more than 15 years ago, while others have started within the last few years. This creates a unique opportunity for mutual learning between mature and newly established programmes.



Understanding case-mix heterogeneity

The survey also reveals that robotic gynaecology is not a single homogeneous field. Activity distribution varies substantially between centres. While gynaecological oncology represents a major proportion of robotic activity in many units, other centres show a more balanced case-mix, including endometriosis, benign gynaecology, pelvic floor surgery and other indications.



Understanding this case-mix is essential for meaningful benchmarking, because productivity and efficiency indicators cannot be interpreted without considering procedural complexity.

Safety, governance and training

Similarly, Phase 1 highlights the importance of safety, governance, and training. Robotic surgery requires not only technology, but also structured systems: credentialing, team training, emergency undocking protocols, robotic safety checklists, simulation, double-console access, and educational pathways. Mapping these elements allows SERGS to better understand where standards are already well established and where additional support, guidance, or educational initiatives may be valuable.



Responsible benchmarking

The CORE Project also raises an important methodological point: benchmarking in robotic surgery must be responsible. Indicators such as annual volume, cases per session, or cases per scheduled operating room hour can help describe operational performance, but they should not be interpreted in isolation.



Platform availability may be shared with other specialties, operating room sessions may reflect allocated rather than actually performed activity, and case complexity may vary widely. For this reason, SERGS CORE aims not to create simplistic rankings, but to build a framework for meaningful, contextualised comparison.

From a map to a living network

The ultimate value of SERGS CORE lies in its capacity to connect centres. A map of robotic gynaecology centres is more than a geographic exercise. It is the first step toward a living network: a network for education, mentoring, quality improvement, multicentre studies and future clinical registries.

By identifying who we are, where we are, what we do and how we work, SERGS can better support its members and strengthen robotic gynaecology across Europe and beyond.

Looking ahead

SERGS CORE should therefore become more than a mapping project. It is intended to be a strategic platform for collaboration. It reflects the mission of SERGS: to promote excellence, education, innovation, and research in robotic gynaecological surgery.

The success of this initiative will depend on continued engagement from the community. We warmly invite participating centres to remain involved, validate their data, share their experience and contribute to the development of this project. Together, we can build a European robotic gynaecology network capable of generating high-quality evidence and improve care for our patients.

YEARS
Young European Advocates of Robotic Surgery

YEARS CORNER

Connecting, Educating and Growing Together: A Message from the New YEARS President

Eleni Karatrasoglou, Greece

It is a great honour to begin my term as **President of the Young European Advocates of Robotic Surgery (YEARS)**. I take over this role from Dr Sergi Fernández González, whose leadership and enthusiasm established many initiatives and created a strong foundation for our future. I am sincerely grateful to him and to everyone who has contributed to the growth of our community.

The purpose of YEARS is simple but powerful: to connect young surgeons interested in robotic gynaecological surgery, wherever they are in the world. Robotic surgery is developing, but access to training, mentorship and research opportunities are not equal everywhere.

By sharing knowledge, experience, opportunities and ideas, we can support one another and grow together as surgeons, researchers and future leaders. Our network is constantly expanding, and we want young colleagues to feel welcome and able to participate.



Education and mentorship will remain central to our work. Through MIRGS - Mentoring in Robotic Gynaecological Surgery - **we connect YEARS members with experienced SERGS surgeons who can provide virtual advice, guidance, observerships and fellowship opportunities.**



Good mentorship can shape a young surgeon's career, open doors and create professional relationships. We therefore aim to expand the programme, strengthen communication between mentors and mentees, and encourage colleagues to benefit from it.

Research is another important priority. NEARS - the Network of European Advocates of Robotic Surgery - **brings together young robotic gynaecological surgeons across Europe and the United Kingdom** to collaborate on multi-centre audits, quality-improvement projects and research.

We hope to extend this network and create opportunities for young investigators to propose ideas, join international projects, develop research skills and contribute to better patient care. Collaboration across institutions and countries can make our work stronger and more relevant.

We will also continue our educational webinar series and keynote lectures featuring junior robotic surgeons. These sessions provide a platform where young colleagues can learn from experts, exchange experiences and present their work. In addition, we are developing a new

webinar series focused on robotic procedures explained step by step through live transmission.

The aim is to offer accessible education, taking participants through the key stages of each operation while encouraging questions, discussion and direct interaction with the surgical team.



I am especially happy to **welcome the newly elected members of the YEARS Council.** They are enthusiastic, talented and deeply committed to our community. Each member brings ideas, experience and energy. With their support - and with the participation of our members - **I truly believe that the best is yet to come.**

YEARS belongs to all young surgeons with an interest in robotic surgery. Whether you wish to find a mentor, participate in research, contribute to our educational activities, share a project or simply connect with colleagues, we would be delighted to hear from you. Your ideas and involvement will help determine our direction during the coming year.

Visit us at www.sergs.org/years or contact us at info@sergsmail.org.

JOIN US, share your ideas and **help us shape the future of robotic gynaecological surgery - TOGETHER**.

Eleni
President, Young European Advocates of Robotic Surgery (YEARS)



Follow us on social media:
www.twitter.com/years_network
www.instagram.com/years.network

MENTOR'S CORNER

Beyond the Robot: The Legacy of Mentorship

Martin A. Martino, USA

Past President, Society of Robotic Surgery
Professor, University of South Florida College of Medicine

When I reflect on my career as a gynaecological oncologist and robotic surgeon, some of my most meaningful moments have not occurred at the robotic console. They have come from watching young surgeons develop their confidence, overcome challenges, and accomplish what once seemed impossible.

Robotic surgery has transformed our profession, but technology alone does not create exceptional surgeons. Mentorship teaches judgment, humility, resilience, and the courage to recognise our limitations. It also gives young physicians permission to dream—and the courage to turn those dreams into reality.

When I reflect on my career as a gynaecological oncologist and robotic surgeon, some of my most meaningful moments have not occurred at the robotic console. They have come from watching young surgeons develop their confidence, overcome challenges, and accomplish what once seemed impossible.

Serving as President of the Society of Robotic Surgery reinforced another essential lesson: surgery is a team sport. Excellence depends not on one individual, but on surgeons, nurses, anesthesiologists, trainees, and colleagues working toward a shared purpose.

I witnessed this philosophy through **Professor Giovanni Scambia** and his team at **Gemelli Hospital in Rome**. He built a world-class department not simply by recruiting talent, but by nurturing it, trusting colleagues, and creating a culture in which people learned from and elevated one another. His mentorship extended beyond the operating room. He taught us to continuously learn, laugh, love, and live. I remain profoundly grateful for his example.

His memory inspires our teams through our work through the Institute for Surgical Excellence (ISE) to develop our Healthcare Scholars Programme.



Since 2015, ISE has offered students educational programs (elementary, high school – and college students) to introduce them to careers in healthcare. The programme aims to connect aspiring healthcare professionals with mentors through clinical exposure, research, and innovation. We hope these relationships will open doors and inspire future leaders.

To younger surgeons, I offer this advice: remain curious, work hard, embrace innovation, and remember that excellence does not mean perfection. Learn from adversity, support colleagues, and never lose sight of the patient who has entrusted you with their life. Seek mentors who challenge you, become a mentor yourself, and make time for those you love.

As superior intelligence reshapes surgery, our greatest responsibility remains human: building teams, sharing knowledge, and preparing others to lead with compassion and integrity.

Ultimately, the greatest legacy of a surgeon is not what we accomplish with our own hands, but what becomes possible through the hands of those we inspire.

MANUSCRIPT SERGS

An international perspective on the current reality of Gynaecological Robotic Surgery in Brazil, including opportunities, challenges, training and access to robotic technology

Vanessa Alvarenga-Bezerra[1,2,3], Luiza Gama Ancona de Faria[1], Ana Flávia Nunes de Souza[1], Mariana Costa Rossette[1], Renato Moretti-Marques[1,3,4]

[1] Hospital Israelita Albert Einstein, São Paulo, SP, Brazil
[2] Board Member, Society of Robotic Surgery (SRS)
[3] National Commission on Robotic Surgery, Brazilian Federation of Gynaecology and Obstetrics Associations (FEBRASGO), Brazil
[4] Brazilian Society of Surgical Oncology (SBCO), Brazil

A decade ago, discussions about robotic surgery in Brazil revolved around justification: whether it was necessary, financially viable and superior to laparoscopy. Today, the questions facing Brazilian institutions are different, and centre on which platform to acquire, how many systems are needed and how different ecosystems can coexist within the same hospital. **Robotic surgery arrived in Brazil in 2007, when the first da Vinci® systems were installed in private institutions in São Paulo.**[1] For more than a decade, practicing robotic surgery in Brazil meant training and operating on a single platform - a reality that mirrored the global market, where Intuitive Surgical was the major supplier for nearly two decades. After several key da Vinci patents expired in 2019, new manufacturers were able to enter this market.[2]

Since then, robotic gynaecology has moved beyond the conventional multiport model towards a diverse generation of platforms.[3] Still, **the evolution of robotic surgery remains ongoing**, with the emergence of new competing platforms and continued technological advancements that may further redefine the characteristics of an optimal robotic surgical system.[4]

For Brazilian surgeons and institutions, this opens new opportunities, but also raises practical questions about how access to robotic surgery can be broadened and how surgeons should be trained across different platforms.

This transformation is evident in the market for robotic platforms. Since 2021, three new multiport platforms have been approved in the country: **the Versius system (CMR Surgical) in 2021**[5]; **the Hugo™ RAS (Medtronic), with clinical experience already documented in Brazilian institutions**[6] **and the Toumai® (MicroPort MedBot), approved in 2024**[7].

In 2025, the EDGE MP1000 (Edge Medical) was used in the first robotic telesurgery experiment in Latin America, performed on an animal model.[8] Other systems, such as the Japanese Hinotori (Medicaroid), are expected to reach Brazil's hospitals in 2026. Competition, which began to emerge globally from 2019 onward, has therefore already become a concrete reality within the Brazilian market.

Market transformation coincided with a parallel domestic regulatory movement. **In 2022, the Brazilian Federal Council of Medicine established a key milestone by formally recognising robotic surgery as a highly complex procedure and, for the first time, defining the roles of the primary surgeon and the proctoring surgeon**.[9]

More recently, in 2025, Brazil took an unprecedented step on the funding side: the public healthcare system (SUS) approved the incorporation of a robotic procedure for the first time—the robotic prostatectomy.[10] Only a few months later, coverage for the procedure also became mandatory within the private supplementary health insurance system.[11] **Within just a few years, therefore, Brazil moved from a regulatory vacuum to a relatively well-structured framework**. However, its practical implementation and reach across different surgical specialties, particularly beyond urology, have remained heterogeneous.

Complex, technically demanding procedures have increasingly been made feasible through robotic assistance, especially in gynaecological and gynaecological-oncologic practice. In Brazil, an early safety model for introducing robotic gynaecological surgery, based on an

initial series of 338 procedures, found deep endometriosis to be the most common indication (57%), followed by myomectomy (35%) and endometrial cancer resection (3%).[12]

Beyond more common indications, **robotic platforms have also been used in** more complex scenarios, such as **fertility-sparing surgery in early-stage cervical cancer**: our team at Hospital Israelita Albert Einstein in São Paulo recently described the first radical trachelectomy performed using the Hugo™ RAS platform, in a 36-year-old woman with early-stage cervical adenocarcinoma who preserved both bladder function and menstrual cycles postoperatively.[13] **Reports like this illustrate that newer platforms can already be applied in Brazil to technically demanding gynaecological procedures.**

This diversification, however, has not yet solved the longstanding challenge of robotic surgery in the country: access remains deeply concentrated. A national survey conducted in 2020 mapped the Da Vinci systems then in operation in Brazil and found that 71% were located in the Southeast, compared with only 13% combined in the North and Northeast. The same study found that surgeons with robotic certification more frequently work in more populous cities.[14]

Since then, robotic surgery has spread considerably. By August 2026, according to our own review of regulatory records, manufacturer statements and hospital announcements, robotic platforms were present in 20 of Brazil's 26 states and in the Federal District. The pattern, however, remains uneven: the da Vinci is still by far the most widely installed system with more than 160 units in over 140 hospitals, and more than half of them in the Southeast[15], while the newer platforms remain concentrated in a few states and institutions. This geographic inequality is compounded by a public–private asymmetry: **the first robotic system reached a Brazilian public hospital only in 2012, five years after the first installation in the private sector**.[1]

For many years, robotic certification in Brazil was led by the platform manufacturer, which played a central role in structuring surgeon training.[16] The mandatory curriculum included simulator training followed by hands-on stages, many of them held at the company's own centres. Brazilian federal regulation later formalised parts of this pathway: under the Federal Council of Medicine's 2022 resolution, only physicians holding a Specialist Qualification Title in the relevant surgical field may perform robotic surgery, and they must complete specific training, either during residency or through dedicated certification.

Until that training is completed, the lead surgeon may only operate under the supervision of a certified instructor-surgeon.[9] **Starting in 2020, though, Brazilian medical societies began developing their own certification pathways: the Brazilian College of Surgeons launched a national curriculum for general surgery[16], and the Brazilian Federation of Gynaecology and Obstetrics Associations (FEBRASGO)** developed a dedicated pathway for gynaecological robotic surgery[17] —a structure that echoes, in shape, SERGS's own certification route in Europe.[18–20]

Data from the national da Vinci distributor offer a first picture of actual uptake. In June 2026, 2,835 surgeons in Brazil were considered active on the platform, defined as having performed at least four robotic procedures in the previous 12 months. Of these, 578 were gynaecologists, behind urology (1,257) and general surgery (1,104). Within gynaecology, endometriosis surgery was the most frequent area of activity (335 surgeons), followed by benign hysterectomy (287) and hysterectomy for malignant disease (172). These categories are not mutually exclusive, as individual surgeons may be active across more than one indication.

Cost remains a central factor in this equation. A Brazilian study published in 2021 showed that robotic surgical supplies accounted for the largest share of hospital costs, in a context in which market monopoly impairs the reduction in the cost of robotic instruments.[21] To date, no published data have shown whether the introduction of new platforms has begun to change this landscape.

On the training side, a recent training programme at a public hospital in the state of São Paulo reported that approximately 65% of the total cost of training each surgeon was paid by the professionals themselves, while only about 5% came from the public health care funding, a pattern the authors describe as a direct consequence of the fact that **"the relationship between funding and the healthcare model is one of the biggest obstacles to the expansion of robotic surgery in the country"**.[1]

Beyond training, the acquisition price is only one layer of the economic equation: maintenance, instruments, operating-room time and, above all, utilisation determine the real cost per case.[3] Fixed costs are diluted as more trained surgeons and nursing teams increase annual

volume,[22] whereas a cheaper platform may become more expensive per completed procedure if it is underused or poorly supported locally. **Investing in surgeons and nursing teams specialised in robotic surgery therefore emerges as a feasible strategy for improving programme efficiency**, even in a healthcare system such as Brazil's, where public funding remains limited and, despite new entrants, the installed base is still largely composed of a single platform.

Taken together, these elements suggest that **Brazil may be moving toward a new phase in the expansion of robotic surgery**. The diversification of manufacturers is already a regulatory reality in the country, and the incorporation of robotic procedures into both public and private coverage has established a precedent that is likely, over time, to extend to other indications, including gynaecological procedures. Brazilian gynaecology currently has favorable conditions for this development: its own specialty-specific certification curriculum, a growing volume of procedures historically well suited to the robotic platform (including hysterectomies, oncologic staging procedures, and the treatment of deep endometriosis) and a new generation of surgeons interested in training in this technology.

The coming years will show whether this potential will, in fact, translate into growth distributed across regions, institutions, and surgeons throughout Brazil.

References:

1. Silva, G. G. et al. Making robotic surgery viable and training general surgeons in the Brazilian public healthcare. J. Robot. Surg. 20, (2026).

2. Koukourikis, P. & Rha, K. H. Robotic surgical systems in urology: What is currently available? Investig. Clin. Urol. 62, 14–22 (2021).

3. Bruno, M. et al. Emerging robotic platforms in gynaecologic surgery: a systematic review. J. Robot. Surg. 20, (2026).

4. Morrell, A. L. G. et al. The history of robotic surgery and its evolution: when illusion becomes reality. Rev. Col. Bras. Cir. 48, e20202798 (2021).

5. Surgical, C. M. R. CMR global footprint grows with regulatory approval for Versius in Brazil. GlobeNewswire https://www.globenewswire.com/news-release/2021/11/09/2330143/0/en/CMR-global-footprint-grows-with-regulatory-approval-for-Versius-in-Brazil.html (2021).

6. Carneiro, A. & Andrade, G. M. Technology description, initial experience and first impression of HUGOTM RAS robot platform in urologic procedures in Brazil. Int. Braz J Urol 49, 763–774 (2023).

7. MedBotTM's Toumai® Robot Receives Market Approval in Brazil. MicroPort MedBot https://www.medbotsurgical.com/en/news/254.html (2024).

8. Leandro, T. Inovação e tecnologia marcam a primeira telecirurgia da América Latina realizada no Paraná. Agência Sebrae de Notícias https://pr.agenciasebrae.com.br/inovacao-e-tecnologia/inovacao-e-tecnologia-marcam-a-primeira-telecirurgia-da-america-latina-realizada-no-parana/?utm_source=chatgpt.com.

9. Conselho Federal de Medicina. Resolution CFM No. 2311/2022: regulates robotic surgery in Brazil [Resolução CFM no 2.311, de 23 de março de 2022]. Brasília (DF): Federal Council of Medicine; 2022. Available from: CFM Resolution No. 2311/2022. Accessed 2026 Jun 14. https://sistemas.cfm.org.br/normas/arquivos/resolucoes/BR/2022/2311_2022.pdf.

10. Brasil. Ministério da Saúde. Secretaria de Ciência, Tecnologia, Inovação e do Complexo Econômico-Industrial da Saúde. Portaria SECTICS/MS no 72, de 30 de setembro de 2025. Torna pública a decisão de incorporar, no âmbito do Sistema Único de Saúde - SUS, a prostatectomia radical assistida por robô para o tratamento de pacientes com câncer de próstata clinicamente localizado ou localmente avançado. Diário Oficial da União. 2025 Oct 1;187(190):219.

11. Agência Nacional de Saúde Suplementar. Resolução Normativa no 654, de 5 de dezembro de 2025. https://www.gov.br/ans/pt-br/assuntos/noticias/beneficiario/ans-inclui-1o-cirurgia-robotica-na-cobertura-obrigatoria-dos-planos-de-saude (2025).

12. Gomes, M. T. V. et al. Safety model for the introduction of robotic surgery in gynaecology. Rev. Bras. Ginecol. Obstet. 40, 397–402 (2018)

13. Moretti-Marques, R. et al. First robotic radical trachelectomy for cervical cancer using the Hugo RAS platform. Int. J. Gynecol. Cancer ijgc–2024–005895 (2025).

14. Araujo, R. L. C. et al. Overview and perspectives about the robotic surgical certification process in Brazil: the new statement and a national web-survey. Rev. Col. Bras. Cir. 47, e20202714 (2020).

15. Portal da Vinci. Robotic surgery [Internet]. [cited 2026 Jun 4]. Available from: https://www.portaldavinci.com.br/.

16. Barros, F. D. E., Felicio, V. B., Tabet, A. C. L. & Cerbone, A. C. C. Training in robotic surgery: initial experience using the Brazilian College of Surgeons model. Rev. Col. Bras. Cir. 48, e20202969 (2021).

17. Brazilian Federation of Gynaecology and Obstetrics Associations (FEBRASGO). Certification of proficiency in robotic gynaecologic surgery [Internet]. Rio de Janeiro: FEBRASGO; [cited 2026 Jun 14]. Available from: FEBRASGO – Robotic Surgery.

18. Bruni, S. YEARS Corner: Training Programmes in Robotic Surgery in Italy and My Personal Experience. The Console 17–18 (2025).

19. Rusch, P. et al. Recommendations for a standardised educational program in robot assisted gynaecological surgery: Consensus from the Society of European Robotic Gynaecological Surgery (SERGS). Facts Views Vis. ObGyn 11, 29–41 (2019).

20. Rusch, P. et al. The Society of European Robotic Gynaecological Surgery (SERGS) Pilot Curriculum for robot assisted gynaecological surgery. Arch. Gynecol. Obstet. 297, 415–420 (2018).

21. Rodrigues Martins, Y. M., Romanelli de Castro, P., Drummond Lage, A. P., Alves Wainstein, A. J. & de Vasconcellos Santos, F. A. Robotic surgery costs: Revealing the real villains. Int. J. Med. Robot. 17, e2311 (2021).

22. Nayeemuddin, M., Daley, S. C. & Ellsworth, P. Modifiable factors to decrease the cost of robotic-assisted procedures. AORN J. 98, 343–352 (2013).

SERGS MASTERCLASS

Can robotic myomectomy become assistant-independent?

Gaurav Desai, India

Interviewer: Most robotic surgeons consider the assistant port indispensable. Why go against the 'norm' for a technique that is used by many across the world?

Dr. Gaurav Desai: This question assumes that the assistant port is essential and a must for robotic myomectomy. On the contrary, I would argue that the assistant port is made out to be a surety and workflow designed around it.

Each and every use of this assistant port - insertion of a myoma screw, bowel retraction, suctioning, suture introduction and specimen retrieval - is in fact not a surgical necessity.

What we really need to be asking is how do we make the robot perform each critical surgical step to the best of its ability.



Interviewer: So is this about workflow management rather than merely port reduction?

Dr. Gaurav Desai: Absolutely.

There are many papers and publications that discuss reduced-port surgery citing cosmetic benefits. Very few bring out the workflow optimisation aspect of this.

The highlight is not removing one incision.



The highlight is redesigning the entire robotic arrangement so that every step flows smoothly without the additional external variable of the assistant port. That is a much more important aspect and advancement.

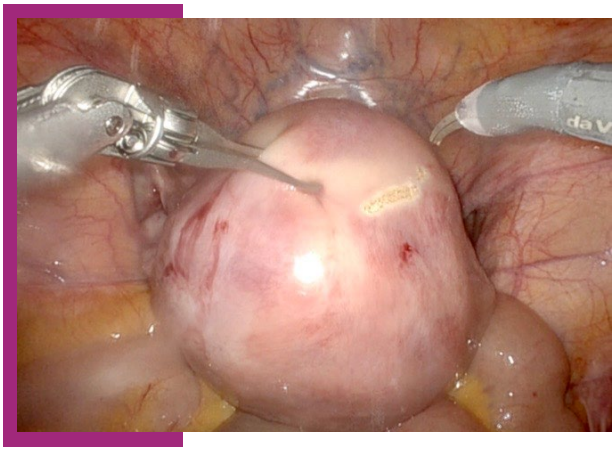
Interviewer: Which part of the operation posed the greatest challenge for this assistant port-free technique?

Dr. Gaurav Desai: Fibroid traction.

Surgeons have always thought: we need a myoma screw to give traction and counter traction to the fibroid via an assistant port.

We are just replacing that paradigm with the robotic wrist like instruments and controlled traction. The robotic tenaculum behaves differently from a laparoscopic myoma screw in that its articulation allows continuous adjustment of force vectors during enucleation of the myoma.

Additionally, when I used a myoma screw through the assistant port my assistant struggled to effectively



retract the myoma as the robotic arms sometimes came in the way.

Interviewer: Were there moments when you thought of inserting the assistant port in the course of the surgery?

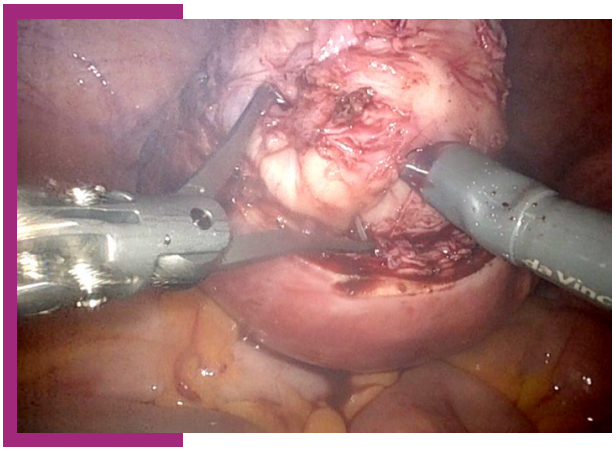
Dr. Gaurav Desai: No, I did not.

But we hold the safety of the patient at the top of our minds and is of utmost importance.

This is very important.

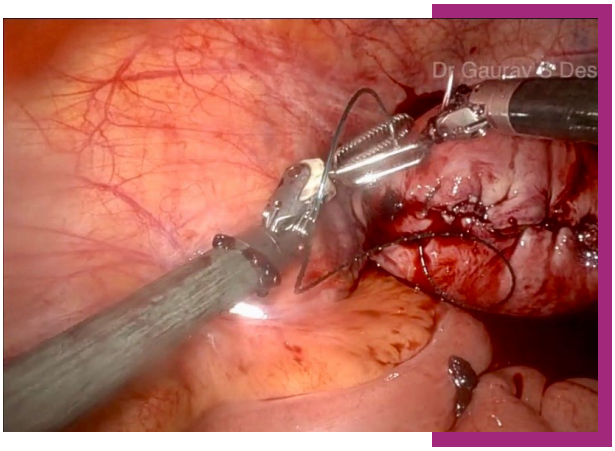
One must never reduce the ports at the cost of patient safety.

The accessory assistant port is always a potential rescue strategy—and should not be perceived as a technical failure.



Interviewer: Can you summarise your philosophy in one sentence?

Dr. Gaurav Desai: "The future of robotic myomectomy will not be judged by the number of robotic arms we use, but by how efficiently we perform the procedure and by how many unnecessary human dependencies and variables we eliminate."



WOMEN IN SURGERY

and the Future of Robotics

Vanna Zanagnolo, Italy



In this interview for The Console, Vanna Zanagnolo reflects on the determination that took her from surgical training in Italy to the United States and back to Milan. A past president of SERGS, she discusses the importance of equal access to training, the opportunities offered by robotic surgery, and why women should take an active role in shaping their profession.

Q: Could you introduce yourself and tell us about your work?

Vanna Zanagnolo: I work at the European Institute of Oncology in Milan, where we treat patients with gynaecological malignancies. We use both traditional open surgery and minimally invasive approaches, predominantly robotic surgery.

I am also a past president of SERGS. It was a real privilege to lead a society that I love and that I have been involved with since its inception.

Q: How did you become interested in surgery, and what challenges did you face early in your career?

Vanna Zanagnolo: *During my residency in Italy, I realised how much I enjoyed surgery. Robotic surgery did not exist at that time, although laparoscopy was already available. The difficulty was finding opportunities to learn surgery, particularly as a woman.*

I decided to go abroad and repeated my residency at Johns Hopkins University in the United States. When I returned to Italy, the situation had improved a little but I still did not have enough opportunities to work in the operating room. I therefore went back to the United States for a fellowship in gynaecological oncology.

I was offered a position there and was considering staying on when Dr Maggioni invited me to Milan. I told him that I would come if I could work in the operating room and continue developing my surgical skills. Otherwise, there was no reason to leave the position I had been offered.

He kept his word. I returned to Italy in 2005, and we started our robotic programme in 2006. Although I was the only female surgeon in the team, he chose me to undertake a robotic fellowship in the United States with Professor Magrina at the Mayo Clinic. That fellowship took place in 2008. He gave me the opportunity without making my gender an issue.

Q: Was your experience of surgical training in the United States different?

Vanna Zanagnolo: In my experience, the difference was in the structure of the training. A fellowship had clear educational goals and the programme gave you the opportunities to achieve them. That applied whether you were a woman or a man.

I already knew Professor Magrina and had a very

good relationship with him, but beyond that, teaching me was part of the programme's responsibility. Of course, individuals may progress at different rates, but everyone has to reach a certain level.

I did not experience problems there. The fellow before me was a woman, and the fellow after me was also a woman. There was one fellow each year, so I was not competing with others for access to training.

Q: Did you have any female surgical role models when you were starting out?

Vanna Zanagnolo: Not really. The female gynaecologists I knew often worked in areas such as ultrasound and colposcopy. They could do excellent work in those fields, but they were rarely involved in regular daytime surgery.

They did perform caesarean sections, particularly at night, when the male surgeons did not want to come in. However, that did not translate into the same access to other surgical opportunities.

I knew that if I stayed without seeking training elsewhere, I would not be able to learn the surgery I wanted to do. Returning with those skills made a difference: I was no longer entirely dependent on someone giving me the opportunity to learn.

Q: How have patients responded to having a female surgeon, and how has the profession changed?

Vanna Zanagnolo: My experience with patients has been very positive. Many are pleased to have a woman performing their surgery. Sometimes we have an entirely female team in the operating room, including the anaesthesiologist, scrub nurses and surgeons, and patients appreciate that.

The change has been gradual, but it has been substantial. When I arrived in Milan, I was the only female surgeon. Now, as more women have entered gynaecology and new colleagues have joined us, I would say we have more female surgeons than male surgeons in our team.



In our hospital, being a woman is no longer a barrier to working as a surgeon. I would not say that this is true in every hospital in Italy, but it is true in our setting.

Q: What helps surgeons achieve a balance between work and family life?

Vanna Zanagnolo: Within our team, there is a much better understanding of one another's needs. Colleagues with children understand the responsibilities involved and recognise that people need time for their families.

That does not mean we are unwilling to work hard or deal with emergencies. Sometimes you may need to stay for 12 or even 18 hours because there is an emergency or nobody else is available. But you also need to know that you can take time off afterwards, and that your colleagues will support you when your family needs you.

Everyone is willing to contribute and cover problems as they arise, but nobody can be in the hospital 24 hours a day. There has to be a reasonable balance between work and private life.

Q: What more could institutions do to support that balance?

Vanna Zanagnolo: There is still room for improvement at an institutional level. For example, childcare within the hospital would be a considerable help, particularly for female surgeons.

We have been discussing this for a long time, but it has not yet been implemented. Funding is a difficulty, because it is not something that directly generates income. I hope it will become a reality because it would make a real difference.

Q: You were involved in SERGS from the beginning. How did that come about?

Vanna Zanagnolo: Dr Maggioni was a real pioneer. He was an excellent open surgeon, rather than a laparoscopic surgeon, but he believed robotic surgery was the future and helped establish the programme across the specialties at our institute.

He also believed we needed a society to support the introduction of this technology, particularly in Europe. He organised an initial meeting, which I helped with, bringing together people who were starting robotic programmes in different European countries. SERGS was founded in 2008.

It is very rewarding to see that the society is still growing and becoming an increasingly important international organisation. I was also very honoured to receive the award for best oral presentation at the SERGS conference in London.

Q: What made you fall in love with robotic surgery?

Vanna Zanagnolo: For someone who enjoys surgery, robotic technology offers a great deal of help in performing minimally invasive procedures. I find it less tiring, which helps me keep my mind clear throughout an operation.



An excellent laparoscopic surgeon may be able to achieve the same result with conventional laparoscopy. However, developing that level of laparoscopic skill can take a long time, and robotic technology can help surgeons overcome some of the difficulties involved by becoming proficient in minimally invasive surgery.

For me, the most important point is what this means for patients. If robotic technology helps more surgeons become skilled in minimally invasive surgery, more patients can be offered that approach. Enjoying the work is important too, but the benefit to patients comes first.

Q: Which future developments in robotic surgery excite you most?

Vanna Zanagnolo: I am particularly interested in the integration of artificial intelligence. I believe robotic technology offers a very good platform for AI to help surgeons perform surgery and tailor it to individual patients. We are still at the beginning of that journey, and I do not yet know exactly how it will work in practice. My hope is that algorithms will help us use the relevant information about each patient more efficiently, supporting decisions without requiring us to repeatedly work through every detail ourselves. Ultimately, the goal should be better surgery and better outcomes for patients.

Q: What advice would you give to young female surgeons who want to take on leadership roles?

Vanna Zanagnolo: Being the only woman in the room can sometimes feel like a disadvantage, but you have to believe in yourself and be clear about what you want to do. If it is something you truly want, you can find a way forward and overcome the difficulties.

For any surgeon, regardless of gender, the foundation is anatomy. Anatomy is your friend, whatever approach you choose, because you need to understand what you are dealing with. From there, you should develop your surgical skills, learning both open and minimally invasive approaches where possible.

For robotic surgery, follow a structured, stepwise training pathway. In our case, that means progressing through the levels of a curriculum towards certification. You cannot simply see a robot and start operating. That is not safe for you or for your patients. You need to build your skills progressively on a sound foundation.

Q: Is there a final message you would like to share?

Vanna Zanagnolo: *I would encourage women to become involved in international societies, whether SERGS or other societies in their field. These organisations give us a role in decision-making that can influence how we care for and manage our patients. Taking an active part in that work is also an important way to become a female role model internationally. It is an opportunity to contribute and help shape the profession.*



SERGS PATIENT PORTAL

Knowledge reassurance and support beyond the consultation

Why every robotic surgeon should introduce patients to the SERGS Patient Portal

For a surgeon, robotic-assisted surgery is a familiar and established part of modern clinical practice. For a patient, however, the word 'robotic' can raise many questions.

Will a robot perform the operation? Is the technology safe? What will happen during the procedure? How long will recovery take?

Even a thorough consultation may not resolve every concern. Patients are often processing a large amount of information at an emotionally difficult moment, and questions frequently arise only after they have left the clinic.

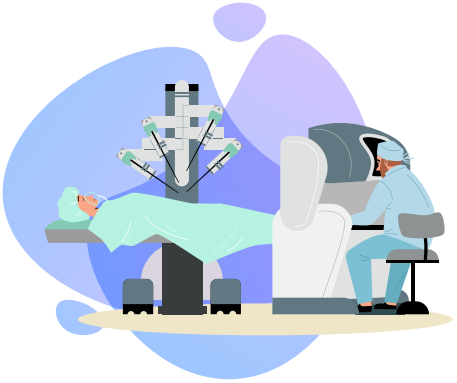
Many will then search online, where reliable medical information can be difficult to distinguish from commercial content, personal opinion or misinformation.

The SERGS Patient Portal was created to provide patients and their relatives with a trustworthy and accessible place to learn about robotic surgery in gynaecology.

Developed by a European medical society dedicated to its safe and effective use, the portal translates professional knowledge into information patients can understand.

What patients will find

Available in English, German, Italian, French and Spanish, the portal brings together essential facts about robotic-assisted surgery; explanations of gynaecological procedures, their indications and what patients may expect; answers to frequently asked questions; authentic patient experiences; and contact details for patient organisations and support groups across Europe.



A complement to the clinical conversation

The Patient Portal is not intended to replace individual medical advice or the relationship between a patient and her clinical team. Its purpose is to support that relationship. Patients can revisit important information in their own time and formulate more specific questions for their surgeon.

This can make subsequent conversations more focused and help patients participate more confidently in decisions about their care.

Patient stories and links to support organisations add another important dimension. Clinical explanations can describe a procedure, but hearing from someone who has already experienced a similar journey may provide a kind of reassurance that medical facts alone cannot offer. It can reduce feelings of uncertainty and isolation while supporting the patient's emotional wellbeing.

"Clearly presented information can help reduce uncertainty and anxiety, which may in turn have a positive effect on the quality of care."

Martin Heubner SERGS Secretary Treasurer



Help us reach patients

A patient resource can only make a difference if patients know that it exists. Robotic surgeons, gynaecologists, nurses and other members of the multidisciplinary team have an essential role in bringing the portal into everyday clinical practice.

Mention it during the consultation, display its QR code in the clinic, include the address in preoperative or discharge information, and share it through your hospital's communication channels.

Most importantly, recommend it personally. A website suggested by a trusted healthcare professional carries far greater authority than one discovered through an unguided internet search.

By directing patients to the SERGS Patient Portal, we can help them feel better informed, more reassured and less alone throughout their surgical journey.



Recommend the SERGS Patient Portal to your patients

https://patient.sergs.org/



THE SERGS VIDEO PORTAL IS GROWING

At a time when artificial intelligence is accelerating medical progress, surgical training remains grounded in anatomical knowledge and the hands-on experience of expert surgeons. At SERGS, we believe in combining technological innovation with the human touch that defines excellence in robotic gynaecological surgery.

www.sergs.org/video-portal/

OUR VIDEO PORTAL IS YOUR GO-TO PLATFORM FOR CONTINUOUS LEARNING, FEATURING:

Educational surgical videos with clear, step-by-step procedures

SERGS conferences

Monthly SERGS webinars and YEARS sessions

We're now EXPANDING the Surgical Video Library — and WE INVITE all SERGS members to contribute and help build a powerful resource for training and inspiration!

SUBMIT YOUR EDITED SURGICAL VIDEOS with step-by-step procedures (benign, oncological, or urogynaecological) to: info@sergsmail.org

THE PORTAL IS DIVIDED INTO THREE MAIN CATEGORIES:

- **SERGS Conferences** – recordings and highlights from past European congresses
- **SERGS Webinars** – a library of monthly online sessions
- **Surgical Videos** – a growing repository of operative videos, demonstrating real surgical cases and techniques.

This resource allows members to access content at their own pace and revisit material whenever needed, fostering continuous learning and professional development.



Robotic radical hysterectomy – My ...

9 views



Surgery for recurrent gynaecologic t...

1 views



Hysterectomy in large uterus

193 views



Best of SERGS 2026

108 views

SERGS

TRAINEES OR FELLOWS UNDER 45? JOIN YEARS

Young European Advocates of Robotic Surgery



www.sergs.org/years



SERGS 2026

ABSTRACTS

SUPPLEMENT

SERGS 2026 ABSTRACTS

ID 1

ROBOTICALLY-ASSISTED LAPAROSCOPIC HEMI-HYSTERECTOMY FOR CHRONIC PELVIC PAIN IN MAYER–ROKITANSKY–KÜSTER–HAUSER SYNDROME: A CASE REPORT

R. Csorba, P. Buderath, S. Almasarweh, Z. Atas Elfrink
Department of Gynaecology and Obstetrics, Essen University Hospital, Essen, Germany

Background

Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome is a rare congenital disorder affecting approximately 1 in 4,500-5,000 female newborns, characterised by embryologic underdevelopment of the Müllerian duct resulting in vaginal and uterine hypoplasia. While primary amenorrhea is the most common presentation, chronic pelvic pain represents a significant clinical challenge in patients with functional uterine remnants containing endometrial tissue. Robotic-assisted surgery offers enhanced precision and superior visualisation compared to conventional laparoscopy. This case report describes the first documented robotic-assisted hysterectomy in a young patient with MRKH syndrome presenting with chronic pelvic pain, demonstrating the feasibility of this innovative surgical approach.

Methods

An 18-year-old female patient with diagnosed MRKH syndrome presented with chronic left-sided abdominal and pelvic pain persisting for over 12 months. Physical examination revealed normal secondary sexual characteristics with an imperforate hymen and absent vaginal cavity. Pelvic ultrasound identified a rudimentary hemiuterus with normal ovaries. Magnetic resonance imaging confirmed vaginal and cervical agenesis, bilateral rudimentary hemiuteri, and bilateral normal ovaries, excluding urinary tract malformations. Cytogenetic testing confirmed a normal 46, XX karyotype. Following informed consent, the patient underwent elective robotic-assisted laparoscopy under general anaesthesia with complete excision of the rudimentary uterine horn and bilateral salpingectomy.

Results

Intraoperative findings revealed small hemiuteri without hematometra, an absent cervix, and normal ovaries and fallopian tubes. Pathological analysis confirmed an atypical epithelialised rudimentary uterus with mural fibrosis, bilateral atypical epithelialised fallopian tubes with fimbrial funnels, and a single paratubal cyst, with no malignancy. The patient experienced an uneventful postoperative recovery without requiring prophylactic antibiotics. Haemoglobin levels decreased minimally from 13.9 g/L preoperatively to 12.0 g/L at discharge. The patient was discharged on postoperative day two and remained completely asymptomatic at three-month and six-month follow-up evaluations, with successful resolution of chronic pelvic pain.

Conclusions

Robotic-assisted laparoscopic surgery represents a safe, effective, and minimally invasive approach for managing chronic pelvic pain in young patients with MRKH syndrome. The technique offers significant advantages, including enhanced surgical precision, improved visualisation of complex anatomical structures, and favourable postoperative outcomes with rapid recovery. Comprehensive management requires multidisciplinary collaboration encompassing gynaecological surgery, genetics, and psychological support to address both physical symptoms and long-term psychosocial implications of this condition.

ID 2

ARTIFICIAL INTELLIGENCE IN MINIMALLY INVASIVE GYNAECOLOGICAL SURGERY: A SYSTEMATIC REVIEW OF TASK- SPECIFIC PERFORMANCE AND CLINICAL TRANSLATIONAL READINESS

Eman Alnajjar[1], Fatma Al Hajeri[2], Latifa Alsaad[3], Conor Harrity[1], Kushal Chummun[4], Hassan Rajab[1]
[1] Department of Gynaecology, Beaumont Hospital, Dublin, Ireland
[2] Department of Obstetrics and Gynaecology, Corniche Maternity Hospital, Abu Dhabi, United Arab Emirates
[3] Department of Public Health, Mohammed Bin Rashid University of Medicine and Health Sciences, Dubai Health, Dubai, United Arab Emirates
[4] Department of Gynaecology, Rotunda Hospital, Dublin, Ireland

Aim

To systematically evaluate the task-specific performance and clinical translational readiness of artificial intelligence (AI) applications across the preoperative, intraoperative, and postoperative phases of minimally invasive gynaecological surgery (MIGS).

Data Sources

A comprehensive search was conducted in PubMed, Embase, Scopus, Web of Science, Google Scholar, CENTRAL, and The

Cochrane Library for English-language studies published between January 1, 2015, and August 31, 2025.

Methods

This review adhered to PRISMA guidelines. Studies evaluating AI or machine learning models for predictive or diagnostic tasks in MIGS (laparoscopy, hysteroscopy, robotics) were included. Animal models, technical feasibility reports without clinical outcomes, and non-English studies were excluded. Risk of bias was assessed using the PROBAST-AI framework.

Tabulation, Integration, and Results

Eight studies encompassing 6,577 patients met the inclusion criteria. AI applications were categorised by perioperative phase. Preoperative models for endometriosis and adnexal torsion demonstrated high sensitivity (95%-96%) but limited specificity (11%-45%), suggesting utility as screening triage tools rather than definitive diagnostics.

One randomised controlled trial demonstrated that AI-assisted surgical planning for hysteroscopic myomectomy significantly reduced operative time and blood loss ($p<0.05$). Postoperative deep learning models for predicting fertility outcomes following hysteroscopic adhesiolysis achieved the highest discrimination (AUC > 0.95) and were the only studies to incorporate prospective external validation. The PROBAST-AI assessment revealed a high risk of bias in 75% (6/8) of studies, primarily due to retrospective single-centre designs and lack of external validation.

Conclusions

AI in MIGS has begun to transition from theoretical exploration to clinically relevant applications in triage, safety, and prognostication. While high-sensitivity screening tools and validated prognostic models show promise, a significant translational gap remains. Widespread clinical adoption requires a shift from single-center model development to rigorous prospective evaluation with external validation.

ID 5

MINIMALLY INVASIVE DECOMPRESSION OF PELVIC NERVE ENTRAPMENTS: A FOUR-YEAR NEUROPELVEOLOGY EXPERIENCE FROM A HIGH-VOLUME CENTRE. ROBOTIC APPROACH

G. Mitroi, S. Florea, A. Simbotin, M. Vasile
Centre of Pelvic Neurosurgery, Bucharest Endometriosis Centre - Medlife Medical Park, Bucharest, Romania

Aim

To describe the diagnostic process and surgical results of patients with pelvic nerve entrapment treated in a dedicated neuro-pelveology unit, incorporating principles of functional neuro-anatomy and laparoscopic neuro-navigation.

Methods

Between 2021 and 2026, 426 consecutive patients with chronic pelvic pain suggestive of neuropathic origin were assessed using a structured neuropelveological protocol. This protocol was based on symptom mapping to lumbosacral dermatomes, a focused neurological examination, palpation of trigger points, and diagnostic nerve blocks. Imaging included pelvic MRI and magnetic resonance neurography (MRN) when indicated.

Entrapment was suspected when symptoms followed the neurofunctional topography of the pudendal, obturator, ilioinguinal, genitofemoral, or sacral nerve roots, as outlined in advanced neuropelveology. Surgical decompression was performed via laparoscopy or robot-assisted laparoscopy, utilising nerve-sparing retroperitoneal dissection and intraoperative identification of neural structures. Pain levels were measured using the visual analogue scale (VAS).

Results

Pudendal and lumbo-sacral trunk entrapments were the most commonly identified, often caused by deep infiltrating endometriosis, vascular compression, or postoperative fibrosis. Patients usually presented with neuropathic symptoms aligned with dermatomal distribution-burning pain, electric-shock sensations, dyspareunia, sitting intolerance, perineal numbness, and bladder or bowel issues when sacral roots were affected. At 6-month follow-up, average VAS scores decreased by over 60%, with restored functional mobility and marked improvements in urinary, anorectal, and sexual symptoms. Surgical complications were low, and no major neurological deficits were observed. Robotic assistance improved visualisation of the pelvic sidewall, sacral plexus, and Alcock's canal in cases with complex fibrosis or distorted anatomy.

Conclusions

Minimally invasive/robotic nerve decompression is an effective and safe treatment option for carefully selected patients with refractory pelvic neuropathic pain. The results emphasize the importance of a neuropelveology-based diagnostic algorithm that correlates dermatomal mapping with neurofunctional anatomy, and highlight the value of advanced laparoscopic or robotic approaches for precise neurolysis. This four-year experience shows that dedicated pelvic nerve surgery significantly improves quality of life and provides a solid basis for multidisciplinary management of complex pelvic pain syndromes.

ID 6

PHYSIOLOGICALLY ADAPTIVE SOFT MILLIROBOT FOR ATRAUMATIC ENDOVASCULAR THERAPY

Hakan Ceylan
Department of Physiology and Biomedical Engineering, Mayo Clinic, Scottsdale Arizona, United States

Atraumatic and localised drug delivery to the vascular endothelium remains a critical unmet need in interventional medicine, with major implications for arterial and venous disease management.

Here, we present EndoBot, an untethered elastic millirobot designed to enable endothelial-safe, soft-contact operation, under physiologic blood flow. EndoBot is magnetically actuated and navigates along the vessel lumen through curved, non-uniform geometries while maintaining ultra-low radial contact pressures (<1 kPa), far below endothelial injury thresholds. We demonstrate stable locomotion, with intrinsically compliant mechanics within a defined safety envelope under arterial and venous hemodynamics in phantom vessels, ex vivo human umbilical veins, and an in vivo rat inferior vena cava, without detectable vessel damage.

EndoBot is compatible with standard vascular sheaths for wireless deployment and retrieval and is controlled under clinical fluoroscopic guidance using a human-scale magnetic manipulation platform. Blood compatibility testing confirms safety, with minimal hemolysis and no increased coagulation tendency during navigation. For localised therapy, EndoBot employs a gentle endoluminal painting strategy, transferring a washout-resistant drug depot directly onto the vessel lumen. By combining atraumatic mobility, clinical deployability, and localised drug deposition, EndoBot establishes a translationally viable platform for developing maintenance-oriented endovascular therapies, supporting prevention of restonosis, thrombosis and inflammatory remodeling following intervention.

ID 7

LEARNING CURVE IN ONCOLOGICAL ROBOTIC PROCEDURES

E. Abreu[1], MR. Noguero[1], U. Cid[2], M. de Matias[1], A. Cuesta[1], M. Duro[1], K. Reyes[1], C. Ramos[1]
[1] Division of Obstetrics and Gynaecology, Hospital Universitario Rey Juan Carlos, Móstoles, Madrid, Spain
[2] Universidad Rey Juan Carlos, Madrid, Spain

Aim

Evolution of surgical times, hospital stay and analysis of perioperative complications, transfusions and readmissions in gynaecological robotic oncological surgery at the Rey Juan Carlos University Hospital (HURJC).

Material and Methods

Retrospective, descriptive, observational study which included 174 patients treated by robotic surgery between 2013 and 2023 for oncological pathologies. The sample was divided into two groups: Group 1: surgeries from 2013-2021 and Group 2: 2022-2023.

Results

There was a significant reduction between both groups, in oncological surgery time 263 vs 223 min p=0,012 respectively. Hospital stay was reduced both, in oncological cases 2,48 vs 2,17 p=0,002. There were no differences in rates of conversion, transfusion, complications or readmissions.

Conclusions

Surgical times and average length of stay were reduced overall. The surgical time and the average stay in oncology surgery decreased, in relation to the greater experience of the surgical team. There were fewer complications in the second group, but it was no significant.

ID 8

LEARNING CURVE IN ROBOTIC COLPOSACROPEXY

E. Abreu[1], MR. Noguero[1], U. Cid[2], M. de Matias[1], A. Cuesta[1], M. Duro[1], K. Reyes[1], C. Ramos[1], Cobos L[1]
[1] Division of Obstetrics and Gynaecology, Hospital Universitario Rey Juan Carlos, Móstoles, Madrid, Spain
[2] Universidad Rey Juan Carlos, Madrid, Spain

Aim

Evolution of surgical times, hospital stay and analysis of perioperative complications, transfusions and readmissions in genital prolapse robotic surgery at the Rey Juan Carlos University Hospital (HURJC).

Material and Methods

Retrospective, descriptive, observational study which included 54 patients treated by robotic surgery between 2013 and 2023 for genital prolapse. The sample was divided into two groups: Group 1: surgeries from 2013-2021 and Group 2: 2022-2023.

Results

There was a significant reduction between both groups, in genital prolapse surgery time (271 vs 214 min p=0,006). Hospital stay was reduced both groups, but in prolapse surgery it was not significantly so. There were no differences in rates of conversion, transfusion, complications or readmissions.

Conclusions

Surgical times and average length of stay were reduced overall. The surgical time decreased in all types of surgeries and also the average stay in genital prolapse surgery, in relation to the greater experience of the surgical team. There were fewer complications in the second group, but it was no significant.

ID 9

ENERGY CONSUMPTION IN ROBOTIC

HYSTERECTOMY FOR ENDOMETRIAL CANCER: DEVICE MEASUREMENTS WITHIN OPERATING THEATRE INFRASTRUCTURE

R. Chatterjee[1,2,3], S. Selek[1,4,5], N. Gomes[1], M. Taniacao[1], M. Nobbenhuis[1], T. E. J. Ind[1,6]
[1] Department of Gynaecological Oncology, The Royal Marsden NHS Foundation Trust, 203 Fulham Road, London SW3 6JJ, United Kingdom;
[2] Faculty of Medicine and Health, The University of Sydney, Camperdown, NSW 2050, Australia;
[3] Surgical Outcomes Research Centre (SOuRCe), Royal Price Alfred Hospital, Camperdown, NSW 2050, Australia;
[4] Institute of Cancer Research, 123 Old Brompton Road, London SW7 3RP, United Kingdom;
[5] NHS England Obstetrics and Gynaecology Training Programme, 10 South Colonnade, London E14 4PU, United Kingdom;
[6] St George's University of London, London, UK, SW17 0RE, United Kingdom

Background

Robotic hysterectomy is widely used to treat endometrial cancer. The environmental impact of robotic-assisted surgery (RAS) has mainly been estimated using modelling studies. Real world measurements of electricity use during robotic surgery remain limited. This study measured electricity consumption of robotic surgical devices and compared this with background operating theatre energy use.

Methods

A prospective observational study included fifteen consecutive robotic hysterectomies for endometrial cancer. Electricity consumption was measured at the wall socket using plug in power meters. Measured devices included the robotic patient cart, surgeon consoles, vision stack, light source, diathermy generator, and camera system.

Total energy use was calculated for each procedure. In five cases, electricity use was measured during a one hour preoperative system setup period. Monthly theatre electricity data were analysed to estimate background infrastructure energy demand. The relationship between operative duration and energy use was assessed using correlation analysis.

Results

Mean total electricity consumption was 5.35 ± 1.58 kWh per case. This was equivalent to about 45 standard 40-watt light bulbs running for one hour. Energy use increased linearly with operative duration ($r \approx 0.99$). Average electricity consumption was approximately 1.8 kWh per operative hour. The one hour setup period consumed a mean of 4.63 kWh. Background theatre infrastructure energy demand was estimated at approximately one to three kWh per hour per theatre.

Conclusions

Robotic hysterectomy shows predictable electricity use that increases with operative time. System setup contributes a substantial additional energy requirement. Robotic devices represent a meaningful and potentially modifiable component of theatre energy use. Improving workflow efficiency may reduce avoidable electricity consumption without affecting clinical care.

ID 10

ENHANCED SURGICAL EFFICIENCY WITH THE NEXT-GENERATION DA VINCI 5 SYSTEM COMPARED TO DA VINCI XI: A RETROSPECTIVE COHORT STUDY IN TOTAL LAPAROSCOPIC HYSTERECTOMY

Dahee Gong, Hyun-Kyung Seo, Seon-Mi Lee, Hye-Gyeong Jeong, Ki-jin Ryu, Seongmin Kim, Sanghoon Lee, Hyuntae Park, Jae-Yun Song
Department of Obstetrics & Gynaecology, Korea University College of Medicine, Seoul, Republic of Korea

Background

The da Vinci 5 (DV5) system represents the latest evolution in robotic surgery, featuring force feedback technology and improved ergonomics. However, comparative data on its surgical efficiency versus the established da Vinci Xi system are limited. This study aims to evaluate the perioperative outcomes and efficiency of the DV5 system in total laparoscopic hysterectomy (TLH).

Methods

We retrospectively analysed 124 patients who underwent robotic TLH for benign indications between January 2024 and May 2025. Patients were categorized into the DV5 group (n=48) and the Xi group (n=76). Primary outcomes were operative efficiency metrics: docking time, console time, and total surgical time. Secondary outcomes included hemoglobin change, hospital stay, and complications.

Results

Baseline characteristics, including uterine weight (424.2 vs. 403.6 g, P=0.123), were comparable between groups. The DV5 group demonstrated significantly shorter operative times across all metrics: docking time (3.13 ± 1.21 vs. 3.74 ± 1.77 min, P=0.025), console time (63.6 ± 35.2 vs. 86.6 ± 42.3 min, P=0.001), and total surgical time (109.8 ± 48.0 vs. 153.2 ± 65.1 min, P<0.001). Clinical outcomes, including hemoglobin change and hospital stay, showed no significant differences.

Conclusions

The DV5 system significantly improved surgical efficiency by reducing docking, console, and total operative times compared to the Xi system, without compromising patient safety. These findings suggest that the technological advancements of the DV5, such as force feedback, facilitate a more streamlined surgical workflow.

ID 12

AI-GUIDED TECHNOLOGY AND CARCINOMATOSIS: A RETROSPECTIVE STUDY OF USING ARTIFICIAL INTELLIGENCE TO IDENTIFY MALIGNANT

PERITONEAL LESIONS DURING LAPAROSCOPY IN PATIENTS WITH OVARIAN CANCER

Eleni Karatrasoglou[1,4], Adrien Bartoli[2,4], Julien Peyras[4], Mina Zamani[4], Nicolas Bourdel[3,4]

[1] Department of Medicine,National and Kapodistrian University, Athens,Greece

[2] Department of Computer Science, University of Clermont-Ferrand, France

[3] Department of Gynaecological Surgery, Estaing University Hospital, Clermont-Ferrand, France

[4] SURGAR Company, Clermont-Ferrand, France

Background/Aim

Accurate intraoperative assessment of peritoneal carcinomatosis is fundamental for staging and treatment planning in ovarian cancer. The Peritoneal Cancer Index (PCI) is widely used; however, lesion detection and scoring remain subjective and operator-dependent. Artificial intelligence (AI)–based computer vision systems have shown promise in surgical imaging but have not been adequately explored for gynaecological malignancies. This study aimed to evaluate the performance of a specialised AI system in detecting and classifying malignant peritoneal lesions during exploratory laparoscopy in patients with ovarian cancer.

Methods

This retrospective observational study(final results) analysed 16 recorded laparoscopic videos from ovarian cancer patients undergoing staging laparoscopy. A total of 34,527 images were extracted. From these, 1,300 representative images were selected and annotated by eight gynaecological oncology surgeons. All visible malignant lesions were manually delineated using closed polygons.

According to PCI criteria, lesions were classified by size (LS1, LS2, LS3) and assigned to one of the 13 standard anatomical regions of the peritoneal cavity.

Engineers trained neural networks to detect and segment lesions while simultaneously classifying them by size. A multi-class YOLOv5 detection model was developed for object detection using bounding boxes. Additionally, a YOLOv5-based instance segmentation model was trained to improve lesion boundary representation and detection of small lesions.

Results

The object detection model demonstrated satisfactory performance for large lesions (LS3). However, it missed a substantial number of small lesions (LS1 and LS2), likely due to limitations of bounding box representations in capturing irregular lesion morphology.

The instance segmentation model significantly improved performance compared to detection alone. It achieved strong performance for LS3 lesions (0.645; 64.5%) and improved recognition of smaller lesions, including LS1 (0.069; 6.9%) and LS2 (0.166; 16.6%). The system successfully detected peritoneal lesions larger than 0.5 cm in real time and enabled concurrent anatomical localisation.

Conclusions

AI-based instance segmentation improves detection of malignant peritoneal lesions compared with standard object detection models, particularly for large lesions. Although detection of small lesions remains challenging, integration of AI with PCI-based classification demonstrates feasibility for real-time intraoperative support. These preliminary findings are promising; however, larger datasets and prospective validation studies are required to confirm clinical applicability and improve performance, particularly for small-volume disease.

ID 13

INSTITUTIONAL EXPERIENCE IN ROBOTIC GYNAECOLOGICAL SURGERY: A ONE-YEAR RETROSPECTIVE ANALYSIS

E. Abreu, MR. Noguero, M. de Matias, A. Cuesta, M. Duro, K. Reyes, C. Ramos, Nuñez L.

Division of Obstetrics and Gynaecology, Hospital Universitario Rey Juan Carlos, Móstoles, Madrid, Spain

Background

Program expansion in robotic gynaecological surgery requires maintaining safety and efficiency while increasing case volume and procedural complexity. We report the 2025 outcomes of a growing robotic gynaecology program, focusing on scalability, surgical spectrum, and perioperative performance.

Methods

A retrospective analysis was performed including all robotic gynaecological procedures conducted in 2025. Indications, surgical procedures, specimen characteristics, extraction routes, blood loss, conversion rate, complications, and hospital stay were evaluated.

Results

A total of 143 consecutive robotic procedures were performed, representing a 12.6% increase compared with the previous year. Surgical indications included both benign and oncological pathology, with symptomatic fibroid uterus as the leading indication (27.7%), followed by endometrial carcinoma (11.19%), uterine prolapse (10.49%), and cervical carcinoma (8.39%). Isthmocele repair was incorporated as a new indication, reflecting program expansion.

Total hysterectomy with bilateral salpingectomy and ovarian preservation was the most frequent procedure (37.76%). The platform allowed management of high-volume pathology, with hysterectomy specimens reaching 1230 g and a mean uterine length of 118 mm in fibroid cases. Nine robotic myomectomies were performed, including multiple myomectomies with up to five fibroids, with a maximum diameter of 120 mm.

Vaginal extraction was achieved in 58.27% of cases, minimising auxiliary incisions. Conversion to laparotomy occurred in one case (0.7%). Estimated blood loss remained controlled across procedures, including oncological staging and reconstructive surgery.

Seven major complications were reported. Mean hospital stay was 1.07 days excluding one outlier (32-day admission due to postoperative complications), remaining consistent with prior years despite increased surgical activity.

Conclusions

Expansion of a robotic gynaecology program was associated with increased surgical volume and broader indications while maintaining low conversion rates, controlled blood loss, short hospital stay, and acceptable complication rates. These findings support the scalability and institutional consolidation of robotic-assisted gynaecological surgery, even in the setting of large specimens and oncological complexity.

ID 14

INVESTIGATION OF PSEUDO-HAPTICS IN ROBOTIC MYOMECTOMY USING THE DA VINCI SURGICAL SYSTEM

Mamoru Urabe, Saki Mikami, Atsuhiro Nakagawa, Sae Nakagawa, Nobuhito Sogo, Asuka Yano, Hiroko Torii, Masanori Fujishiro, Yuko Urabe
Department of Obstetrics and Gynaecology, Ohmi Medical Centre, Kusatsu City, Japan

Background

The da Vinci surgical system enables surgeons to perform procedures through a virtual interface using a three-dimensional (3D) visual field displayed on a monitor. Our institution introduced robotic surgery in 2023 and has focused on the role of pseudo-haptics during these procedures.

Pseudo-haptics refers to a phenomenon in which the brain substitutes tactile sensation based primarily on visual information, with approximately 80% of the perceived "touch" derived from visual cues. In this study, we evaluated how the absence of true tactile feedback influences surgical performance during robotic myomectomy.

Methods

The presenter, who has performed more than 400 robotic surgeries, conducted a total of eight robotic myomectomies using the da Vinci system. Surgical outcomes were compared with those of conventional laparoscopic myomectomy performed by the same surgeon (n = 20). Because robotic myomectomy has not yet been formally approved for insurance coverage in Japan, the present analysis was limited to these eight initial cases.

Results

In robotic surgery, similar to previously reported comparisons in hysterectomy cases, both operative time and blood loss tended to be lower than in laparoscopic surgery. In the laparoscopic group, the mean operative time was 172 minutes, blood loss was 493 g, and the mean myoma weight was 298 g (n = 20). In the robotic group, the corresponding values were 171 minutes, 271 g, and 336 g (n = 8). While operative time and myoma weight were comparable between the two groups, blood loss was markedly lower in the robotic surgery group.

Conclusions

Despite the absence of true tactile feedback, robotic myomectomy appears to benefit from pseudo-haptic perception facilitated by high-quality 3D visualisation and articulated instrument motion. In particular, enucleation of soft or degenerated myomas was technically easier with robotic surgery, allowing more precise dissection along the myoma pseudocapsule and resulting in reduced intraoperative bleeding. These findings suggest that pseudo-haptics may partially compensate for the lack of tactile feedback and contribute to improved surgical performance in robotic gynaecological surgery.

ID 16

ROBOTIC PARAAORTIC LYMPHADENECTOMY UP TO THE LEFT RENAL VEIN FOR SURGICAL STAGING OF SEROUS ENDOMETRIAL CANCER

S. Tunc , I. Temel Yuksel
Department of Gynaecological Oncology, Basaksehir Cam and Sakura City Hospital, Istanbul, Turkey

Background

Serous endometrial carcinoma is an aggressive histological subtype associated with a high risk of lymphatic dissemination and poor prognosis. Comprehensive surgical staging including paraaortic lymph node dissection up to the level of the left renal vein plays a critical role in accurate staging and guiding adjuvant therapy. However, paraaortic lymphadenectomy remains technically demanding due to the proximity of major vascular structures such as the aorta, inferior vena cava, and renal vessels.

Robotic surgery offers enhanced three-dimensional visualisation, improved dexterity, and precise instrument control that may facilitate safe dissection in this complex anatomical region. In this surgical video, we demonstrate a standardised robotic technique for paraaortic lymph node dissection in a patient with serous endometrial cancer.

Methods

We present the case of a 45-year-old woman with serous endometrial cancer who underwent robot-assisted total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, pelvic and

paraaortic lymphadenectomy. Firstly tubal ligation was performed. A uterine manipulator was used. After port placement and docking of the robotic system, the small bowel was mobilised to expose the paraaortic compartment. Key anatomical landmarks including the inferior mesenteric artery, abdominal aorta, inferior vena cava, and bilateral ureters were identified. Lymphatic tissue was systematically dissected from the precaval, paracaval, interaortocaval, and paraaortic regions. The dissection was carried cranially up to the level of the left renal vein. Careful vascular skeletonisation and meticulous dissection techniques were used to ensure oncological adequacy while minimising the risk of vascular injury.

Results

Total operative time was 210 minutes. Time at the robotic console was 180 minutes. Docking time and placement of the uterin manipulator was 30 minutes. Estimated blood loss was 100 ml. No intraoperative or postoperative complications were noted. The patient was discharged on postoperative day 2. Final pathology results showed serous endometrial cancer with myometrial invasion >%50 and FIGO stage 2C. All dissected lymp nodes are negative for metastasis. The patient subsequently received adjuvant chemoradiotherapy, and no recurrence was observed during follow-up. The robotic platform provided excellent visualisation and precise control, allowing safe dissection around major vascular structures.

Conclusions

Robotic paraaortic lymphadenectomy up to the left renal vein is a feasible and effective minimally invasive approach for surgical staging in serous endometrial cancer. This standardised robotic technique may improve surgical precision, safety, and reproducibility.

ID 17

"NERVE SPARING" DEEP ENDOMETRIOSIS SURGERY WITH RECTAL DISCOID RESECTION USING DA VINCI SINGLE PORT: A STEP-BY-STEP APPROACH

D. Mautone, C. Ripepi, M. Venier, M. Mirandola, G. Bolomini
UOC Obstetrics and Gyna ecology, P. Pederzoli Hospital, Peschiera del Garda (VR) - Italy

Objective

This video illustrates the anatomical landmarks and surgical technique for nerve-sparing radical excision of deep infiltrating endometriosis (DIE) involving the rectum, performed using the Da Vinci Single Port (SP) robotic system.

Setting

The procedure was carried out at Pederzoli Hospital in Peschiera del Garda, Verona, Italy, a referral centre where approximately 180 complex cases of deep infiltrating endometriosis are treated annually with minimally invasive surgery.

Participant

A 28-year-old woman presented with severe dysmenorrhea, dyschezia exacerbated during menses, dysuria, and positional dyspareunia, despite continuous progestin therapy. On combined vaginal–rectal examination, a posterior compartment endometriotic nodule causing partial rectal stenosis was suspected. Subsequent transvaginal ultrasound confirmed a 20 mm rectal lesion extending to the right posterior parametrium, with associated fibrotic thickening of the vesicouterine fold and uterine adenomiosis.

Interventions

A nerve-sparing radical excision of DIE was performed with rectal discoid resection. The key surgical steps were:

1. A 25 mm periumbilical skin incision was made, pneumo-peritoneum was established and the robotic system was docked;
2. Sigmoid colon mobilisation;
3. Retroperitoneal access with development of avascular space to identify and preserve the pelvic nerves, particularly the hypogastric nerve;
4. Bilateral ureterolysis;
5. En bloc excision of deep endometriotic lesions while maintaining nerve integrity;
6. Mesorectal dissection and rectal discoid resection;
7. Assessment of anastomotic integrity with an air leak test.

Conclusions

This is the first reported case of deep infiltrating endometriosis with intestinal involvement in a fertile woman preserving the uterus treated using the Da Vinci SP system. Our experience demonstrates that complete and nerve-sparing eradication of rectal endometriosis can be safely and effectively performed with this platform. The Da Vinci SP provides enhanced 3D magnified vision, superior instrument dexterity in narrow pelvic spaces, and improved surgeon ergonomics. Compared with conventional laparoscopy, it ensures equivalent surgical outcomes with greater precision, better nerve preservation, and excellent cosmetic results through a single 25 mm umbilical incision.

ID 18

THE UTILITY OF ROBOT-ASSISTED SACROCOLPOPEXY FOR SYMPTOMATIC VAGINAL PROLAPSE FOLLOWING TOTAL HYSTERECTOMY

H. Ito[1], Y. Matsuzaki[2], Y. Sato[2,3], S. Fukuda[2], H. Kyo[2], K. Isaka[2]
[1] Department of Obstetrics and Gynaecology, Tokyo Medical University Hospital, Tokyo, Japan;
[2] Department of Gynaecology, Tokyo International Ohori Hospital, Tokyo, Japan;
[3] Department of Obstetrics and Gynaecology, The Jikei University School of Medicine, Tokyo, Japan

#SERGS #RoboticSurgery #SurgicalEducation #VideoPortal #Gynaecology #StepByStepSurgery #AIinMedicine #HumanExpertise #MedicalInnovation

Background

More than one in nine women undergo hysterectomy, with up to 10% subsequently requiring surgical repair for symptomatic vaginal prolapse. However, the ideal repair technique combining efficacy, safety and durability remain under investigation, as evidenced by multiple surgical approaches. Robot-assisted surgery, on the other hand, is well-suited for cases involving adhesions and is considered useful for vaginal prolapse following total hysterectomy where intra-abdominal adhesions are anticipated. We therefore investigated the utility of robot-assisted sacrocolpopexy for vaginal prolapse following total hysterectomy.

Methods

This study included 29 patients who underwent robot-assisted surgery for symptomatic vaginal prolapse following hysterectomy between June 2020 and February 2025, after obtaining informed consent. We examined the patients' age, hysterectomy technique, POP-Q score, intraoperative adhesion sites, operative time, blood loss, hospital stay, postoperative complications, and recurrence. The Da Vinci® X or Xi system was used, employing either a five-port approach (including an assistant port) or a four-port approach without an assistant port. This study was approved by our hospital's Ethics Committee.

Results

The mean age was 72.2 years. The total hysterectomy procedure was performed abdominally in 27 patients and vaginally in 2 patients. Preoperative POP-Q scores were stage II in 17%, stage III in 66%, and stage IV in 17%. Adhesions were present in 89.7% of cases. The mean operative time was 229 minutes, blood loss was 7.6 ml, and the mean hospital stay was 6 days. There were no postoperative complications classified as Clavien-Dindo grade II or higher. No recurrence has been observed to date.

Conclusions

Symptomatic vaginal prolapse following total hysterectomy is anticipated to increase in the future. While intra-abdominal adhesions are expected after total hysterectomy, selecting a surgical technique that avoids organ damage and improves patient satisfaction is essential. The use of robotic-assisted sacrocolpopexy yielded favorable outcomes. Future studies comparing its efficacy, safety, and durability with other techniques are warranted.

ID 20

BEYOND THE ENDOMETRIUM: ROBOTIC TREATMENT OF A MYOMETRIAL ECTOPIC PREGNANCY

L. Salum-Rodriguez[1], M.F. Zalapa-Gomez[1], F. Zuñiga[2]
[1] Obstetrics and Gynaecology, Tecnológico de Monterrey, Escuela de Medicina y Ciencias de la Salud, Ave. Morones Prieto, Monterrey, Nuevo León México
[2] Obstetrics and Gynaecology, Division of Minimally Invasive Gynaecological Surgery, Hospital Angeles, SanPedro Garza Garcia, NL, Mexico

Background

Myometrial ectopic pregnancy is a rare and potentially life-threatening condition defined by implantation of the gestational sac entirely within the myometrium, without communication with the endometrial cavity or fallopian tubes. It carries a significant risk of uterine rupture and severe hemorrhage. We present a fertility-preserving robotic management of an intramural ectopic pregnancy occurring after hysteroscopic resection of a fundal submucosal fibroid.

Methods

A 25-year-old nulligravid woman with heavy menstrual bleeding, severe dysmenorrhea, and primary infertility was diagnosed with a 4 cm FIGO type 1 submucosal fibroid located at the uterine fundus. The fibroid was successfully treated with a two-step hysteroscopic resection performed on separate surgical dates. The patient subsequently achieved spontaneous pregnancy.

Transvaginal ultrasound revealed an anteverted enlarged uterus with a gestational sac implanted within the anterior myometrial wall. Color Doppler demonstrated abundant concentric vascular flow. Crown-rump length measured 20 mm with positive fetal cardiac activity. The myometrial thickness between the sac and serosa was 5 mm. The endometrial cavity appeared normal and uninvolved. Findings were consistent with an intramural ectopic pregnancy.

Robotic-assisted resection was performed. One gram of tranexamic acid was administred 10 minutes prior to the start of the procedure to reduce hemorrhagic risk, followed by the administration of diluted vasopressin (20 units in 100 mL normal saline) into the surrounding myometrium.

A transverse myometrial incision was created directly over the implantation site using advanced energy. Trophoblastic tissue was completely removed, and the endometrial cavity was preserved without entry. The defect was closed in two layers: a continuous running suture for the myometrium and interrupted Spalding-type sutures for serosal reinforcement.

Results

Complete excision was achieved without entering the endometrial cavity. Hemostasis was successfully maintained, and uterine anatomy and integrity were preserved.

Conclusions

Robotic resection of intramural ectopic pregnancy is a safe and effective fertility- preserving option in selected patients. Careful imaging, vascular control, strict preservation of the endometrium, and multilayer uterine reconstruction are critical to minimise hemorrhagic risk and maintain reproductive potential.

ID 22

SINGLE-PORT ROBOTIC SURGERY IN GYNAECOLOGICAL DISEASE (BENIGN & MALIGNANT): CLINICAL OUTCOMES AND SOCIOECONOMIC IMPACT FROM A 69-MONTH INSTITUTIONAL EXPERIENCE

Chi-Heum Cho[1], Hyewon Chung[1], Minkyung Paik[2]
[1] Department of Obstetrics & Gynaecology, Keimyung University, Dongsan Hospital, Daegu, Korea;
[2] Intuitive Surgical, Market Access & Custom Analytics (MACA)

Background

Robotic surgery has increasingly been adopted in gynaecology and gynaecological oncology as a minimally invasive approach that may improve perioperative outcomes and enhance patient recovery. This study aimed to evaluate the clinical outcomes and socioeconomic impact of robotic-assisted surgery compared with conventional laparoscopic and open approaches in gynaecological surgery.

Methods

A comprehensive retrospective analysis was conducted of all gynaecological surgeries performed at Keimyung University Dongsan Hospital between April 2019 and December 2024, covering a 69-month period. The study included 8,329 benign cases and 841 malignant cases. Surgical outcomes—including total length of hospital stay, postoperative hospital stay, transfusion rate, postoperative complications, and 30-day readmission rate—were compared among robotic-assisted surgery, conventional laparoscopy, and open surgery.

In addition, potential socioeconomic cost savings associated with the adoption of robotic surgery were estimated based on perioperative outcomes, including surgical site infection, transfusion, postoperative complications, and duration of hospitalisation.

Results

Robotic-assisted surgery was associated with superior perioperative outcomes compared with laparoscopic and open approaches in both benign and malignant gynaecological diseases. The mean length of hospital stay was shortest in the robotic group (benign: 2.1 days; malignant: 3.5 days), compared with laparoscopy (2.8 and 5.3 days) and open surgery (5.2 and 11.9 days). The robotic group also demonstrated lower transfusion rates (0.59% vs. 2.5% and 6.86%) and reduced 30-day readmission rates, particularly in malignant disease (0.54% vs. 3.92% in open surgery).

Notably, no postoperative complications were observed in patients undergoing robotic surgery for benign conditions. Although operative time was longer than that of laparoscopy, it was shorter than that of open surgery and showed less variability, suggesting greater procedural consistency. These perioperative advantages translated into an estimated socioeconomic cost saving of approximately KRW 3.2 billion. Furthermore, 93% of gynaecological oncology surgeries at our institution were performed using a single-port robotic platform, reflecting strong institutional adoption driven by faster recovery, minimal scarring, and improved quality of life, particularly among younger female patients.

Conclusions

Robotic surgery, particularly single-port robotic surgery, was associated with shorter hospitalisation, lower transfusion and readmission rates, and potential socioeconomic cost savings. These findings support the role of robotic surgery as an effective minimally invasive approach that enhances postoperative recovery and improves quality of life in patients with gynaecological diseases.

ID 23

STRATEGIES FOR TISSUE RETRIEVAL DURING ROBOTIC-ASSISTED HYSTERECTOMY FOR GIANT FIBROIDS

Yoshihiko Matsuzaki[1], Hiroe Ito[2], Keiichi Isaka[1]
[1] Department of Gynaecology, Tokyo International Ohori Hospital, Tokyo, Japan
[2] Department of Obstetrics and Gynaecology, Tokyo Medical University, Tokyo, Japan

Background

Currently, various methods for tissue retrieval during total hysterectomy are being attempted. The larger the tissue, the more difficult it becomes—in terms of both time and effort—to remove it using minimally invasive surgery performed through a small incision. However, there are very few reports that have evaluated and compared different removal techniques. We examined the appropriate tissue retrieval methods following robot-assisted hysterectomy (RAH) based on various factors.

Methods

We conducted a retrospective analysis of 381 patients who underwent RAH for benign uterine tumours at our hospital between June 2020 and December 2024 using the da Vinci Xi and X systems. We analysed three surgical approaches—transvaginal retrieval (TV), transvaginal retrieval using a wound retractor (WR), and small-incision retrieval (SI)—to assess appropriate retrieval time and acceptable retrieved tissue weight, as well as the factors influencing these outcomes.

Results

The breakdown was 123 cases in the TV group, 143 cases in the WR group, and 50 cases in the SI group. Regarding delivery history, 176 women had no history of vaginal delivery (NVDW), while 140 women had a history of vaginal delivery (VDW). For WR, retrieval time was shorter than that of TV for weights of 70 g or more, but longer than that of SI for weights of 456 g or more. Analysis of NVDW and VDW groups showed that the difference in retrieval time between TV/WR

and SI widened as weight increased. This increase was most pronounced in TV among NVDW. The predicted retrieved weight at 30 minutes was 385 g for TV in NVDW, 608 g for VDW, 744 g for WR in NVDW, 792 g for VDW, and 1,091 g for SI. Complications included one case classified as Grade IIIb according to the Clavien–Dindo classification, and 11 cases classified as Grade II or lower.

Conclusions

Regardless of whether the patient had a history of vaginal delivery, the use of a wound retractor proved beneficial. This study revealed that an appropriate weight for the uterus to be removed within 30 minutes is approximately 770 g. It also demonstrated that for giant fibroids weighing over 1,000 g, removal via a small incision is the appropriate approach.

ID 24

PIONEERING TELESURGERY IN EUROPE: FIRST-YEAR MULTISPECIALTY EXPERIENCE

P. Pasquinia[2], E. Beatrici[2,3], E. P. Bilancia[1,2], A. Gori[1,2], G. De Naeyer[4], E. Jamaer[5], K. Traene, B. Van den Bossche[6], A. Mottrie[2,4]

[1] Department of Medical and Surgical Sciences (DIMEC), University of Bologna, Bologna, Italy.
[2] ORSI Academy, Melle (Ghent), Belgium
[3] Department of Urology, IRCCS Humanitas Research Hospital, Rozzano, Italy
[4] Department of Urology, AZORG Hospital, Aalst, Belgium
[5] Department of Gynaecology and Obstetrics, AZORG Hospital, Aalst, Belgium
[6] Department of General, Digestive and Hepatobiliary Surgery, AZORG Hospital, Aalst, Belgium

Background

Telesurgery is emerging as a technology capable of overcoming distance between surgeon and patient, improving access to care and helping to democratise surgery. Beyond complications associated with conventional on-site procedures, it introduces an additional category of risk: network-related events. Maintaining a stable network, particularly in terms of delay, is essential to preserve robotic movement fidelity, surgical accuracy, and patient safety. Latency above approximately 200 ms has been reported to impair surgical performance and is considered a safety threshold.

This study analyses the technical aspects of early European telesurgical experiences across multiple specialties, aiming to provide preliminary indications on acceptable network parameters for safe implementation.

Methods

A retrospective technical analysis included all telesurgical procedures performed in 2025 between ORSI Academy (Melle, Belgium) and AZORG Hospital (Aalst, Belgium), within three prospective clinical protocols in urology, gynaecology, and general surgery (Ethics approval numbers: 2025/044, 2025/087, 2025/116). A stand-by console and surgeon were available on site to allow immediate take over for safety reasons. Total operative time (incision to closure), turnover time (closure to incision of the subsequent procedure), and network latency were recorded. Latency was defined as the time from command transmission at the remote console to reception by the patient-side robot and sampled every 100 ms. Complications and technical malfunctions were also recorded.

Results

Between May 26, 2025 (first Europe-to-Europe telesurgery procedure) and December 9, 2025, 17 telesurgical procedures were performed across three specialties: 10 urological (58.8%), 4 gynaecological (23.5%), and 3 general surgery procedures (17.6%).

Urological procedures consisted of robot-assisted radical prostatectomy (RARP), gynecological procedures of robot-assisted total hysterectomy (RATH), and general surgery procedures of transabdominal robot-assisted umbilical hernia repairs (TARUPs).

Mean network latency was 10.6 ± 7.3 ms (range 6–665 ms). Episodes of delay >200 ms were rare, accounting for 95 events out of 1,360,420 measurements (0.007%) (Table 1). Mean turnover time was 45.25 ± 8.06 min for urological telesurgery versus 50.86 ± 6.80 min on-site, and 41.5 ± 7.8 min versus 40.5 ± 2.27 min in gynaecology; in general surgery, mean telesurgical turnover was 49.0 ± 2.83 min.

Conclusions

Network latency remained well below the critical threshold of 200 ms, ensuring stable system performance and reliable surgical execution.

Although these findings are preliminary and should be interpreted together with clinical outcome data and validated through larger cohorts and external experience, telesurgery appears feasible and efficient, with network latency predominantly below this threshold and no apparent prolongation of operating room turnover.

Table 1

Case	Procedure	Mean [ms]	SD [ms]	Min [ms]	Max [ms]	>200 ms N (%)
Case 1	RARP	8.9	0.9	6	67	0 (0%)
Case 2	RATH+BS	8.9	0.9	6	36	0 (0%)
Case 3	RARP	20.5	9.6	18	665	43 (0.04%)
Case 4	RARP	20.5	9.9	18	540	52 (0.05%)
Case 5	RATH+BSO	10.1	2.1	7	60	0 (0%)
Case 6	RATH+BSO	11.6	3.1	7	30	0 (0%)
Case 7	RATH+BS	9.3	1.1	7	34	0 (0%)
Case 8	RARP	6.1	0.6	6	40	0 (0%)
Case 9	RARP	6.5	1.1	6	106	0 (0%)
Case 10	TARUP	6.2	0.8	6	90	0 (0%)
Case 11	TARUP	6.1	0.5	6	38	0 (0%)
Case 12	TARUP	7.1	1.8	6	48	0 (0%)
Case 13	RARP	8.5	2.3	7	52	0 (0%)
Case 14	RARP	10.1	1.5	7	62	0 (0%)
Case 15	RARP	10.2	1.8	6	43	0 (0%)
Case 16	RARP	8.1	0.9	6	85	0 (0%)
Case 17	RARP	7.6	1.2	7	33	0 (0%)

Consecutive telesurgical procedures performed between May 26 and December 9, 2025. The table reports the 17 procedures in chronological order of execution, including the surgical procedure performed, mean network latency, standard deviation (SD), minimum and maximum latency values, and the number of latency events exceeding 200ms. Abbreviations: RARP, robot-assisted radical prostatectomy; RATH, robot-assisted total hysterectomy; BS, bilateral salpingectomy; BSO, bilateral salpingo-oophorectomy; TARUP, transabdominal robot-assisted umbilical hernia repair.

ID 25

SURGEON OR TECHNOLOGY: WHO DO WE TRUST THE MOST? THE ITALIAN PATIENTS' POINT OF VIEW ON TELESURGERY

P. Pasquini[1,2], F. De Salve[3], F. Brucchi[2,4], P. La Torraca Vittori[5], N. Rashidian[2,7], A. Mottrie[2,8]

[1] Department of Medical and Surgical Sciences (DIMEC), University of Bologna, Bologna, Italy;
[2] ORSI Academy, Melle (Ghent), Belgium;
[3] Department of Psychology, Università Cattolica del Sacro Cuore, Milano, Italy;
[4] University of Milan, Via Festa del Perdono 7, 20122 Milan, Italy;
[5] Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy;
[6] Department of Gynaecology and Obstetrics, AZORG Hospital, Aalst, Belgium;
[7] Department of Hepatobiliary and Liver Transplantation, Ghent University Hospital, Belgium;
[8] Department of Urology, AZORG Hospital, Aalst, Belgium

Background

Telesurgery represents one of the most advanced frontiers of robotic surgery, enabling surgical procedures to be performed remotely through robotic platforms and ultra-low latency networks. One of its main proposed goals is to democratise surgery by improving access to specialised care, particularly for patients living in underserved or remote areas. While technological feasibility and surgical safety are increasingly being explored, the perspective of patients has received limited attention.

Patient perception and trust are key factors for the future implementation and acceptance of telesurgical procedures, yet the balance of trust between the surgeon and the enabling technology, as well as patients' attitudes toward remote surgery, remain largely unexplored.

Methods

The study protocol was approved by the Ethics Committee of AZORG Hospital, Belgium (2025/087). The survey, designed for multilingual European dissemination, is here reported on Italian patients only. A structured questionnaire was distributed through patient associations and clinical networks, following CHERRIES guidelines. After a standardised introduction to robotic surgery and telesurgery and informed consent, data were collected on demographics, psychological factors (mentalisation, epistemic trust), prior exposure to robotics, perceived risks and benefits, trust in surgeon versus technology, and willingness to accept telesurgery. Analyses were descriptive and comparative.

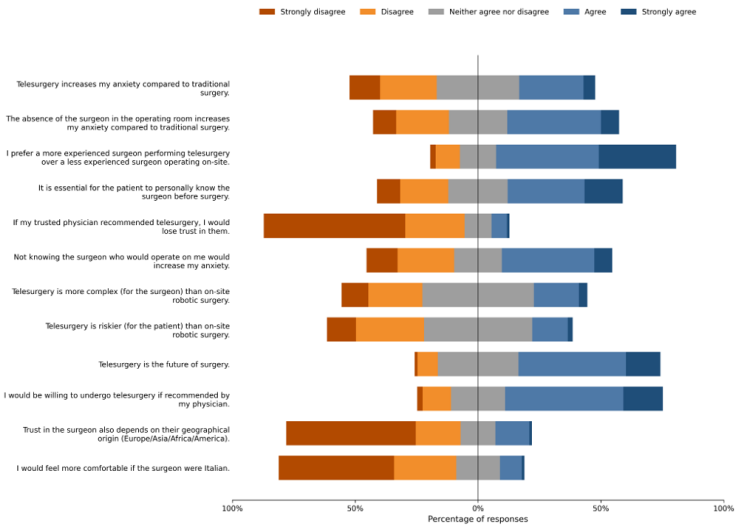
Results

Among 372 respondents, after the brief introduction to telesurgery, 88.2% reported a clear understanding of telesurgery after a brief introduction. When choosing between a highly experienced remote surgeon and a less experienced local surgeon, 89.5% favored telesurgery. The other responses are shown in the figure. Finally, considering economic aspects, 50.8% stated they would accept telesurgery if the procedure were offered at a reduced price compared with on-site surgery, 9.1% would refuse, and 40.1% were uncertain. Among those requiring a cost reduction to accept telesurgery, the most frequently indicated minimum discount was 50% (41.4%), followed by 20% (27.7%), 70% (19.1%), and 10% (11.8%).

Conclusions

In this Italian cohort, telesurgery shows high acceptance and is perceived as a future direction of surgery. Trust is the main determinant, primarily linked to the surgeon rather than the technology, while economic factors may further influence acceptance. Perceptions of risk, complexity, and anxiety remain heterogeneous. Overall, acceptance appears multifactorial, driven by trust, perceived expertise, and cost considerations.

Figure 1 – Levels of Agreement with Statements on Telesurgery



The figure graphically summarizes selected survey results. Participants were asked to indicate their level of agreement with a series of statements (originally administered in Italian and translated into English for reporting purposes) using a Likert scale.

ID 26

FEASIBILITY OF REMOTE ROBOT-ASSISTED TOTAL HYSTERECTOMY: FIRST EXPERIENCE IN TELESURGERY

Pietro Pasquini[1,2], Enrico Pazzaglia[1,2], Elisabetta Pia Bilancia[1,2], Francesco Cei[1,3], Emily Jamaer[4], Koen Traen[4], Evelyn Despierre[4], Alexandre Mottrie[1,5]

[1] ORSI Academy, Melle (Ghent), Belgium
[2] Department of Medical and Surgical Sciences (DIMEC), University of Bologna, Bologna, Italy.
[3] Unit of Urology, Division of Experimental Oncology, Urological Research Institute, IRCCS San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, Italy
[4] Department of Gynaecology and Obstetrics, AZORG Hospital, Aalst, Belgium
[5] Department of Urology, AZORG Hospital, Aalst, Belgium

Background

Robot Assisted Total Hysterectomy (RATH) is a standard procedure in gynaecology, but access to specialised expertise remains uneven. Telesurgery may address this gap by enabling remote execution of complex procedures via robotic platforms and ultra-low latency networks. In 2025, the first in-human Europe-to-Europe telesurgical hysterectomy was performed at ORSI Academy (Melle, Belgium),

demonstrating feasibility. However, telesurgery remains experimental, with limited clinical data and no standardised protocols.

Methods

A prospective, non-randomised study is being conducted between ORSI Academy (Melle) and AZORG Hospital (Aalst), Belgium (>20 km apart), using the Toumai® Endoscopic Surgery System (MedBot-MicroPort, Shanghai, China).

Two cohorts of patients are presented: six individuals operated on-site and four individuals treated via telesurgery between May and December 2025. Indications included benign uterine conditions (fibromatosis, adenomyosis) and cervical precancerous lesions. A stand-by surgeon was present on-site during telesurgery to ensure safety.

Results

Ten RATH procedures were performed: 6 RATH+BS (2 telesurgery, 4 on-site) and 4 RATH+BSO (2 telesurgery, 2 on-site). Two experienced surgeons (> 500 and > 200 cases) performed all procedures. Baseline characteristics (e.g. age, parity, BMI, haemoglobin, ASA score) were comparable between groups. Four external robotic arm collisions occurred, all resolved without complications or conversion.

Operative time was significantly shorter in the telesurgery group (66.0 ± 3.3 vs 89.8 ± 9.1 minutes; p = 0.047), mainly due to reduced console time (38.5 ± 4.7 vs 55.0 ± 4.2 minutes; p = 0.035) and undocking time (1.2 ± 0.3 vs 2.3 ± 0.2 minutes; p = 0.014).

No differences were observed in postoperative outcomes or complication rates between procedures.

Conclusions

This early European experience suggests that telesurgery for RATH is feasible, with comparable workflow and short-term outcomes to on-site surgery. Despite the non-randomised design, patient groups were similar, and no disadvantage for telesurgery was observed. These findings are preliminary and based on a small cohort.

Larger studies with longer follow-up are needed to confirm safety, reliability, and potential oncologic applicability, and to define the role of telesurgery in gynaecological practice.

Table – Surgical characteristic, clinical and robotic outcomes.

Surgical characteristics of the patients included in the study

Variable		Total N=10 (100%)	Telesurgery N=4 (40.0%)	On-site N=6 (60.0%)	p-value
Age at surgery (years)	**Median**	48.3 (IQR 41.7-65.2)	55 (IQR 39.3-69.1)	48.3 (IQR44.4-59.1)	0.914
Para Number	**Median**	2 (IQR 2–3)	3 (IQR 2.5–3.5)	2 (IQR 1.2–2)	0.221
BMI (Kg/m2)	**Median**	26 (IQR 19.7–29.6)	19.6 (IQR 18.1–23.1)	26.6 (IQR 25.8–29.6)	0.285
Preoperative haemoglobin [mg/dL]	**Median**	12.9 (IQR 11.3–13.7)	13.8 (IQR 13.1–14)	11.7 IQR 10.2–12.7)	0.114
ASA score	1	1 (10)	0 (0)	1 (16.7)	0.335
	2	8 (80)	3 (75)	5 (83.3)	
	3	1 (10)	1 (25)	0 (0)	
Indication-to-surgery time (days)	**Median**	28.5 (IQR 24.5–43.2)	42.5 (IQR 27–59)	27.5 (IQR 14–31.2)	0.352

Clinical and robotic outcomes

Indication-to-surgery time (days)	**Median**	28.5 (IQR 24.5–43.2)	42.5 (IQR 27–59)	27.5 (IQR 14–31.2)	0.352
Estimated blood loss (ml)	**Median**	25 (IQR 10–37.5)	5 (IQR 0–17.5)	30 (IQR 22.5–52.5)	0.132
Length of stay [days]	**Median**	2 (IQR 1–2)	1 (IQR 1–1.2)	2 (IQR 2–2)	0.104
Complication < 30 days	No	8 (80)	3 (75)	5 (83.3)	1
	Yes	2 (20)	1 (25)	1 (16.7)	0
Port placement time [min]	Mean	8.7 (STE 1.789)	7.5 (STE 0.957)	9.5 (STE 2.986)	0.547
Docking time [min]	Mean	7.5 (STE 0.885)	7.0 (STE 2.041)	7.8 (STE 0.792)	0.723
Console time [min]	Mean	48.4 (STE 4.009)	38.5 (STE 4.717)	55.0 (STE 4.187)	**0.035**
Undocking time [min]	Mean	1.9 (STE 0.233)	1.2 (STE 0.250)	2.3 (STE 0.211)	**0.014**
Closure time [min]	Mean	14.8 (STE 3.543)	11.2 (STE 2.394)	17.2 (STE 5.706)	0.373
Total time [min]	Mean	80.3 (STE 6.643)	66.0 (STE 3.342)	89.8 (STE 9.083)	**0.047**
Turnover [min]	Mean	46.2 (STE 3.902)	41.5 (STE 5.5)	51.0 (STE 4.0)	0.308

Baseline patient characteristics and clinical–robotic outcomes comparing telesurgery and on-site robot-assisted total hysterectomy (RATH). BMI: body mass index; ASA: American Society of Anaesthesiologists physical status classification; IQR: interquartile range; STE: standard error.

ID 27

OPERATING ROOM FLOW ENGINEERING IN ROBOTIC GYNAECOLOGY: IDENTIFYING MODIFIABLE DRIVERS OF TURNOVER TIME

D. Papageorgiou[1,2], E. Zachariou[1,3], M. Sakellariou[1], S. Petrogiannis[2], E. Tsakos[4], N. Plevris[1]

[1] 1st Gynaecology Department, Division of Robotic and Laparoscopic Surgery, Metropolitan General Hospital, 142 32 Athens, Greece

[2] Department of Gynaecology, Athens Naval and Veterans Hospital, 11521 Athens, Greece

[3] Obstetrics and Gynaecology Department, Norfolk and Norwich University Hospital, Norwich, UK

[4] Embryoclinic IVF, Thessaloniki, Greece

Background

Turnover time remains a critical determinant of operating room efficiency in robotic gynaecological surgery. While operative duration has been extensively studied, drivers of turnover time are less clearly defined.

Objective

To identify modifiable and non-modifiable predictors of turnover time in a single-center robotic gynaecology program and translate findings into practical scheduling strategies.

Methods

We performed a retrospective analysis of consecutive robotic gynaecological cases (2018–2026). Turnover time was defined as the interval from extubation to patient transfer out of the operating room (minutes). Primary exposures were daily robotic volume (number of robotic cases per day) and case order. A multivariable log-linear regression model was fitted, adjusting for age, BMI, ASA

class, procedure category, operative duration, estimated blood loss, and temporal trend. Effects are presented as percentage change in turnover time.

Results

Among 326 cases, turnover time data were available for 289. Median turnover time was 16 minutes (IQR 12–22; range 7–40). Turnover time decreased with increasing daily robotic volume. Each additional scheduled robotic case per day was associated with a 7.2% reduction in turnover time (95% CI 3.3% to 10.9% reduction; $p < 0.001$). Case order was not independently associated with turnover time after adjustment.

Conclusions

Turnover time in robotic gynaecology is primarily driven by day-level workflow dynamics rather than intra-list sequencing. Consolidating robotic cases into higher-volume operating lists may yield measurable efficiency gains and improve operating room utilisation.

ID 28

DOES SURGICAL COMPLEXITY AFFECT PERIOPERATIVE PERFORMANCE IN ROBOTIC GYNAECOLOGY? A REAL-WORLD ANALYSIS

D. Papageorgiou[1,2], E. Zachariou[1,3], M. Sakellariou[1], S. Petrogiannis[2], E. Tsakos[4], N. Plevris[1]

[1] 1st Gynaecology Department, Division of Robotic and Laparoscopic Surgery, Metropolitan General Hospital, 142 32 Athens, Greece

[2] Department of Gynaecology, Athens Naval and Veterans Hospital, 11521 Athens, Greece

[3] Obstetrics and Gynaecology Department, Norfolk and Norwich University Hospital, Norwich, UK

[4] Embryoclinic IVF, Thessaloniki, Greece

Background

Robotic surgery has expanded across a wide spectrum of gynaecological procedures, including increasingly complex benign and oncological cases. Whether escalating surgical complexity compromises perioperative safety remains unclear. We evaluated the impact of surgical complexity on perioperative outcomes in a consecutive single-center robotic cohort.

Methods

A retrospective analysis of a prospectively maintained database of robotic gynaecological procedures was conducted. Cases were stratified into three groups according to surgical complexity (low, intermediate, high) based on procedure type. Primary outcomes included robotic console time, total surgical duration, estimated blood loss, and length of hospital stay. Secondary outcomes included postoperative complications, readmissions, and reoperations.

Continuous variables were expressed as median (IQR) and compared using the Kruskal–Wallis test, while categorical variables were analysed using Fisher's exact test. Statistical analysis was performed using IBM SPSS Statistics (version 22.0), with $p<0.05$ considered significant.

Results

A total of 326 robotic procedures were analyzed (136 low-, 140 intermediate-, and 50 high-complexity cases). Increasing surgical complexity was associated with a significant increase in robotic console time (75 vs 90 vs 91.5 min, p=0.001) and total surgical duration (92.5 vs 106 vs 123 min, p<0.001). Estimated blood loss showed a non-significant increasing trend (50 vs 50 vs 60 mL, p=0.22), while length of stay remained unchanged across groups (median 1 day, p=0.26).

Postoperative complications occurred in 0%, 2.9%, and 4.0% of low-, intermediate-, and high-complexity cases, respectively (p=0.28). Readmission rates followed a similar pattern (0% vs 2.9% vs 4.0%, p=0.28), while reoperations were observed in 0%, 2.1%, and 4.0% of cases (p=0.18). No intraoperative complications were recorded.

Conclusions

Increasing surgical complexity is associated with longer operative time but does not significantly impact blood loss, hospital stay, or safety outcomes. Robotic surgery maintains a favorable safety profile even in more complex procedures.

ID 29

DOES SIZE MATTER? IMPACT OF SPECIMEN WEIGHT ON PERIOPERATIVE OUTCOMES IN ROBOTIC MYOMECTOMY

D. Papageorgiou[1,2], E. Zachariou[1,3], M. Sakellariou[1], S. Petrogiannis[2], E. Tsakos[4], N. Plevris[1]

[1] 1st Gynaecology Department, Division of Robotic and Laparoscopic Surgery, Metropolitan General Hospital, 142 32 Athens, Greece

[2] Department of Gynaecology, Athens Naval and Veterans Hospital, 11521 Athens, Greece

[3] Obstetrics and Gynaecology Department, Norfolk and Norwich University Hospital, Norwich, UK

[4] Embryoclinic IVF, Thessaloniki, Greece

Background

Robotic myomectomy has expanded the indications for minimally invasive management of uterine fibroids, including cases with increased fibroid burden. However, the impact of specimen weight on perioperative outcomes remains unclear.

Methods

A retrospective analysis of a prospectively maintained single-center database of robotic myomectomies was performed. Cases with available specimen weight data were included and stratified into two groups: ≤250 g and >250 g. Primary outcomes were robotic console time, total surgical duration, estimated blood loss, and length of hospital stay. Secondary outcomes included intraoperative complications, postoperative complications, blood transfusion,

readmission, and reoperation. Continuous variables are presented as median (interquartile range) and were compared using the Mann–Whitney U test. Categorical variables were analysed using Fisher's exact test. A p-value <0.05 was considered statistically significant.

Results

A total of 81 robotic myomectomies were identified, of which 75 cases with documented specimen weight were included in the analysis. Fifty-eight cases (77.3%) had specimen weight ≤250 g, and 17 cases (22.7%) had specimen weight >250 g. Patients in the >250 g group were older (median 46.0 vs 37.5 years, p=0.022) and had lower BMI (median 22.0 vs 23.9 kg/m², p=0.029). No statistically significant differences were observed between groups in robotic console time (85.0 vs 93.5 min, p=0.203), total surgical duration (102.0 vs 109.5 min, p=0.268), estimated blood loss (50 vs 55 mL, p=0.808), or length of stay (1.0 vs 1.0 days, p=0.377).

No intraoperative complications or blood transfusions were recorded in either group. Postoperative complications were low and comparable (5.9% vs 1.7%, p=0.404). Rates of readmission and reoperation were similarly low and did not differ significantly between groups.

Conclusions

In this single-centre series of robotic myomectomies, increased specimen weight was not associated with longer operative time, increased blood loss, or higher complication rates. These findings support the feasibility and safety of robotic myomectomy even in cases with increased fibroid burden.

ID 30

LEARNING CURVE ANALYSIS OF VNOTES HYSTERECTOMY : COMPARING LSC , DA VINCI XI, AND SP APPROACHES

WH Li

Gynaecological Robotic and Minimally Invasive Surgery Centre, Division of Obstetrics and Gynaecology, Shin Kong Wu Ho Su Memorial Hospital

Objective

To evaluate and compare the learning curves of vNOTES hysterectomy, with different approaches using conventional laparoscopic (LSC), da Vinci Xi system, and da Vinci SP system.

Methods

This retrospective cohort study included 140 consecutive patients undergoing vNOTES hysterectomy performed by a single high-volume surgeon during the adoption phases of three surgical platforms: LSC, da Vinci Xi, and da Vinci SP. Operative time was used as the primary surrogate for proficiency. Learning curves were analysed using cumulative sum (CUSUM) method. Secondary outcomes included docking time, console time, estimated blood loss. The number of cases required to achieve procedural proficiency was defined by the inflection point of the CUSUM curve.

Results

A total of 140 patients were included (LSC: n=43; Xi: n=67; SP vNOTES: n=30). The learning curve for LSC demonstrated a gradual decline in operative time, reaching proficiency after approximately 7 cases. The robotic Xi platform showed stabilisation achieved after 9 cases. In contrast, SP vNOTES exhibited proficiency was achieved after 2 cases, followed by a significant reduction in operative time. Notably, SP vNOTES demonstrated very stable Docking time with little variation compared docking on Xi. During these cases, no major complication and conversion was observed.

Conclusions

Learning curve across all three platforms are comparable. Although SP vNOTES presents a shorter learning phase, it can be result from many experiences established from LSC and Xi. However, it is still obvious that SP has advantage with its docking stability. These findings support the integration of SP vNOTES into advanced gynaecological surgical practice, particularly in high-volume centres with robotic expertise.

ID 31

APPLICATION OF DA VINCI SP SYSTEM IN BENIGN VNOTES GYNAECOLOGICAL PROCEDURES: A SINGLE-SURGEON EXPERIENCE

WH Li

Gynaecological Robotic and Minimally Invasive Surgery Centre, Division of Obstetrics and Gynaecology, Shin Kong Wu Ho Su Memorial Hospital

Objective

To present a single-surgeon experience and evaluate the feasibility, safety, and clinical outcomes of applying the Da Vinci SP Surgical System in benign gynaecological procedures via transvaginal natural orifice transluminal endoscopic surgery (vNOTES) approach.

Methods

This retrospective study included consecutive 50 patients with benign gynaecological conditions who underwent SP-assisted vNOTES procedures performed by a single high-volume minimally invasive gynaecological surgeon. Indications included uterine fibroids, adenomyosis, adnexal masses, and uterine prolapse. Surgical outcomes assessed included operative time, estimated blood loss, intraoperative and postoperative complications, conversion rates, and length of hospital stay.

Results

A total of 56 patients were included. Procedures performed included hysterectomy, myomectomy, adnexal surgery, and sacrohysteropexy. The SP platform provided enhanced instrument articulation and

ergonomic advantages within the confined transvaginal space. Length of stay in hospital, and operative time are favorable with vNOTES compares with transumbilical approach. No major intraoperative complications were observed. Two planned vNOTES myomectomy were shifted to transumbilical single port during anesthesia phase, while pelvic examination exhibit frozen pelvis. vNOTES patients experienced rapid postoperative recovery, with short hospital stays.

Notably, the integration of robotic articulation helped overcome traditional technical limitations of conventional vNOTES, particularly in cases involving more complex pathology. Of all SP robotic surgeries (n=143), a high proportion of 37.7%(54/143) patients were successfully receiving vNOTES.

Conclusions

The application of the Da Vinci SP Surgical System in benign vNOTES gynaecological procedures is feasible and safe, offering improved dexterity and visualization in a narrow operative field. With appropriate experience, SP-assisted vNOTES may expand the indications of natural orifice surgery and represent a promising evolution in minimally invasive gynaecological surgery.

ID 32

PREOPERATIVE FACTORS ASSOCIATED WITH SURGICAL DIFFICULTY IN ROBOT-ASSISTED TOTAL HYSTERECTOMY

H. Morita[1], R. Maniwa[1], M. Iwahashi[1], S. Yoshitake[1], N. Okamoto[1], S. Tanabe[1], K. Inoue[1], K.Hatta[1], Y. Murata[1], S. Morikami[2]
[1] Department of Obstetrics and Gynaecology, Konan Medical Centre, Kobe, Japan; Department of Obstetrics and Gynaecology
[2] Nishi Kobe Medical Centre, Kobe, Japan

Background/Aim

To evaluate factors associated with surgical difficulty in patients undergoing robot-assisted laparoscopic hysterectomy (RALH).

Methods

We retrospectively analyzed 31 consecutive patients who underwent RALH for benign uterine diseases at Konan Medical Center over a 17-month period from November 2023. The indications included uterine fibroids (n=26), atypical endometrial hyperplasia (n=4), and cervical intraepithelial neoplasia grade 3 (n=1). Surgical difficulty was assessed using console time and intraoperative blood loss. Potential correlating factors included age, body mass index (BMI), parity, uterine long axis diameter, uterine short axis diameter, uterine weight, console time, and blood loss. Correlations were evaluated using Spearman's rank correlation coefficient, and $p < 0.05$ was considered statistically significant.

Results

Console time showed significant correlations with uterine short axis diameter, uterine weight, and blood loss. Blood loss showed significant correlations with uterine long axis diameter and console time.

Conclusions

Overall, uterine size was identified as a major factor associated with surgical difficulty in RALH. These findings suggest that, in cases involving large uterine fibroids, proficiency in robot-specific surgical techniques—such as effective use of the third robotic arm and coordinated manipulation with the assistant's instruments—is essential to ensure safe and efficient surgery.

ID 33

SINGLE-PORT ROBOTIC TRANSVAGINAL (VNOTES) MYOMECTOMY: CASE PRESENTATION AND FEASIBILITY EXPLORATION

WH Li
Gynaecological Robotic and MIS Centre, Department of OBGYN, Shin Kong Wu Ho Su Memorial Hospital

Background

Transvaginal natural orifice transluminal endoscopic surgery (vNOTES) offers a truly scarless approach for gynaecological surgery but is technically limited by restricted instrument mobility and challenging suturing. The introduction of single-port robotic systems may enhance surgical dexterity and overcome these limitations.

Objective

To demonstrate the surgical technique and assess the feasibility of combining single-port robotic technology with a transvaginal approach for myomectomy.

Case Presentation

We present a case of a reproductive-age woman with symptomatic uterine fibroids who desired uterine preservation. A robotic-assisted vNOTES myomectomy was performed using the da Vinci SP Surgical System. Following anterior colpotomy and transvaginal access, the robotic system was docked through a single-port platform. The fibroid was identified and enucleated, followed by meticulous uterine closure using articulating robotic instruments. The specimen was extracted transvaginally without the need for abdominal incisions.

Results

The procedure was completed successfully without intraoperative complications or conversion. The robotic platform provided enhanced visualisation, improved instrument articulation, and stable suturing capability within the confined pelvic space. Blood loss was minimal, and the patient demonstrated rapid postoperative recovery with early ambulation and short hospital stay.

Conclusions

Single-port robotic vNOTES myomectomy is a feasible and safe approach that combines the benefits of scarless surgery with the

technical advantages of robotic precision. This technique may represent a valuable alternative for selected patients and supports further exploration of natural orifice robotic surgery in gynaecology.

ID 34

SURGICAL PHASE ANNOTATION IN ROBOT-ASSISTED HYSTERECTOMY: AN INTER-OPERATOR RELIABILITY STUDY

Pietro Pasquini[1,2], Elisabetta Pia Bilancia[1,2], Thibault Sys[3], Marco Mezzina[3,4], Emily Jamaer[5], Koen Traen[5], Evelinne Despierre[5], Pieter De Backer[3,6], Alexandre Mottrie[2,6]

[1] Department of Medical and Surgical Sciences (DIMEC), University of Bologna, Bologna, Italy.
[2] ORSI Academy, Melle (Ghent), Belgium
[3] ORSI Innotech, Melle (Ghent), Belgium
[4] Faculty of Engineering Science, KU Leuven, Leuven, Belgium
[5] Department of Gynaecology and Obstetrics, AZORG Hospital, Aalst, Belgium
[6] Department of Urology, AZORG Hospital, Aalst, Belgium

Introduction

Despite variability in surgical techniques for procedures such as robot-assisted total hysterectomy (RATH) with bilateral salpingo-oophorectomy (BSO), efforts to standardise surgical workflows are increasing, and structured metrics have been proposed. These metrics may improve clinical outcomes, support training of less experienced surgeons, and enable the creation of standardised annotated datasets for objective performance comparison. The aim of this study is to evaluate how a clear and unambiguous ontology may lead to high inter-operator reliability (IOR) by comparing annotations performed by an expert and a novice.

Methods

This is a retrospective single-center study from a high-volume multi-platform robotic centre. All RATH+BSO procedures performed between February 2024 and February 2026 were retrospectively collected. Frames containing identifiable individuals were excluded, and all sensitive data were anonymized and not accessible to the annotators or the platform. Videos were uploaded onto the Encord platform (Cord Technologies Limited, London, UK).

Based on validated metrics from the literature, surgical phases were extracted and an ontology with clearly defined start and end frames was created. Two reviewers (one expert surgeon and one robotic fellow) independently annotated the videos in a blinded fashion using the predefined ontology. Inter-operator reliability (IOR) using Cohen's kappa coefficient was measured.

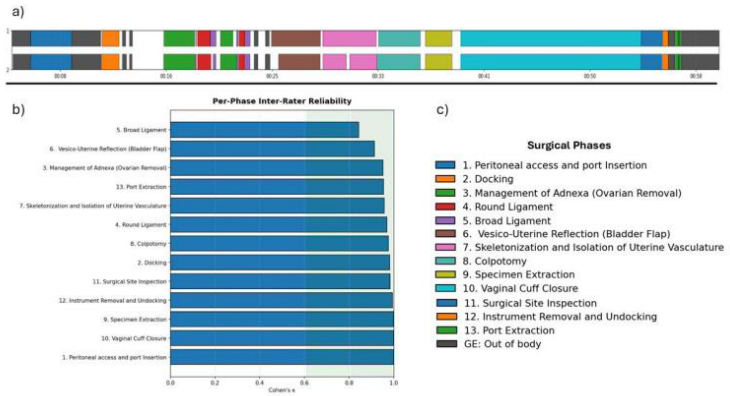
Results

A total of 12 RATH+BSO procedures were annotated using three robotic platforms: Da Vinci X and Da Vinci Xi (Intuitive, USA), and Toumai (MicroPort, Shanghai, China). Overall, IOR was very high (median 94.4%, IQR 5.5). Almost all phases (9/13) showed high agreement, with median IOR values exceeding 95%, while 4/13 phases fell below this threshold, namely broad ligament (86.2%), vesico-uterine reflection (92.9%), adnexal management (94.8%), and uterine vascular skeletonization (94.7%). These lower agreement values were observed in surgical steps characterised by less clearly defined anatomical or procedural boundaries. Further details are shown in **Figure 1**.

Conclusions

Our results demonstrate that a clear and unambiguous ontology, with precisely defined start and end frames for each phase, enables very high IOR, minimising variability between expert and novice annotators. Notably, lower agreement observed in specific phases appears to reflect intrinsic anatomical variability rather than limitations of the ontology itself. This approach provides a reliable framework for standardised surgical video annotation. However, these findings require further validation through larger cohorts, a higher number of annotators, and inclusion of procedures performed across different robotic platforms, centres, and surgical teams.

Figure 1



Graphical representation of surgical phase annotation and inter-operator agreement. (a) Procedural timeline with phase annotations independently performed by the two operators (1 and 2). (b) Inter-operator reliability (IOR) expressed using Cohen's kappa coefficient, for each surgical phase, ordered from lowest to highest agreement. (c) Color-coded legend of the surgical phases.

ID 37

NERVE-SPARING ROBOTIC MANAGEMENT FOR DEEP INFILTRATING ENDOMETRIOSIS WITH UTEROSACRAL AND URETERIC INVOLVEMENT

Ö. F. Öz[1], C. Dinç[1], E. İltar[2], F. C. Güner[1,2], S. Doğan[1,2]

[1] Department of Obstetrics and Gynaecology, Akdeniz University Faculty of Medicine, Antalya, Türkiye;
[2] Division of Gynaecological Oncology, Department of Obstetrics and Gynaecology, Akdeniz University Faculty of Medicine, Antalya, Türkiye

Objective

To demonstrate a nerve-sparing robotic approach for the management of deep infiltrating endometriosis involving the uterosacral ligament and ureter.

Design

Video poster demonstrating the key surgical steps of robotic excision in a patient with symptomatic deep infiltrating endometriosis.

Setting
Tertiary referral centre for minimally invasive gynaecological surgery.

Introduction
Deep infiltrating endometriosis affecting the uterosacral ligament and ureter represents a technically demanding condition because complete excision must be balanced against preservation of ureteral integrity and pelvic autonomic nerves. A precise robotic nerve-sparing approach may facilitate meticulous dissection in complex retroperitoneal anatomy.

Methods
The video presents stepwise robotic surgical management, including pelvic inspection, adhesiolysis, retroperitoneal development, ureterolysis, identification of pararectal and paravesical spaces, dissection of the uterosacral disease, and nerve-sparing excision of endometriotic nodules. Particular emphasis is placed on preservation of the hypogastric nerve and inferior hypogastric plexus while achieving complete resection of fibrotic and infiltrative tissue. Technical landmarks, safe dissection planes, and strategies to minimize ureteral and neural injury are highlighted.

Results
Robotic nerve-sparing excision enabled complete visualisation of the ureter and affected uterosacral compartment, with restoration of normal pelvic anatomy and preservation of critical neural structures. The procedure illustrates the feasibility of combining radical disease clearance with functional preservation in selected patients.

Conclusions
Robotic nerve-sparing surgery is a valuable option for deep infiltrating endometriosis with uterosacral and ureteric involvement. Careful retroperitoneal dissection, systematic ureterolysis, and identification of autonomic nerve pathways are essential for safe and effective management.

ID 38

A CHALLENGING HYSTERECTOMY FOR A LARGE PARAMETRIAL FIBROID

C. Dinç, Ö.F. Öz, E. Iltar, M.a. Tıkız, O. Efe, N.U.Doğan, S. Doğan
Department of Obstetrics and Gynaecology, Akdeniz University Faculty of Medicine, Antalya, Turkey

Background/Aim
Parametrial fibroids are uncommon and may significantly increase the complexity of hysterectomy because of their close relationship to the ureter and pelvic sidewall structures. We aimed to present the robotic surgical management of a large parametrial fibroid and to highlight key technical steps for safe dissection and ureteral preservation.

Methods
This video presents the case of a 7-cm fibroid located in the right parametrium adjacent to the pelvic sidewall. A robotic hysterectomy was planned. Intraoperatively, the fibroid was found to be deeply embedded within the right parametrium and to displace the ureter laterally. Retroperitoneal dissection was performed using a combination of sharp and blunt techniques to identify, mobilise, and preserve the ureter. After complete mobilisation of the fibroid and surrounding tissues, the uterine artery was ligated in a controlled fashion, and the uterus together with the fibroid was removed en bloc.

Results
The robotic procedure was completed successfully without intraoperative or postoperative complications. Ureteral integrity was preserved throughout the operation. En bloc removal of the uterus and parametrial fibroid was achieved safely. The postoperative course was uneventful, and the patient was discharged on postoperative day 3.

Conclusions
Robotic hysterectomy is a feasible and safe approach for selected cases of parametrial fibroids. Careful retroperitoneal dissection, early ureteral identification, and stepwise devascularization are essential for successful surgical management in anatomically challenging cases.

ID 39

ROBOTIC SACROCOLPOPEXY USING VERSIUS®: SURGICAL TIPS, PITFALLS AND INSIGHTS INTO PLATFORM TRANSITION

J. M. Martínez-García, C. Ortega Expósito, M. Barahona Orpinell, M. Campos Delgado, A. García-Tejedor, J. Ponce Sebastià
Department of Gynaecology, Hospital Universitari de Bellvitge, Barcelona, Spain

Background/Aim
Robotic sacrocolpopexy is the gold standard for apical prolapse repair. The introduction of modular robotic systems such as Versius® provides new technical possibilities but also requires adaptation of surgical strategy. Evidence focusing on practical implementation and platform-specific advantages remains limited.

Methods
Based on our experience in robotic pelvic surgery and the initial implementation of sacrocolpopexy using the Versius® system in a tertiary referral center, we analysed the main technical challenges encountered during the procedure. Particular focus was placed on key steps of the operation, including early exposure of the sacral promontory, pelvic workspace organisation, mesh fixation and suturing.

Practical strategies were developed to address these challenges, leveraging the specific features of the Versius® platform. The aim

was to define a set of technical tips to facilitate safe adoption and optimise surgical workflow.

Results

Several technical aspects were identified as critical to optimise surgical outcomes. Early exposure of the sacral promontory was prioritised, facilitated by cranial and left-sided retraction of the sigmoid colon. The use of a uterine manipulator (Ally® system) allowed stable and reproducible vaginal and uterine positioning throughout the procedure.

The modular architecture of Versius® enabled flexible 5 mm port placement, not necessarily aligned, improving access to different pelvic compartments and reducing external arm collisions. Mesh fixation to the anterior longitudinal ligament was safely performed using non-absorbable tackers, minimising the need for deep suturing. Barbed sutures facilitated efficient vaginal attachment and peritoneal closure.

Robotic suturing was enhanced by wristed instruments and increased rotational freedom, allowing precise needle control even in challenging angles.

Common pitfalls included inadequate exposure of the promontory and excessive needle depth during sacral fixation.

Conclusions

Robotic sacrocolpopexy using the Versius® system is safe and highly adaptable. Platform-specific features such as modular arm configuration and enhanced instrument articulation may improve surgical ergonomics and efficiency. A standardised strategy focused on exposure and fixation techniques is essential to ensure reproducibility and facilitate transition between robotic systems.

ID 40

IMPACT OF BODY MASS INDEX ON INDOCYANINE GREEN SENTINEL LYMPH NODE MAPPING IN EARLY-STAGE ENDOMETRIAL CANCER: A RETROSPECTIVE COHORT STUDY

C. Puertas , S. Fidalgo, B. Duplá, E. Perez, B. Miguel, M. Rubio, A. Scarpellini
Department of Gynaecological Oncology, Hospital Central de Asturias, Oviedo, España

Background/Aim

Sentinel lymph node (SLN) biopsy has emerged as the standard approach for nodal assessment in early-stage endometrial cancer, enabling accurate staging while minimizing surgical morbidity. Among available tracers, indocyanine green (ICG) has demonstrated superior detection rates and has become the preferred agent in minimally invasive and robotic surgery. However, patient-related factors such as body mass index (BMI) may affect mapping performance and bilateral detection rates, potentially compromising staging accuracy. Evidence regarding the impact of BMI on SLN mapping remains limited and heterogeneous. This study aimed to evaluate the association between BMI and SLN mapping outcomes in patients with early-stage endometrial cancer.

Methods

A retrospective cohort study was conducted including patients with low- to intermediate-risk endometrial cancer (FIGO stages IA–IIA, grade 1–2) who underwent robotic surgery between June 2023 and December 2025. All patients underwent total hysterectomy with bilateral salpingo-oophorectomy and ICG-guided SLN mapping.

For SLN mapping, 25 mg of ICG were diluted in 10 mL of distilled water (2.5 mg/mL), and 4 mL were injected into the cervix at the 3 and 9 o'clock positions. Patients were stratified according to BMI into two groups: BMI < 30 kg/m² and BMI ≥ 30 kg/m².

Outcomes included bilateral SLN detection rate, mapping failure rate (defined as "empty node" on final pathological assessment), reinjection rate, mean operative time, and conversion rate.

Results

A total of 63 patients were included: 27 with BMI < 30 kg/m² and 36 with BMI ≥ 30 kg/m². Bilateral SLN detection was achieved in 91.3% of patients in the BMI < 30 group and in 87% of those with BMI ≥ 30 kg/m². Mapping failure rate was 0% in the BMI < 30 group and 6.45% in the BMI ≥ 30 group. No cases required ICG reinjection. The mean operative time was 131 minutes in the BMI < 30 group and 141 minutes in the BMI ≥ 30 group. No conversions to open surgery were recorded.

Conclusions

ICG-guided SLN mapping in robotic surgery shows high detection rates and excellent feasibility in early-stage endometrial cancer, regardless of BMI. Although a slightly higher mapping failure rate was observed in patients with BMI ≥ 30 kg/m², overall performance remained robust. These findings support the use of SLN mapping with ICG as a reliable and safe staging strategy, and suggest that obesity should not be considered a limiting factor for its implementation.

ID 41

DA VINCI SP VNOTES SACROHYSTEROPEXY FOR UTERINE PROLAPSE: VIDEO CASE PRESENTATION AND FEASIBILITY

WH Li
Gynaecological Robotic and Minimally Invasive Surgery Centre, Department of Obstetrics and Gynaecology, Shin Kong Wu Ho Su Hospital, Taipei, TW

Background

Uterine-preserving surgery for pelvic organ prolapse is increasingly favored, particularly among women seeking to maintain fertility or body integrity. Conventional laparoscopic and robotic sacro-

hysteropexy provide durable apical support but require abdominal incisions. Transvaginal natural orifice transluminal endoscopic surgery (vNOTES) offers a scarless alternative; however, its application in complex reconstructive procedures remains limited due to restricted instrument mobility and suturing challenges. The integration of single-port robotic technology may overcome these technical barriers.

Objective

To demonstrate the surgical technique and evaluate the feasibility of single-port robotic vNOTES sacrohysteropexy.

Methods

We present a case of symptomatic uterine prolapse managed with uterine-preserving sacrohysteropexy using the da Vinci SP Surgical System. Following posterior colpotomy, transvaginal access to the peritoneal cavity was established. The single-port robotic platform was docked, enabling enhanced visualization and instrument articulation. Dissection of the sacral promontory and anterior longitudinal ligament was performed, followed by mesh placement and fixation between the cervix and sacrum. Peritoneal closure was completed robotically.

Results

The procedure was successfully completed without conversion or intraoperative complications. The robotic platform facilitated precise dissection in the deep pelvis and stable suturing for mesh fixation. The transvaginal approach eliminated abdominal scars while maintaining surgical efficacy. The patient had minimal blood loss, rapid postoperative recovery, and early discharge.

Conclusions

Single-port robotic vNOTES sacrohysteropexy is a feasible and safe technique that combines the benefits of scarless surgery with the precision of robotic articulation. This novel approach expands the application of natural orifice surgery to advanced pelvic reconstructive procedures and may represent a future direction in minimally invasive urogynecology.

ID 42

THE EFFECT OF DEXAMETHASONE ON SEXUAL FUNCTION IN A RANDOMISED TRIAL IN ROBOTIC HYSTERECTOMY

Karsten Kaiser[1], Jan Krzak[1], Thomas Strøm[2], Ismail Gögenur[3], Finn Friis Lauszus[1]

[1] Department of Gynaecology, Obstetrics and Surgery, Aabenraa Hospital, Sygehus Sønderjylland
[2] Department of Anesthesia, University Hospital Odense
[3] Centre of Surgical Science, Køge Hospital, Denmark

Background

The impact of hysterectomy on women's sexual functioning is a subject of debate. Some women report improvements in sexual function post-surgery, often due to the relief of symptoms like pain or bleeding, while others experience sexual dysfunction following the procedure. The aim of this randomised trial was to assess whether adding dexamethasone to a robotic hysterectomy procedure would further improve postoperative outcomes besides lowering inflammatory response, particularly regarding sexual functioning.

Methods

Women scheduled for robotic-assisted hysterectomy were randomised into two groups: One receiving 24 mg of dexamethasone preoperatively and the other receiving a placebo. Various measures were taken, including blood tests, pain assessments using the visual analogue scale (VAS), and reports on postoperative vomiting, nausea, and medication usage at five time points: 0, 4, 8, 12, and 24 hours postoperatively. The primary outcome included inflammatory response and, secondarily, sexual functioning measures such as urinary incontinence during sex, orgasm intensity, and frequency of sexual desire.

Results

A total of 112 women were randomised, and no differences were found in basic characteristics between the dexamethasone and placebo groups. However, the study observed the following differences in sexual functioning: Women in the dexamethasone group had a higher frequency of wanting sex at each weekly follow-up compared to the placebo group (Fig 1. $p = 0.018$). Orgasm intensity was significantly higher in the dexamethasone group (Fig 2. $p = 0.044$). No differences were found in the resumption of sex over time, pain during sex or incontinency during intercourse.

Conclusions

The addition of dexamethasone in robotic-assisted hysterectomy was associated with an increased frequency of sexual desire and more intense orgasms in the first four weeks postoperatively. We interpret the sexual function variable as proxy for recovery as subtle changes in well-being are reported less biased in these domains in contrary to work and leisure activities. These findings highlight the potential benefits of dexamethasone in the postoperative recovery phase, but further research may be needed to understand the full scope of its effects on sexual health after hysterectomy.

ID 43

ERGONOMIC EVALUATION OF THE DEXTER® ROBOTIC SURGERY SYSTEM: THE ERGODEX TRIAL

F. Castronovo[1], D. T. Krauss[2], M. Krones[2], M. Gulz[1], L. Abry[3], J. A. Eckhoff[2], S. Brunner[2], L. Macone[2], B. Babic[4], N. Seeger[3], R. Broderick[5], C. J. Bruns[2], M. Müller[1], H. F. Fuchs[2]

[1] Department of Gynaecology and Obstetrics, Inselspital, Bern, Switzerland
[2] Department for General, Visceral, Thoracic and Transplant Surgery, Faculty of Medicine and University Hospital Cologne, University of Cologne, Cologne, Germany
[3] Department of Surgery, Cantonal Hospital of Winterthur, Winterthur, Switzerland

[4] Department of General and Visceral Surgery, Sana Klinikum Offenbach, Offenbach am Main, Germany
[5] Department of Surgery, Division of Minimally Invasive Surgery, University of California San Diego, San Diego, CA, USA

Background/Aim

Gynaecological surgeons are exposed to adverse ergonomic conditions, including prolonged static postures, repetitive movements, and suboptimal operative room configurations, which may contribute to musculoskeletal strain. The effects of robotic surgery on surgeon well-being remains largely unexplored.

The DEXTER Robotic Surgery System offers an open concept, where the surgeon console can be operated in a sterile or nonsterile manner, standing, or sitting, allowing flexibility to switch between the robotic system and conventional laparoscopy. This study aimed to evaluate surgical ergonomics during the use of DEXTER and to assess the relevance of ergonomic performance for surgeon well-being, particularly in high-volume surgery with prolonged OR exposure.

Methods

This prospective, non-randomised multicentre trial evaluated surgical ergonomics during routine use of DEXTER at three clinical sites in Switzerland and the United States. A video camera captured the surgeon at the console during surgery. Using video editing programs, image analyses was created showing the surgeon's average posture and corresponding angles. Data were compared to previous measurements (n=33 surgeries) of a closed-console robotic system using the same methods.

Results

A total of 83,025 photos from 40 surgeries including 15 hysterectomies, 17 inguinal hernia repairs and 8 cholecystectomies from 5 different surgeons were evaluated. Posture metrics were analysed against current recommendations for a safe and healthy workspace. No significant difference was seen in a subgroup analysis between the type of procedures.

Comparison of posture to a closed console system revealed a significant improvement for the neck, shoulder and elbow regions (p value 0.0001). Mean sound levels were 60.24dB for all surgeries. A separate analysis of the console versus non-console time showed a mean sound level of 59.59dB for the console time and 59.14dB for the non-console time with no significant difference (p value 0.5216).

Conclusions

The application of ergonomic measurements during a real-life setting for robotic surgery helped reveal ergonomic advantages and challenges faced when using new robotic technology. An open console may facilitate communication by providing a quieter OR space as well as improve the high-risk neck posture seen in a traditional closed console setting, making an open console favourable from an ergonomic standpoint. Identifying individual possibilities for improvement will in the future lay the foundation for a personalised training and education in surgical ergonomics leading to a healthier workspace for all surgeons and their future careers.

ID 44

ICG PRECISION: REDEFINING SAFETY IN BENIGN ROBOTIC GYNAECOLOGY

Dr Urmila Soman, Dr Serene Mary Saji
Department of Minimally Invasive and Robotic Gynaecology,Aster Med City, Kochi, India

Background

ICG – Indocyanine green a Tri carbocyanine dye is a fluorescent marker which is highly soluble and characteristically lights up in near infrared light from 840 nm. Introduction of real time fluorescent imaging integrated into Da Vinci system allows better recognition of critical anatomical structures that are not visible in normal image or are not already delineated and exposed. Retrograde instillation of ICG into ureteral lumen helps in delineating the ureteral course in difficult dissections.

Methods

In this case series we present two cases of deep infiltrating endometriosis with frozen pelvis, one case of deep infiltrating endometriosis with previous pelvic surgery and one case of ectopic kidney. All the patients underwent retrograde ureteral ICG instillation before surgery and using the Da Vinci xi robotic system the ICG was detected within the tissues and lumen.

Cases

Case1: 41-year-old lady with deep infiltrating endometriosis with abnormal uterine bleeding not responding to conservative management and previous history of robotic ovarian cystectomy with endometriosis clearance and progesterone releasing intrauterine device 1 year back. She underwent robotic hysterectomy with bilateral salpingo-oopherectomy and endometriosis clearance. Firefly near infrared imaging showing the ureteral course and confirming the integrity with continuous ICG fluorescence with no areas of interruption or leakage.

Case2: 36-year-old nullipara with AUB not responding to multiple medical hormonal therapy and past surgical history of laparoscopic ovarian cystectomy and endometriosis clearance. She underwent robotic bilateral salpingo-oopherectomy with endometriotic clearance. Firefly near infrared imaging outlined left hydroureter beneath the peritoneum reinforcing surgical safety during dissection.

Case3: 50-year-old with bilateral endometrioma with incidental finding of left ectopic kidney.
• Firefly near infrared imaging showing left ureter traversing towards right pelvic sidewall confirming the altered course of ureter. Identification of the course of ureter helps in entering the correct dissecting planes without causing injuries.

Case4: 42-year-old lady presented with complaints of chronic pelvic pain with history of surgery-subtotal hysterectomy with right salpingo-oopherectomy for endometriosis and previous one LSCS. Firefly near infrared imaging showed left ureter together with bowel and left adnexa forming a mass. Tracing left ureter constantly during surgery helping in dissecting in right plane.

Results

Retrograde ICG instillation of ureters showed strong fluorescence uptake in all the above cases showing its effectiveness in complex benign pelvic surgeries in demonstrating the course and integrity of ureter.

ID 45

OPTIMISING THE THIRD ARM FOR SAFE AND BLOODLESS PARAAORTIC LYMPHADENECTOMY AND OMENTECTOMY

Dr Rupashree Dasgupta
Department of Gynaecological Oncology and Robotic Surgery, Apollo Multispecialty Hospital, Kolkata, India

Background

Robotic para-aortic lymphadenectomy and omentectomy are among the most challenging and technically demanding procedures in gynaecological oncology due to proximity to major vessels and the ureters. Standarised robotic techniques among multi-arm configuration have been developed to enhance precision, reduce complications and improve surgical efficiency.

However optimal utilisation of the third robotic arm remains under-emphasised despite its critical role in exposure, traction and maintaining a stable operative field-key determinants of safe and bloodless dissection.

Aim

1. To demonstrate strategic optimisation of the third robotic arm during paraaortic lymphadenectomy and omentectomy.

2. To highlight techniques that enhance exposure, traction, and vascular control.

3. To present methods that facilitate safe, efficient, and near-bloodless dissection in upper abdominal robotic surgery.

Methods

This video demonstrates a stepwise robotic technique for para-aortic lymphadenectomy and omentectomy with a specific focus on third-arm optimisation.

Patient and Setup

Modified dorsal lithotomy position with steep Trendelenburg
Multi-quadrant robotic docking for upper abdominal access
Standard four-arm robotic configuration
Third Arm Optimisation Principles Demonstrated

1. Stable Retraction for Exposure.
Third arm used as a dynamic retractor.
Maintains constant tension on:
• Peritoneum
• Mesentery
• Omentum
Provides continuous exposure of major vascular landmarks.

2. Vascular Safety and Hemostasis.
Third arm creates counter-traction to:
• Skeletonise vessels
• Define tissue planes
• Facilitate precise energy delivery

3. Bloodless Dissection Strategy:
• Controlled traction–countertraction technique
• Sequential sealing and division using advanced bipolar energy
• Maintenance of a clear surgical field throughout dissection
• Use of vessel sealing technology in robotic lymphadenectomy has been shown to significantly reduce blood loss and improve operative efficiency, supporting its role in achieving safer minimally invasive surgery.

4. Efficiency in Multi-Quadrant Surgery.
• Seamless transition between:
• Paraaortic dissection
• Omentectomy
Maintained exposure without repeated instrument repositioning
Robotic multi-arm configurations are specifically designed to optimise surgical workflow and reduce operative errors in complex procedures such as aortocaval lymphadenectom.

Conclusions

The third arm is not just for holding—it is the key driver of exposure and precision especially in oncological surgeries. When used dynamically:
• Better visualization and retraction
• Fine dissection creating cleaner planes
• Minimal bleeding
• Safer dissection near major vessels
Hence it is important for every robotic surgeon to master the third arm.

ID 46

WHEN ONCOLOGY MEETS METABOLIC SURGERY: ROBOTIC HYSTERECTOMY WITH OR WITHOUT SLEEVE GASTRECTOMY FOR ENDOMETRIAL INTRAEPITHELIAL NEOPLASIA

H. Tuncer1, D. Basaran2
[1] Department of Obstetrics and Gynaecology, Hacettepe University, Ankara, Turkey
[2] Department of Obstetrics and Gynaecology, Division of Gynaecological Oncology, Hacettepe University, Ankara, Turkey

Background/Aim

Endometrial intraepithelial neoplasia (EIN) is a premalignant lesion strongly associated with obesity and metabolic syndrome. Obesity increases perioperative risk and contributes to endometrial carcinogenesis through hormonal and metabolic mechanisms. Robotic hysterectomy has become the preferred minimally invasive approach in obese patients with endometrial pathology. Bariatric surgery, particularly sleeve gastrectomy, remains the most effective treatment for severe obesity and may improve metabolic outcomes.

Recently, combined metabolic and gynaecological procedures have been proposed as a strategy to address both oncologic disease and obesity in a single surgical setting. This study aimed to evaluate the feasibility and perioperative outcomes of robotic hysterectomy with bilateral salpingo-oophorectomy (RH+BSO) compared with RH+BSO combined with sleeve gastrectomy (RH+BSO+SG) in patients with biopsy-proven EIN.

Methods

A retrospective pilot analysis was performed including four obese patients undergoing robotic surgery for EIN. All patients had preoperative endometrial biopsy demonstrating EIN, and postoperative final pathology confirmed EIN in all cases. Patients were divided into two groups: RH+BSO alone (n=2) and RH+BSO combined with sleeve gastrectomy (n=2). Collected variables included age, body mass index (BMI), operative time, hemoglobin change, hospital stay, and weight outcomes at 6 months. BMI was calculated preoperatively and at 6-month follow-up.

Results

The mean age was 64 years in the RH+BSO group and 43.5 years in the combined surgery group (p=0.12). Mean preoperative BMI was 59.1 kg/m² in the RH+BSO group and 54.3 kg/m² in the RH+BSO+SG group (p=0.68). Mean operative time was significantly longer in the combined surgery group (160 min) compared with RH+BSO alone (34.5 min) (p=0.03). Mean hemoglobin decrease was similar between groups (0.8 vs 1.45 g/dL; p=0.42). Length of hospital stay was comparable (2 vs 1.5 days; p=0.55).

At 6 months, patients undergoing combined surgery demonstrated markedly greater weight loss. Mean BMI reduction was 14.75 kg/m² in the RH+BSO+SG group compared with 0.95 kg/m² in the RH+BSO group (p=0.02). No intraoperative complications, conversions, or major postoperative complications were observed.

Conclusions

Combined robotic hysterectomy with bilateral salpingo-oophorectomy and sleeve gastrectomy appears feasible and safe in selected obese patients with EIN. Although operative time is longer, perioperative outcomes are comparable and the combined procedure provides substantial metabolic benefit through significant weight reduction. Larger prospective studies are needed to confirm long-term oncologic and metabolic outcomes.

ID 47

ROBOTIC-ASSISTED HYSTERECTOMY FOR INTRALIGAMENTARY LEIOMYOMA WITH COMPLEX ANATOMICAL DISTORTION

M.Diab, A.Tal, S.Abd Elgani, A.Reis, M.Braverman, A.Dayan-Schwartz, D.Malchi, L.Kogan
Department of Obstetrics and Gynaecology, Emek Medical Center, Afula, Israel

Background

The management of massive intraligamentary leiomyomas presents a significant surgical challenge, often distorting pelvic anatomy to a degree that limits the applicability of standard minimally invasive techniques. In such cases, surgical success depends less on technology alone and more on strict adherence to anatomical principles, particularly restoration of normal anatomy through systematic retroperitoneal dissection.

Objective

To demonstrate and evaluate a structured, reproducible "retroperitoneal-first" robotic strategy for the safe management of massive intraligamentary fibroids with severe pelvic anatomical distortion.

Case Description

A 49-year-old G3P3 woman presented with a two-year history of progressive abnormal uterine bleeding and right-sided pelvic fullness, refractory to conservative management with a levonorgestrel intrauterine device. Imaging revealed a 10 cm (95 × 69 × 99 mm) FIGO type 6 intraligamentary leiomyoma causing marked leftward uterine displacement.

Methods

A robotic hysterectomy was performed using a retroperitoneal-first approach. The procedure followed a defined seven-step sequence:

1. Right-side mobilisation with bilateral salpingectomy and early ureter identification;
2. Left-side balancing;
3. Delayed extra-uterine Hohl manipulator insertion;
4. Extended ureterolysis with right uterine artery skeletonisation at its internal iliac origin;
5. Bladder dissection;
6. Left pedicle detachment;
7. Colpotomy with intact specimen extraction using an Alexis bag and vaginal cuff closure.

Results

Estimated blood loss was 100 ml. No intraoperative complications

occurred. The patient ambulated early, voided spontaneously, and was discharged on postoperative day one.

Conclusions

A retroperitoneal-first robotic approach incorporating early ureterolysis, proximal uterine artery control, and delayed manipulator insertion provides a safe and reproducible framework for complex hysterectomies with extreme anatomical distortion. Robotic wristed instrumentation enables effective self-traction when traditional uterine manipulation is not feasible.

ID 48

DECISION MAKING FOR ROBOTIC-ASSISTED SURGERY VERSUS OPEN SURGERY IN ENDOMETRIAL CANCER: A RETROSPECTIVE COHORT STUDY

K. Hu[1,2], D.I. Bolovis[1], C. V. M. Brucker[1]

[1] Department of Gynaecology and Obstetrics, Paracelsus Medical Private University, Nuremberg General Hospital, Nuremberg, Germany

[2] Department of Breast Surgery, the Affiliated Hospital of Beihua University, Jilin, China

Objective

To identify the applicable patient characteristics for robotic and open surgery in endometrial cancer, and to provide evidence-based and quantifiable references for formulating individualised clinical surgical decision-making.

Methods

This study is enrolling patients with endometrial cancer who underwent surgery at the Department of Gynaecology of Klinikum Nord Nürnberg in Germany from June 2018 to September 2025, and it is designed into two parts.

For **Part 1**, 50 cases of open surgery and 100 cases of robotic-assisted surgery will be included; clinical indicators including age, BMI, uterine volume and other relevant metrics will be collected, and PSM will be adopted to compare the perioperative outcomes of the two surgical approaches.

In **Part 2**, 180-200 patients receiving robotic surgery will be included and stratified into 9 subgroups using a 3×3 stratification method based on BMI and uterine volume. Chi-square test and regression analysis will be performed by SPSS 30.0 to explore the optimal combination, with $P<0.05$ considered statistically significant.

Results

Data collection and sorting are currently ongoing. Preliminary data collation shows that the distribution of clinical characteristics (such as comorbidities and FIGO stage) differs between the robotic surgery group and the open surgery group. The perioperative outcomes of the two surgical methods and the differences among the 9 subgroups of robotic surgery will be systematically analysed after the completion of data cleaning and verification. The specific statistical results and significance will be reported in the final study.

Conclusions

This study is designed with two parts to clarify the differences in clinical applicability of the two surgical methods and explore the optimal candidate population for robotic surgery through 3×3 stratification. It is expected to define quantifiable thresholds for BMI and uterine volume, which is expected to provide a reference for clinical surgical decision-making in the management of endometrial cancer.

ID 49

AI-ENHANCED MINIMALLY INVASIVE PELVIC SURGERY: A SYSTEMATIC REVIEW AND IMPLICATIONS FOR GYNAECOLOGICAL ONCOLOGY

M Dokmeci[1,2,3,4], F Tesfai[1,2,3], A Nabiyeva[1], L Mennillo[4,5], E Mazomenos[4,5], D Chandrasekaran[1], N Francis[3,4,6,7]

[1] Department of Gynaecological Oncology, UCLH, London, UK

[2] Institute for Women's Health, UCL, London, UK

[3] The Griffin Institute, Harrow, UK

[4] Hawkes Institute, UCL, London, UK

[5] Department of Medical Physics and Biomedical Engineering, UCL, London, UK

[6] Department of Colorectal Surgery, Somerset NHS Foundation Trust, Somerset, UK

[7] Division of Surgery and Interventional Science, UCL, London, UK

Background/Aim

Artificial Intelligence (AI) is gaining significant attention for intraoperative application, especially within minimally invasive surgery (MIS). This review aims to synthesise the evidence on surgical AI-tools in pelvic MIS and evaluate their application in gynaecological oncology.

Methods

This systematic review is conducted according to PRISMA 2020 guidelines. A search was performed on relevant studies and screened by 2 authors. Full texts are reviewed and data extracted. Studies reporting on surgical AI-tools using human minimally invasive pelvic surgical data were included. Data are extracted on surgical context, characteristics, and performance of AI-tools and their impact on surgical performance, training and patient outcomes. Risk of bias is assessed using appropriate assessment tools.

Results

A total of 1277 studies were identified. Dataset and annotation characteristics, AI-model characteristics (including task category and validation strategy) and performance metrics (e.g. accuracy, precision, recall, sensitivity/specificity) are extracted. The impact of AI-tools on surgical (e.g. error reduction, surgical performance, kinematics), training (e.g. skill acquisition, retention, time to competency) and clinical outcomes (e.g. estimated blood loss, length of surgery, conversion rate, complications, recovery and other study

specific measures) are evaluated. Furthermore, surgical context data (e.g. specialty, indication, approach, targeted organ) to compare pelvic specialties and assess the position of gynaecological oncology within the broader landscape of intraoperative AI development to highlight potential areas of further research are extracted.

ID 51

TRANSVAGINAL SPECIMEN EXTRACTION AFTER ROBOTIC MYOMECTOMY: A FEASIBLE AND SAFE APPROACH

V. Iannuzzi[1], M. Afonina[2], M. Felline[2], S. Zaurino[2], P.P. Guarnerio[2]
[1] Department of Obstetrics and Gynaecology, ASST BERGAMO OVEST, Treviglio-Caravaggio Hospital, Bergamo, Italy
[2] Department of Obstetrics and Gynaecology, ASST, Santi Paolo Carlo, San Carlo Hospital, Milan, Italy

Background

Uterine fibroids represent the most common benign tumors in women of reproductive age. Treatment is reserved to symptomatic patients and myomectomy remains the preferred option for those desiring future fertility. Minimally invasive approaches, including laparoscopy and robotic surgery, have progressively replaced open surgery owing to reduced post-operative morbidity, shorter hospital stay, and faster recovery.

Compared with conventional laparoscopy, robotic surgery facilitates complex myomectomy by providing enhanced visualization, improved instrument articulation, and greater precision during fibroid enucleation and multilayer uterine reconstruction. Nevertheless, specimen retrieval remains a challenging step during minimally invasive myomectomy. Transvaginal extraction via posterior colpotomy has been proposed as an alternative approach that may allow removal of large fibroids while preserving the benefits of minimally invasive surgery.

Methods

To assess the feasibility and safety of transvaginal specimen extraction following robotic myomectomy, we conducted a retrospective analysis of patients who underwent robotic myomectomy with transvaginal specimen extraction through posterior colpotomy at our hospital. After robotic myomectomy an endobag was introduced into the abdominal cavity through the AirSeal® access system. Under direct robotic visualization, a posterior colpotomy was performed. The fibroid was placed within the retrieval bag and removed transvaginally through the posterior fornix. The colpotomy was then closed using robotic laparoscopic suturing.

Results

A total number of 20 patients underwent robotic myomectomy with transvaginal specimen extraction. Fibrodi size ranged from 4 to 7cm and lesions were classified as FIGO types 2–7. All procedures were completed successfully with no intraoperative or postoperative complications recorded. Operative times were acceptable including the initial phase of the surgeon's robotic learning curve.

Conclusions

Robotic assistance allows precise execution of posterior colpotomy and secure closure of the vaginal incision. The enhanced instrument articulation and improved suturing capability of the robotic platform may facilitate intracorporeal closure compared with conventional laparoscopy. Transvaginal specimen extraction therefore represents a feasible and safe technique after robotic myomectomy, enabling removal of large fibroids without enlargement of abdominal incisions while preserving the advantages of minimally invasive surgery.

ID 52

CAN VIRTUAL REALITY REDEFINE ROBOTIC SURGERY TRAINING? TR-MIGS STUDY

H. Tuncer[1], E. Yucel[2], M. E. Aksun[3], R. E. Pay[4], B. Aslan[5], I. Yalcin[6], S. Taskin[7]
[1] Department of Obstetrics and Gynaecology, Hacettepe University, Ankara, Turkey
[2] Department of Obstetrics and Gynaecology, Hakkari Yüksekova State Hospital, Hakkari, Turkey
[3] Department of Obstetrics and Gynaecology, Dokuz Eylül University, İzmir, Turkey
[4] Department of Obstetrics and Gynaecology, Ankara Bilkent City Hospital, Ankara, Turkey
[5] Department of Obstetrics and Gynaecology, Ankara University, Ankara, Turkey
[6] Department of Obstetrics and Gynaecology, Division of Gynecologic Oncology, Dokuz Eylül University, İzmir, Turkey.
[7] Department of Obstetrics and Gynaecology, Division of Gynecologic Oncology, Memorial Göztepe Hospital, İstanbul, Turkey

Background

Virtual reality (VR) simulation is increasingly used in surgical training; however, its short-term impact on surgeons' self-perceived skills and user experience remains unclear. This study aimed to evaluate the effect of a brief VR simulation on surgical self-confidence, perceptions of educational value, usability, and tolerability in minimally invasive gynaecological surgery training.

Methods

A prospective pre–post survey study was conducted among 59 physicians with varying levels of surgical experience. Participants completed standardised questionnaires before and after a VR-based robotic simulation (benign gynaecology module, ~10 minutes).

Outcomes included self-reported confidence in technical skills (camera control, hand–eye coordination, depth perception, procedural planning), perceived impact of VR on operating room (OR) performance, and overall skill scores.

Secondary outcomes included System Usability Scale (SUS), satisfaction, workload (NASA-TLX), and simulator-related symptoms. Paired comparisons were performed using the Wilcoxon signed-rank test.

Results

Participants were predominantly residents (59%), with limited prior VR surgical experience (88% had none). No statistically significant differences were observed in self-reported technical skills, including camera control (p=0.398), hand–eye coordination (p=0.521), depth perception (p=0.549), procedural planning (p=0.761), or overall skill score (p=0.659). However, belief in VR's ability to improve OR performance increased significantly after the intervention (mean 3.69±0.84 vs. 4.19±0.75, p<0.001).

User experience outcomes were favorable: mean SUS score was 72±15, indicating good usability. Satisfaction was high (8.05±1.48/10), while discomfort was low (2.37±1.83/10). Reported workload was moderate (mean 2.67±0.80/5). Simulator-related symptoms were generally mild, with dizziness (51%) and nausea (37%) being the most common, but rarely leading to interruption (early termination: 1.7%). Most participants (85%) completed the simulation without interruption.

Conclusions

A short-duration VR simulation did not significantly change self-perceived surgical skills but significantly enhanced participants' perception of VR's educational value. The system demonstrated good usability, high satisfaction, and acceptable tolerability. These findings support the feasibility and acceptance of VR as a training adjunct in minimally invasive gynaecological surgery. Further studies incorporating longer training periods and objective performance metrics are needed to determine its impact on skill acquisition.

While short-term VR exposure did not significantly alter self-perceived technical skills, it enhanced surgeons' perception of its educational value, suggesting that virtual reality may play an emerging role in redefining robotic surgery training.

ID 53

EFFECT OF PREOPERATIVE GUM CHEWING ON POSTOPERATIVE NAUSEA AND VOMITING IN WOMEN UNDERGOING ROBOTIC LAPAROSCOPIC SURGERY FOR UTERINE MYOMAS: A RANDOMISED CONTROLLED TRIAL

J.M.Jeong, H.J.Koh
Department of Anesthesiology and Pain Medicine, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

Background

Postoperative nausea and vomiting (PONV) is a common and distressing complication in women undergoing robotic gynaecological surgeries. Despite the implementation of various preventive measures, PONV continues to hinder recovery and increase healthcare costs. This study aimed to determine whether preoperative chewing of sugar-free gum could effectively reduce the reliance on anti-emetic medications in women undergoing robot-assisted laparoscopic surgery for uterine myomas.

Methods

This randomised, single-blinded trial recruited 92 adult women scheduled for robot-assisted laparoscopic surgery. Participants were randomly assigned to either a gum-chewing group, instructed to chew sugar-free gum for 15 minutes in the preoperative holding area, or a no-gum-chewing group. The primary endpoint was the need for anti-emetic medication within the first postoperative hour in the post-anesthesia care unit (PACU). Secondary endpoints included the total frequency of anti-emetic use. Prophylactic anti-emetic medications were not administered during the surgical procedure to evaluate the intervention's standalone efficacy.

Results

Among the 92 participants, 89 completed the study, with 44 allocated to the gum-chewing group and 45 to the no-gum-chewing group. The proportion of patients requiring anti-emetic intervention for PONV was significantly lower in the gum-chewing group compared to the no-gum-chewing group (79.5% vs. 95.6%, p = 0.001).

In addition, the no-gum-chewing group demonstrated a higher overall requirement for anti-emetic medications. The gum-chewing group showed a higher proportion of patients requiring no or only a single dose, whereas multiple-dose use was more frequent in the no-gum-chewing group. Importantly, no adverse events, including jaw or tooth discomfort, injuries, or gastric regurgitation, were reported in either group.

Conclusions

Preoperative chewing of sugar-free gum for 15 minutes appears to be a safe, non-invasive, and effective strategy for reducing the burden of PONV in women undergoing robot-assisted laparoscopic surgery for benign uterine tumors. This intervention was associated with a reduced incidence of PONV requiring anti-emetic treatment and a lower need for anti-emetic medications, without any observed adverse events. These findings support the incorporation of brief preoperative gum chewing as a simple adjunct to improve perioperative outcomes.

ID 54

ROBOTIC EXCISION AND UTERINE RECONSTRUCTION FOR CESAREAN SCAR PREGNANCY: A FERTILITY-PRESERVING SURGICAL STRATEGY

K. Panou, A. Lai, K. Kalfoutzos, C. Tsimpoukelis, D. I. Bolovis, C. V. M. Brucker
University Women's Hospital, Paracelsus Medical University, Nuremberg, Germany

Background

Cesarean scar pregnancy (CSP) is a rare but potentially

life-threatening ectopic pregnancy. Incidence is increasing in parallel with rising cesarean-section rates worldwide. Optimal management remains controversial, particularly in women wishing to preserve fertility. This report describes robotic surgical management of a first-trimester CSP and reviews current treatment options, emphasizing the need for standardised management pathways.

Methods

A 35-year-old woman (G5P4) with four previous cesarean deliveries presented to our clinic with CSP in the 7th gestational week. Surgical treatment was performed within 48 hours using a robotic approach: exposure of the vesicouterine space, definition of resection margins, excision of the cesarean scar pregnancy, and uterine reconstruction. No methotrexate was administered. An intrauterine Foley catheter was placed for 72 hours postoperatively to reduce the risk of intrauterine adhesions.

Results

The procedure was completed without intraoperative complications or significant blood loss. The postoperative course was uneventful, and the patient was discharged on postoperative day four.

Conclusions

Robotic excision and uterine reconstruction is a safe and effective fertility-preserving treatment for selected patients with CSP. Given the increasing incidence of CSP and the heterogeneity of current treatment strategies, future standardised management algorithms are required to guide optimal therapy.

ID 55

UMBILICAL EVERSION WITH DIRECT TROCAR INSERTION: A STANDARDISED TRANSUMBILICAL ENTRY TECHNIQUE FOR ROBOTIC GYNAECOLOGICAL SURGERY

A. Lai[1], K. Panou[1], K. Kalfoutzos[1], C. Tsimpoukelis[1], C. Karachaliou[2], D. I. Bolovis[1,2], C. V. M. Brucker[1]

[1] University Women's Hospital, Paracelsus Medical University, Nuremberg, Germany

[2] Clinic of Gynaecology, Henry Dunant Hospital Centre, Athens, Greece

Background/Aim

Safe abdominal entry remains one of the most critical steps in minimally invasive surgery, while the optimal access technique continues to be debated. We describe a standardised direct transumbilical entry technique combining complete umbilical eversion with direct trocar insertion (DTI), routinely used in robotic gynaecological surgery at the University Department of Gynecology, Nuremberg General Hospital, between January 2021 and December 2024. In all cases, pneumoperitoneum was established using the same direct transumbilical entry technique. The method consists of complete umbilical eversion, sagittal intraumbilical incision, preparation of a direct access tract, and controlled 90-degree insertion of an optical blunt-tip trocar. No exclusion criteria were applied; patients with obesity, previous abdominal surgery, and prior hernia surgery were also included.

Methods

Results

More than 400 elective robotic procedures were performed using this approach. Intraperitoneal access was successfully achieved in all cases, with no entry failures, no need for conversion to an alternative access technique, and no laparotomies related to failed abdominal entry.

Mean entry time was approximately 40–50 seconds and was shorter than with the previously used Veress needle technique. No major or minor intraoperative complications related to abdominal access were observed. No postoperative umbilical complications, including pain, infection, or hernia, were reported during hospital stay or routine postoperative follow-up.

Conclusions

Umbilical eversion combined with DTI is a safe, fast, and reproducible transumbilical entry technique for robotic gynecologic surgery. By enabling controlled 90-degree trocar insertion through the umbilical anatomical defect, this approach may facilitate reliable abdominal access across diverse patient anatomies and may be particularly useful in obese patients, where eversion and vertical traction improve control through thicker subcutaneous tissue.

ID 56

GIANT UTERINE MASS MANAGED WITH ROBOTIC TOTAL HYSTERECTOMY: A CASE REPORT

B. Sargın[1], B. Oruç[1], E. Yücel[2], S. Taşkın

[1] Department of Obstetrics and Gynaecology, Memorial Göztepe Hospital, Istanbul, Türkiye

[2] Department of Obstetrics and Gynaecology, Yüksekova State Hospital, Hakkari, Türkiye

Introduction

Uterine masses have a broad differential diagnosis including fibroids, adenomyosis-related lesions, and rarer pathologies. Especially in large uterine masses, the distinction between benign and malignant conditions in preoperative imaging, the selection of surgical approach, and the management of complication risks are of critical importance.

Robotic surgery may be an effective option in selected cases by providing minimally invasive, ergonomic, and controlled dissection advantages in large uteri and complex pelvic pathologies. The aim of this case report is to emphasize the role of minimally invasive

methods such as robotic hysterectomy in the clinical approach, particularly in cases where surgical technique becomes challenging due to suspected giant uterine masses.

Case Presentation

A 47-year-old patient with a history of two cesarean sections was evaluated due to a palpable enlarged uterine mass and abnormal uterine bleeding. In preoperative pelvic magnetic resonance imaging (MRI), the endometrium was linear, the junctional zone was approximately 13 mm and was evaluated as asymmetrically thickened and irregular in some areas. Additionally, a mass lesion measuring approximately 134×125 mm was identified, extending toward the right superolateral aspect of the uterus, originating from within the uterine cavity, containing myometrial areas and cystic degenerative changes. Malignancy was excluded in the sequences and the lesion was reported as consistent with leiomyoma.

Abdominal entry was performed through the supraumbilical epigastric region using an 8 mm robotic trocar. During exploration, a giant uterine mass measuring 12.5 cm, originating from the uterine fundus and filling the upper abdomen, was observed. During robotic surgery, total robotic hysterectomy and bilateral salpingectomy were completed using bipolar forceps and monopolar scissors.

The specimen was fragmented in a controlled manner using the cold-knife technique and removed vaginally; morcellation was not performed. The colpotomy line was closed with 2/0 V-Loc suture. Intraoperative frozen section examination revealed findings consistent with leiomyoma.

Conclusions

With appropriate patient selection, robotic surgery may provide the advantages of a minimally invasive approach in large uterine masses. With appropriate patient selection, robotic surgery can offer the benefits of a minimally invasive approach in the management of large uterine masses. In our case, despite the presence of a giant fundal mass extending into the upper abdomen, robotic hysterectomy was successfully completed with safe dissection and vaginal specimen extraction, demonstrating the applicability of this approach in similar cases.

ID 57

ROBOTIC RADICAL HYSTERECTOMY IN AN APPARENT IB1 CERVICAL CANCER PATIENT WITHOUT UTERINE MANIPULATOR: STEP-BY-STEP TECHNIQUE

Stamatios Petousis, Chrysoula Margioula-Siarkou
Gynaecological Oncology Unit, 2nd Department of Obstetrics and Gynaecology, Aristotle University of Thessaloniki, Greece
2nd Robotic Gynaecological Clinic, Geniki Clinic, Thessaloniki, Greece

Objective

To present the case of a patient with apparent IB1 cervical cancer who was treated with robotic radical hysterectomy as well as to describe the corresponding surgical technique performed without the use of a uterine manipulator.

Methods

Epidemiological and histopathological characteristics were reviewed, and video recording of the robotic procedure was used to create a short surgical video.

Results

This is the case of a 52-year-old patient who presented following a cone biopsy, in which a squamous cell carcinoma of the cervix measuring 1.2 cm with a depth of invasion of 7 mm was identified, without lymphovascular invasion and with clear margins. After negative lymph node staging (robotic sentinel lymph node biopsy with negative frozen section and complete pelvic lymphadenectomy, which initially demonstrated no infiltrated lymph nodes), and following informed consent, a robotic radical hysterectomy type B according to Querleu classification was performed. The operation lasted 150 minutes, with a drop in hemoglobin from 12.3 to 11.3 g/dL.

Basic anatomical steps of type-B radical hysterectomy should include, among others, the preparation of paravesical and pararectal spaces, the identification, preparation and mobilisation of ureter, the identification and ligitation of uterine vessels, the preparation of lateral parametrium by continuous mobilization of ureter and decollation from pelvic peritoneum and attaching parametrium, the preparation of ventral parametrium through opening of the paravesical space and identification of vesicouterine ligaments, the preparation of dorsal parametrium through preparation of rectouterine space and ligitation of uterosacral ligaments. The intraoperative course was uneventful.

The patient was discharged on the first postoperative day, while her postoperative course during the first two months was uncomplicated. As preventive measures to avoid disease dissemination, a vaginal cuff was created, and instead of a uterine manipulator, the broad surface of a trocar guide was used. The parametrial extension in the histopathological specimen was 3.5 cm on the left and 4.5 cm on the right, while the length of the resected vaginal segment was 2.5 cm. The specimen margins were free of disease.

Avoidance of manipulator usage may decrease the possibility of cancerous spread while permitting adequate exposure of safe vaginal anatomical margins for radical resection.

Conclusions

The management of selected cases of cervical cancer is still feasible and safe with robotic surgery under specific clinical and technical

conditions. Avoiding the use of a uterine manipulator significantly reduces the risk of disease dissemination and recurrence at the vaginal cuff.

ID 58

PERIOPERATIVE OUTCOMES AND ANESTHETIC CHALLENGES OF ROBOTIC-ASSISTED GYNAECOLOGICAL SURGERY: A SYSTEMATIC REVIEW

L. Nelva Stellio[1], I. Ioppolo[2], S. Granato[2], V. Torrano[3], F. Spelzini[1]
[1] Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy
[2] School of Medicine and Surgery, University of Milano-Bicocca, Milan, Italy
[3] Department of Anesthesia, Critical Care and Pain Medicine, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background

Robotic-assisted gynaecological (RAS) surgery offers enhanced precision, ergonomics, and visualisation compared with open (OP) and laparoscopic (LAP) approaches. However, it introduces distinct anesthetic challenges related to patient positioning, airway access, and postoperative recovery and analgesia. This review aims to evaluate perioperative outcomes across four domains: intra-operative anesthetic management, postoperative recovery, pain control strategies, and surgical performance.

Methods

We performed a systematic review of the current literature on adult women undergoing robotic-assisted gynaecological surgery under general anesthesia. Data on perioperative outcomes across the aforementioned domains were extracted via standardised selection, extraction, and bias assessment methods.

Results

A total of 479 papers were included in the study following screening of over 10,000 citations. Intraoperatively, airway complications were infrequently reported; however, a few cases of increased pulmonary pressures and hypercapnia emerged. Postoperatively, RAS was associated with shorter hospital stay (mean 2.52 days RAS vs. 1.85 LAP vs. 5.11 OP) and faster return to daily activities (mean 11.4 days RAS vs. 13.6 LAP vs. 13.2 OP), but evidence for validated quality of recovery scores was lacking.

Pain intensity and analgesic requirements were found to be lower after RAS than after OP and sometimes LAP, with inconsistent findings across studies. Surgical outcomes favored RAS, showing reduced blood loss (mean 154 mL RAS vs. 149 LAP vs. 358 OP), lower conversion and major complications rates than other approaches. Oncological metrics including lymph node yield and R0 resection - were comparable across approaches. Overall study quality was limited by a moderate to serious risk of bias across most outcomes.

Conclusions

Robotic-assisted gynecologic surgery is a feasible and safe alternative to laparoscopic and open approaches, with advantages in selected surgical outcomes and potential benefits in postoperative pain and recovery. However, further high-quality randomized studies are needed to confirm these benefits.

ID 59

A SINGLE-CENTRE ANALYSIS OF PERIOPERATIVE COMPLICATIONS IN ROBOT-ASSISTED LAPAROSCOPIC HYSTERECTOMY

Y.Urabe, A.Kogure, A.Nakagawa, S.nakagawa, N.Sogo, H.Torii, M.Fujishiro, A.Yano, M.Urabe
Department of Obstetrics and Gynaecology, Oumi Medical Centre, Kusatsu, Shiga Pref, Japan

Background

Robot-assisted laparoscopic hysterectomy has been increasingly adopted in gynaecological surgery because of its minimally invasive nature and technical advantages. However, assessment of perioperative complications remains essential for evaluating safety and improving surgical quality.

Methods

We retrospectively reviewed 606 consecutive cases of robot-assisted laparoscopic hysterectomy performed at our institution between November 1, 2022, and December 31, 2025. Perioperative complications were analysed with respect to incidence, type, and severity according to the Clavien–Dindo classification.

Results

Perioperative complications occurred in 39 of 606 cases, corresponding to an overall complication rate of 6.4%. A total of 47 adverse events were identified in these 39 patients. The most frequent complications were intraoperative bleeding (14 events) and pelvic abscess/surgical site infection (9 events). Other complications included vaginal cuff infection (4), postoperative bleeding (4), vaginal cuff hematoma/bleeding (4), drain-related postoperative bleeding (4), bowel injury (3), ureteral injury (1), pneumothorax (1), wound infection/dehiscence (1), and exacerbation of interstitial pneumonia (1).

According to the Clavien–Dindo classification, 27 cases were Grade I, 6 were Grade II, 3 were Grade III, and 3 were Grade IV. Major complications of Grade III or higher occurred in 6 cases (1.0%).

Conclusions

Robot-assisted laparoscopic hysterectomy demonstrated an acceptable safety profile in our single-centre series. Continuous review of perioperative complications may contribute to refinement of surgical technique, optimisation of perioperative management, and further improvement in patient outcomes.

ID 60

ANATOMICAL LANDMARKS IN RETROPERITONEAL PELVIC DISSECTION PRACTICED IN ADVANCED SURGERY IN ENDOMETRIOSIS. CONCEPT OF FASCIAL SURGERY

S. Voicu, P. Răzvan, P. Alexandru, H. Hadi
RoEndo, Department of Endometriosis, Medicis Medlife Hospital, Timisoara, Romania

Background

Deep endometriosis surgery is a very complex and challenging type of surgery and, that for, the endometriosis surgeon must master the anatomy as Prof Wattiez underlined.

Methods

Deep endometriosis surgery is manly occurring in retroperitoneal area and pelvic retroperitoneal anatomy is offering the surgeon capital landmarks guiding him in his brave endeavor.

We propose a different approach regarding retroperitoneal dissection according to Marcelo Ceccaroni school. We propose the so called fascial surgery. In the pelvis two different fascial systems can be identified: the one formed by pelvic parietal fascia, and the one formed by pelvic visceral fascia.

The cardinal ligament has the more complex anatomy of all the other pelvic ligaments: it is located laterally to the uterus and the vagina covered by the puborectal fascia ventrally and the rectovaginal fascia dorsally.

The cardinal ligament, as it was historically called (now being called "paracervix") comprehend several structures of interest for gyna ecological surgery, and in its medial part it creates a tunnel to let the ureter join the bladder.

The pelvic spaces are peritoneal depressions formed by reflections of the peritoneum between organs and pelvic side walls. They are created through the occupation of the peritoneum of the empty pelvic cavities during organogenesis. The pelvic spaces are divided into midline (unilateral) and bilateral spaces, developing on the middle sagittal plane of the pelvis and between this plane and the pelvic side wall, respectively.

In an anteroposterior direction, the midline spaces can be listed as follows: the prevesical space, the vesicovaginal space, the rectovaginal space, and the retrorectal or presacral space.
The lateral spaces are symmetrical in both the hemipelvis and can be listed as follows: pararectal spaces, paravesical spaces.

Conclusions

Robotic surgery benefits of unmatched vision helping surgeon to identify some structures we have known from anatomy courses and atlases but never really seen in laparoscopy or open surgery.

ID 61

CHALLENGING THE STANDARD SETUP: ROBOTIC-ASSISTED PRIMARY TOTAL PELVIC EXENTERATION USING TWO ROBOTIC ARMS

G.Szewczyk[1,2], P.Kania[3], J.Radziszewski[4], W.Niemyjska[1], R.Karwowski[1], B.Gil-Sobocinska[5], L.Bodnar[5,6]
[1] Department of Obstetrics, Gynaecology and Gynaecological Oncology, Mazovian Regional Hospital, Siedlce, Poland
[2] Department of Biophysics, Physiology and Pathophysiology, Medical University of Warsaw, Poland
[3] Department of Urology and Oncological Urology, Mazovian Regional Hospital, Siedlce, Poland
[4] Department of Oncological Surgery, Radom Centre of Oncology, Radom, Poland
[5] Department of Oncology and Radiotherapy, Siedlce Centre of Oncology, Siedlce, Poland
[6] Faculty of Medical and Health Sciences, University in Siedlce, Poland

Background/Aim

Total pelvic exenteration (TPE) remains one of the most complex procedures in pelvic oncology. Robotic-assisted approaches offer potential advantages in precision and visualization, yet their feasibility in multidisciplinary exenterative surgery under technical constraints remains underreported. We present a case of robotic-assisted primary TPE performed with only two operative robotic arms following an intraoperative malfunction, managed by a tri-specialty surgical team.

Methods

A patient with locally advanced cervical cancer arising from a residual cervical stump after prior subtotal hysterectomy was qualified for primary TPE. Preoperative MRI revealed a polycyclic cervical mass (~5 cm) with direct invasion of the anterior rectal wall and posterosuperior bladder wall. In the absence of prior pelvic radiotherapy, curative-intent exenterative surgery was planned. The procedure was performed using the da Vinci X robotic system.

Following early intraoperative malfunction of one robotic arm, the operation was continued with two operative arms and increased reliance on the assistant port for traction and exposure. Three surgical teams - gynaecological oncologists, urologists, and colorectal surgeons - participated in a single docking setup without redocking. Operative phases included colorectal mobilisation, total mesorectal excision, bilateral parametrial and paracolpial dissection, urethral transection, circumferential colpotomy, and intracorporeal ileal conduit construction using the Bricker technique and finally end colostomy formation.

Results

The entire procedure was completed robotically without conversion to open or conventional laparoscopic surgery. All operative phases were executed within a single docking configuration despite the two-arm limitation. No intraoperative or surgical-related post-operative complications were recorded. Abdominal drainage was removed on postoperative day 2, and the patient was discharged on postoperative day 8. Histopathological examination confirmed HPV-associated keratinising squamous cell carcinoma of cervical

origin. Following recovery, the patient was referred for adjuvant concurrent chemoradiotherapy targeting the surgical bed and regional pelvic lymph nodes, which she completed without complications.

Conclusions

This case demonstrates that robotic-assisted TPE can be safely accomplished by a coordinated multidisciplinary team even under significant technical constraints, including reduced robotic arm availability. Seamless inter-specialty cooperation and adaptability during intraoperative challenges are critical to the success of complex robotic exenterative procedures. These findings support the broader adoption of robotic platforms in pelvic oncology surgery.

ID 62

THE SURGICAL OUTCOMES FOR ROBOTIC SINGLE-PORT MYOMECTOMY: A RETROSPECTIVE ANALYSIS OF SURGICAL OUTCOMES

SY Park, HK Chang, TK Lee, HS Moon
Department of Obstetrics and Gynaecology, Robotic Surgery Centre, Ewha Womans University Seoul Hospital, College of Medicine, Ewha Womans University, Seoul, South Korea

Objective

The purpose of this study was to estimate the surgical outcomes for the robotic single-port myomectomies and evaluate the optimal usage of single-port myomectomy.

Methods

A retrospective case-control study was conducted between December 28, 2018 and January 31, 2024 at Ewha Womans University Seoul Hospital with a total of 518 consecutive cases of robotic single-port myomectomies using the Da Vinci® SP surgical system. Surgeon A is an expert who has performed more than 2,000 of total robotic surgeries and performed 451 SP myomectomies with experience in the da Vinci® SP surgical system, and surgeon B first started robotic surgery and now performed 67 SP myomectomies. The clinical variables were analysed with retrospective chart review.

Results

The demographic and clinical characteristics of the patients were no statistically differences. Surgeon A's average number of removed uterine fibroids was 5.58 ± 8.82 and diameter was 7.96 ± 4.40cm, while doctor B's was 4.11 ± 3.63 and 7.08 ± 2.92cm, showing a significant difference (p-value 0.015, 0.004). There was no statistically difference in the docking time (1.89 ± 1.41 vs. 2.22 ± 1.84, p-value 0.10), but the total operative time in surgeon A were significant lower in surgeon B (121.18 ± 57.31 vs. 159.33 ± 53.07; p-value < 0.001). Especially, total operative time in surgeon A were significant lower in surgeon B (123.03 ± 61.54 vs. 179.38 ± 60.18; p-value < 0.001) if the cases have maximal myoma size larger than 9 cm. Also estimated blood loss was significant larger in surgeon B, but postoperative Hb change was not statistically different. There was not specific complication in both groups.

Conclusions

Robotic single-port myomectomies enables gynaecologists to specialised techniques that can bring good clinical outcomes. In the cases who have maximal myoma size larger than 9 cm, stabilising surgical time and reducing the blood loss are dependent to surgical experiences.

ID 63

A MONOCENTRIC EXPERIENCE OF ROBOT-ASSISTED SACROCOLPOPEXY

A. Popov, I. Kliushnikov, A. Fedorov, T. Glebov
Department of Operative Gynaecology and Oncogynaecology with Day Hospital, Moscow Regional Scientific Research Institute of Obstetrics and Gynaecology named after Academician V.I. Krasnopolsky

Background

Sacrocolpopexy (SCP) is a proven technique that has become the "gold standard" for minimally invasive surgery for apical pelvic organ prolapse (POP) repair over the past decades. The widespread adoption of robotics has made it possible to combine highly effective treatment results with simplified ergonomics for this complex procedure. Robot-assisted SCP has been performed at our department since 2013, allowing for the evaluation of long-term results using robotics.

Aim

Evaluation of the long-term effectiveness of robot-assisted SCP in patients with POP.

Methods

A single-centre cohort observational study that included patients who underwent robot-assisted POP repair between 2013 and 2024. The study included 309 patients with isolated or combined apical POP of grades III-IV according to the Pelvic Organ Prolapse Quantification system (POP-Q). Subjective outcome was assessed using the internationally validated Pelvic Organ Prolapse Distress Inventory-20 (PFDI-20), Pelvic Floor Impact Questionnaire-7 (PFIQ-7), and Pelvic Organ Prolapse Incontinence Sexual Questionnaire-12 (PISQ-12) questionnaires.

Results

The median postoperative follow-up period of patients was 74,6 (44,5–110,2) months. The most common phenotype of recurrence was the anterior vaginal wall prolapse, which accounted in 5,8% (n=18) cases. Recurrence of bulge symptom was 3,9% (n=12). Despite this, the rate of repeat surgery was 1,6% (n=5). Intra-operative complications occurred in 2,3% (n=7) patients, and

there were no cases of conversion. Vaginal erosions were noted in 0,3% (n=3) of operated women.

Conclusions

The obtained data allows to demonstrate the long-term effectiveness of robot-assisted SCP, emphasizing its viability as a surgical treatment option for apical POP. This procedure is particularly relevant for patients who have previously undergone reconstructive surgery or hysterectomy. The target audience for robot-assisted SCP are women with a complicated surgical history, severe somatic diseases, and obesity. A subsequent study of the learning curve for robot-assisted approach will help determine the role of the latter in developing the surgical skills of urogynaecologists.

ID 64

ROBOTIC-ASSISTED SACROCOLPOPEXY AND SACROCERVICOPEXY WITH THE DEXTER SYSTEM

D. Koensgen[1], J. Neymeyer[2], A.-S. Villiger[3], B. Holthaus[4], F. Thangarajah[5], M. Mueller[3]

[1] Department of Gynaecology and Gynaecological Oncology, University Hospital Bonn, Bonn, Germany
[2] Department of Urology, Charité - Universitätsmedizin Berlin, Berlin, Germany
[3] Department of Obstetrics and Gynaecology, Bern University Hospital, Bern, Switzerland
[4] Clinic of Obstetrics and Gynaecology, St. Elisabeth Hospital, Damme, Germany
[5] Department of Gynaecology and Obstetrics, University Hospital of Essen, Essen, Germany

Background/Aim

The treatment of pelvic organ prolapse (POP) has evolved with the adoption of robotic-assisted techniques, offering advantages in ergonomics and surgical precision. However, the adoption of robotic surgery remains limited by the availability and cost of established robotic systems.

Newer platforms, such as the DEXTER Robotic Surgery System, aim to expand access to RAS by enabling broader implementation. This prospective multicentre study evaluated the perioperative and early postoperative safety, clinical performance, and functional outcomes of the DEXTER System in patients undergoing robotic-assisted sacrocolpopexy or sacrocervicopexy.

Methods

This prospective, single-arm clinical trial (NCT07031050), was conducted across five European centres. Thirty-five patients with symptomatic POP underwent robotic-assisted sacrocolpopexy or sacrocervicopexy using DEXTER, and were followed for 42 days postoperatively. The primary endpoints were safety, defined as the incidence of Clavien-Dindo (CD) grade ≥ III complications, and clinical performance, defined as procedural success without conversion. Secondary endpoints included operative performance, estimated blood loss, length of stay, and early postoperative outcomes. Patient-reported functional outcomes were assessed using the validated ICIQ-VS questionnaire.

Results

The median patient age was 65 years (IQR 60-75), with a median BMI of 27.5 kg/m2 (IQR 23.7-29.1). Sacrocervicopexy with a supracervical hysterectomy was performed in 26 patients (74%), and sacrocolpopexy in 9 patients (26%). There were no conversions to open surgery and one conversion to laparoscopy. Median skin-to-skin operative time was 202 min (IQR 172–225), including a median docking time of 5 min (IQR 4-6) and a median console time of 147 min (IQR 119-173). Twenty-one patients had at least one concomitant urogynaecological procedure.

Median estimated blood loss was 50 ml (IQR 50-80), with no blood transfusions required. Median length of hospital stay was 3 days (IQR 3-4). One CD IIIa complication (urinary tract infection) and two CD IIIb (hematoma and lower leg compartment syndrome) were reported, none of which were device-related. The median POP-Q point C value improved from -1 cm at baseline to -7 cm at the 42 days follow-up. The median ICIQ-VS vaginal symptom and quality-of-life scores improved significantly by 15 (IQR 4-22; scale 0-53) and 3 points (IQR 1-6; scale 0-10), respectively.

Conclusions

Robotic-assisted sacrocolpopexy and sacrocervicopexy using DEXTER are safe and clinically effective procedures with noticeable early functional improvement. The consistent results achieved across multiple centres and surgeons support the feasibility of broader implementation and highlight the system's potential to expand access to robotic-assisted POP surgery. Further studies are warranted to evaluate long-term outcomes.

ID 65

A RISK SCORE FOR PREDICTING DIFFICULT ROBOTIC HYSTERECTOMY BASED ON CLINICAL AND PERIOPERATIVE PARAMETERS

Gozde Sahin, Süleyman Tunç, Neçirvan Çağdaş Çaltek, Işık Sözen, Ilkbal Temel Yuksel

Basaksehir Cam and Sakura City Hospital, Department of Gynaecological Oncology, Istanbul , Türkiye

Background

To investigate a predictive scoring system for difficult robotic hysterectomy based on adenomyosis, uterine fibroids, body mass index (BMI), postoperative hemoglobin decrease, and console time in patients undergoing surgery for atypical endometrial hyperplasia and endometrial cancer.

Methods

This study is a retrospective cohort study that included 55 patients who underwent robotic hysterectomy at a tertiary referral center. Clinical, pathological, laboratory, and intraoperative data were collected. Adenomyosis and fibroid diagnosis were determined histopathologically, and BMI was recorded preoperatively.

Postoperative hemoglobin decrease was calculated from pre and postoperative values. Difficult robotic hysterectomy was defined as a composite outcome including prolonged console time (≥75th percentile; 230 minutes), intraoperative complications, additional port requirement, or conversion. Univariate and multivariate analyses were performed, and a simplified scoring system was constructed based on clinically relevant variables.

Results

A total of 13 patients (23.6%) were classified as having difficult robotic hysterectomy. The median console time was 182 minutes, with a 75th percentile cutoff of 230 minutes. Adenomyosis was present in 54.5% of patients and fibroids in a substantial proportion of cases. Adenomyosis was not significantly associated with surgical difficulty or console time (p=0.272). Similarly, fibroid presence did not independently predict difficult surgery. BMI showed a positive trend with increasing surgical complexity; however, this did not reach statistical significance.

Postoperative hemoglobin decrease demonstrated a correlation with prolonged console time and increased surgical difficulty, suggesting its role as a surrogate marker of intraoperative complexity. Patients with higher Postoperative hemoglobin decrease values tended to have longer operative durations.

In multivariate analysis, none of the individual variables reached statistical significance as independent predictors. However, a composite scoring model incorporating BMI, adenomyosis, fibroid presence, and hemoglobin decrease demonstrated moderate discriminative ability, with an area under the curve (AUC) of approximately 0.68. Patients with higher cumulative scores showed an increased likelihood of prolonged console time and difficult surgery.

Conclusions

Although individual factors such as adenomyosis and fibroids were not independently associated with surgical difficulty, a composite scoring system integrating anatomical and perioperative parameters demonstrated moderate predictive performance. Postoperative hemoglobin decrease and BMI appeared to reflect surgical complexity, while adenomyosis and fibroids contributed to anatomical variability. This scoring approach may assist in identifying patients at risk for difficult robotic hysterectomy. Larger, prospective studies are needed for validation.

ID 66

ROBOTIC-ASSISTED HYSTERECTOMY WITH SENTINEL LYMPH NODE MAPPING IN ENDOMETRIAL CANCER: SECRETS OF PELVIC RETROPERITONEAL ANATOMY

Özgün Ceylan
Department of Gynaecological Oncology, Etlik City Hospital, Ankara, Turkey

Aim

To evaluate our practice of robotic sentinel lymph node dissection and demonstration of the pelvic retroperitoneal space in endometrial cancer patients.

Methods

The patient who applied to our center with a complaint of postmenopausal bleeding and whose endometrial biopsy result showed grade 1 endometrioid type endometrial cancer was evaluated radiologically as disease limited to the uterus. The patient, who was classified as having low-risk endometrial cancer according to the European Society of Gynecological Oncology, underwent hysterectomy and bilateral salpingo-oophorectomy with robotic sentinel lymph node dissection (da Vinci X® robotic system) using indocyanine green.

Results

Pathology result was reported as endometrioid adenocarcinoma grade 1, four reactionary lymph nodes (2 right sentinel, 2 left sentinel). The neoplasm observed in the endometrium was 4 cm in diameter, superficial invasion (<1/2 inv), lymphovascular invasion negative, p53 wild pattern, loss of expression with PMS2, MMRd positive. Lymph nodes were evaluated with ultrastaging.

Conclusions

Robotic-assisted hysterectomy has become a widely and increasingly used modality of minimally invasive surgery in the treatment of endometrial cancer. According to the recommendation of the National Comprehensive Cancer Network guidelines, hysterectomy, bilateral salpingo-oophorectomy and sentinel lymph node dissection are now required for surgical treatment in all endometrioid grades (grades 1-2-3) endometrial cancers.

Sentinel lymph node dissection is a less invasive technique for finding occult metastases in normal-appearing lymph nodes while avoiding full pelvic lymph node surgery. Minimally invasive techniques such as robotic surgery have advantages over laparotomy because they provide less scarring, less postoperative pain and a faster recovery period.

ID 67

COMBINED ROBOTIC ASSISTED LAPAROSCOPIC-HYSTEROSCOPIC ISTHMOPLASTY USING FIREFLY TECHNOLOGY: A NOVEL APPROACH

David Lee, Gregory Carruthers, Felix Chan, David Lee, Gergory Carruthers
Minimally Invasive Unit, Macquarie University Hospital, Macquarie University NSW Australia

Objective

To demonstrate a surgical technique of isthmoplasty for the

treatment of symptomatic caesarean scar defect. In this video, the authors show a standardised approach using the latest combined minimal invasive technology and Firefly-technology to perform the procedure in a systematic and safe manner.

Design

Step-by-step video demonstration of the surgical technique.

Interventions

The patient is a 44-year-old woman G3P3 with three previous Caesarea sections, presents with inter-menstrual and pelvic pain. Trans-vaginal ultrasound diagnosed isthmocele grade 3 (over 25 mm) identified in the superior third of the cervical canal. A combined robotics-assisted laparoscopic-hysteroscopic approach was performed. Under general anesthesia, the patient was placed in 25 degrees Trendelenburg position. Standard Xi Da Vinci System was employed with a 0° 3D high definition laparoscope and five ports.

The procedure begins with standard hysteroscopy to explore the uterine cavity. The uterine scar defect is identified; polypectomy and uterine curetting are carried out for histological diagnosis. At laparoscopy, using mono-polar scissors sharp dissection, the visceral peritoneal layer over the isthmus area is opened, the vesico-uterine space is developed, and the bladder is pushed down at least 2 cm from the lower edge of the isthmocele. The hysteroscopic light is pointed directly toward the cephalic limit of the scar defect.

The laparoscopic lights are switched off and the "Halloween sign" is identified (hysteroscopic transillumination). With this, the robotic surgeon can identify the upper and lower edges of the scar. At the surgeon console, the Firefly mode is activated using the hand piece. The fluorescence green lighted up in a dark background to demarcate the surgical margin. Uterine manipulator with a central cannula is inserted. The cup stablises the cervix relative to the uterine body while the central cannula defines the cervical canal and aligns the defect prepared for repair.

The scar tissue is excised robotically with excision of all the edges of the pseudo cavity. The uterine wall is closed in 2-layer myometrial imbricated tension-free repair using intra-corporeal running Barbed 2-0, is performed.

The surgery performed without any intraoperative complications and within 60 minutes. The patient was discharged on the first day and her symptoms of vaginal bleeding and pelvic pain resolved.

Conclusions

Combined Robotics-assisted-hysteroscopic isthmoplasty is feasible and effective, giving the surgeon a comprehensive evaluation of the anatomy of the isthmocele, and increasing the accuracy of complete resection and restoration of the anatomy. Firefly-technology allows demarcation of the resection margin and confirms complete closure of the defect.

ID 68

ROBOTIC VNOTES HYSTERECTOMY WITH SENTINEL LYMPH NODE MAPPING IN ENDOMETRIAL CANCER STAGING

Jong Won Chae, Keun Ho Lee
Department of Obstetrics and Gynaecology, Seoul St.Mary's Hospital, Seoul, South Korea

Background/Aim

Robotic vaginal natural orifice transluminal endoscopic surgery (vNOTES) is an emerging minimally invasive approach for endometrial cancer staging. Sentinel lymph node (SLN) mapping has been adopted to reduce the morbidity of systematic lymphadenectomy; however, strategies to manage mapping failure remain important. This study aims to demonstrate the feasibility of robotic vNOTES hysterectomy with a combined approach of unilateral SLN biopsy and contralateral pelvic lymph node dissection (PLND).

Methods

A 54-year-old woman with presumed FIGO stage I endometrioid adenocarcinoma underwent surgical staging using a multiport robotic vNOTES approach. After transvaginal multiport placement and robotic docking, total hysterectomy with bilateral salpingo-oophorectomy was performed. SLN mapping was successful on the right side, while mapping failure on the left required side-specific PLND.

Results

The procedure was completed entirely via vNOTES without conversion. Total operative time was 98 minutes, with minimal blood loss (20 mL) and no intraoperative complications. Adequate staging was achieved through unilateral SLN biopsy and contralateral PLND.

Conclusions

Robotic vNOTES hysterectomy with a combined strategy of unilateral SLN biopsy and contralateral PLND is feasible and safe for endometrial cancer staging. This approach provides a practical solution to mapping failure and may support broader clinical adoption of minimally invasive staging.

ID 69

MESH-FREE ROBOTIC MANAGEMENT OF COMBINED UTERINE AND RECTAL PROLAPSE IN A YOUNG PATIENT

K. Panou[1], A. Lai[1], A. Argyriadis[3], K. Kalfoutzos[1], B. Grüninger[4], D. I. Bolovis[1,2], C. V. M. Brucker[1]

[1] University Women's Hospital, Paracelsus Medical University, Nuremberg, Germany
[2] Second Department of Gynaecology, Henry Dunant Hospital Centre, Athens, Greece
[3] Sana Klinikum, Offenbach, Germany
[4] Department of General Surgery, Klinikum Nuremberg, Germany

Background

Combined pelvic organ and rectal prolapse in young patients is rare and presents a significant surgical challenge, particularly when fertility preservation and long-term functional outcomes must be considered. Mesh-free reconstructive techniques and interdisciplinary surgical approaches may offer effective treatment options in this patient population. The aim of this study is to present a robotic, mesh-free interdisciplinary approach for the management of combined uterine and rectal prolapse in a young patient.

Methods

We report the case of a 28-year-old patient presenting with symptomatic combined uterine and rectal prolapse. The etiology of the prolapse remained unclear and was not clearly associated with previous surgical procedures. Due to the patient's young age and the need to preserve reproductive potential, a mesh-free minimally invasive robotic approach was selected.

A robotic Unilateral Pectineal Suspension (UPS) was performed for uterine suspension in combination with a simultaneous robotic resection rectopexy by the colorectal surgery team. The procedure was performed in an interdisciplinary setting.

Results

The surgery was completed successfully without intraoperative or postoperative complications. Total operative time was 113 minutes, with an estimated blood loss of less than 100 mL. The postoperative course was uneventful, and the patient was discharged on postoperative day five. Early anatomical and functional outcomes were satisfactory, with resolution of prolapse symptoms and good pelvic floor support.

Conclusions

Mesh-free robotic pelvic floor reconstruction combined with simultaneous rectal prolapse repair represents a safe and feasible interdisciplinary approach for the management of combined prolapse in young patients. This case highlights the importance of individualised surgical planning, fertility-preserving strategies, and multidisciplinary collaboration in complex pelvic floor disorders at a young age.

ID 70

ROBOTIC ONCO-GYNAECOLOGICAL SURGERY: COMPARATIVE ANALYSIS OF OUTCOMES USING THE AMERICAN DA VINCI XI SYSTEM AND THE CHINESE TOUMAI SYSTEM. SINGLE-CENTRE EXPERIENCE

D. Utkin[1,2], A. Sidorov[1], A. Adzhieva[1], A. Gadzhiev[1], G. Frol[2], A. Kvartskhava[1], S. Bulgakova[1], A. Lazarchuk[2], A. Solopova[2], V. Bitsadze[2], J. Khizroeva[2], A. Makatsariya[2], V. Galkin[1]
[1] Moscow State Budgetary Healthcare Institution Moscow City Hospital named after S.S. Yudin, Moscow Healthcare Department, Moscow, Russia
[2] Department of Obstetrics, Gynaecology and Perinatal Medicine, N. F. Filatov Clinical Institute of Children's Health, I. M. Sechenov First Moscow State Medical University (Sechenov University), Moscow, Russia

Background

Robotic surgery, from 2001 to the present, has been increasingly integrated into modern clinical practice with each passing year. Since August 2024, the Da Vinci Xi robotic system has been implemented at our centre; subsequently, in January 2026, the Toumai robotic system was installed. In this abstract, we present a comparison of the first 27 surgeries performed using the Toumai robotic system and 29 surgeries performed using the Da Vinci robotic system.

An analysis was conducted of intraoperative parameters (surgery time, blood loss), early post-surgery complications, length of hospitalisation, and technical characteristics (degrees of instrument freedom, capability for sentinel lymph node biopsy, quality of visualisation).

Methods

The study included patients with uterine corpus cancer stages IA–IB who underwent robot-assisted extirpation with adnexaor with fallopian tubes. When indicated, sentinel lymph node biopsy (SLNB) or pelvic lymphadenectomy was performed.

The patients were divided into two groups: the first group included patients who underwent surgical treatment using the Da Vinci system (n=29), and the second group included those treated using the Toumai system (n=27).

Quantitative parameters are presented as median and arithmetic mean. The Mann–Whitney U test was used for intergroup comparison. The level of statistical significance was set at the standard threshold: $p<0.05$.

Results

The groups did not differ in age and body mass index. The mean age of patients in group 1 was 61 years, in group 2 — 67 years; the mean BMI in group 1 was 31 kg/m². The median surgery time in group 1 was 115 minutes, in group 2 — 105 minutes; in group 2, the surgery was statistically significantly shorter ($U=192$, $p=0.001$).

The mean blood loss in group 1 was 58 ml, in group 2 — 78 ml; blood loss was statistically significantly higher in the Toumai group ($U=75$, $p<0.05$). The median post-surgery hospital stay was 2 days in group 1 and 4 days in group 2; differences between groups were statistically significant ($U=238.5$, $p=0.009$).

Conclusions

The initial results of the use of the Toumai robotic system demonstrated efficacy and safety parameters comparable to those of the Da Vinci Xi system in the performance of onco-gynaecological interventions. The learning curve for both platforms proved to be comparable. The observed increase in the volume of intraoperative blood loss with the use of Toumai is likely associated with less stringent patient selection at the initial stage.

ID 71

TOUMAI ROBOTIC SYSTEM IN UTERINE CANCER SURGERY: FIRST REPORT OF SENTINEL LYMPH NODE DISSECTION IN TEN STEPS

M. Pavone[1,2,3], M. C. Giuliano[1], C. Innocenzi[1,2], M. D'Indinosante[1], N. Bizzarri[1,4], J. Marescaux[2], D. Querleu[1], A. Fagotti[1,4], F. Fanfani[1,4], A. Naldini[1]

[1] UOC Ginecologia Oncologica, Dipartimento di Scienze Della Salute Della Donna, Del Bambino e di Sanità Pubblica, Fondazione Policlinico Universitario A. Gemelli, IRCCS, Rome, Italy
[2] Research Institute against Digestive Cancer, IRCAD, Strasbourg, France.
[3] ICube, UMR 7357, CNRS, INSERM U1328 RODIN, University of Strasbourg, Team Robotics, Data Science and Healthcare Technologies, Strasbourg, France.
[4] Università Cattolica del Sacro Cuore, Rome, Italy

Background

In recent years, robotic surgery has gained traction across multiple disciplines, establishing a new minimally invasive paradigm. After the Da Vinci® (Intuitive, Sunnyvale, California) patent expired, several platforms with increasingly digital interfaces entered the market. Robotic surgery may represent a bridge between laparoscopy and digital surgery through interfaces that enable integration with emerging technologies.

Among platforms, the Toumai robotic system (Medbot-Microport, Shanghai, China) features a single-arm cart with four arms, a 3D console, and a split-view "picture-in-picture" function enabling communication with image-guided surgical technologies. This functionality is particularly valuable for indocyanine green (ICG)-guided sentinel lymph node (SLN) mapping in gynaecological oncology.

Objective

We present for the first time a step-by-step video demonstration of SLN dissection for endometrial malignancies using the Toumai robotic system.

Participant

Postmenopausal patient with uterine-confined endometrial carcinoma undergoing total hysterectomy, bilateral salpingo-oophorectomy, and bilateral SLN biopsy.

Intervention

The technique includes:

1. ICG injection;
2. Robotic trocar placement;
3. Docking;
4. Pelvic retroperitoneal access;
5. Switch to split-view mode;
6. Identification of SLN critical view of safety by developing pararectal and paravesical spaces;
7. Introduction of an ICG-capable camera through an accessory trocar;
8. Activation of near-infrared visualization after switching off the robotic light source;
9. SLN identification and dissection;
10. Safe extraction.

Conclusions

The digital interface of the Toumai system integrates adjunctive technologies, illustrating how next-generation robotics expand SLN dissection feasibility in endometrial cancers.

ID 72

FROM AVOIDING EMPTY PACKETS TO REAL-TIME DIAGNOSIS: ROBOTIC ULTRASOUND-GUIDED SURGERY IN SENTINEL LYMPH NODE DISSECTION

M. Pavone[1,2,3], E. Teodorico[1], N. Bizzarri[1,5], C. Innocenzi[1,3], M. Zorzi[1], C. Cantarini[1], N. Macellari[1], F. Moro[1], A. Rosati[1], V. Gallotta[1], M. Ciancia[1], J. Marescaux[3], L. Lecointre[2,4], A. Fagotti[1,5], F. Fanfani[1,5], A. C. Testa[1,5], D. Querleu[1]

[1] UOC Ginecologia Oncologica, Dipartimento di Scienze per la salute della Donna e del Bambino e di Sanità Pubblica, Fondazione Policlinico Universitario A. Gemelli, IRCCS, Rome, Italy
[2] ICube, Laboratory of Engineering, Computer Science and Imaging, Department of Robotics, Imaging, Teledetection and Healthcare Technologies, University of Strasbourg, CNRS, Strasbourg, France
[3] Research Institute Against Digestive Cancer, IRCAD, Strasbourg, France
[4] Department of Gynaecological Surgery, University Hospitals of Strasbourg, Strasbourg, France
[5] Università Cattolica del Sacro Cuore, Rome, Italy

Background

Sentinel lymph node (SLN) mapping is recommended for staging in endometrial and cervical cancers, as it is associated with lower morbidity compared with systematic lymphadenectomy. Nevertheless several limitations remain, including limited accuracy of frozen-section analysis, tissue loss during molecular assessment, and empty packets, particularly in obese patients. Within digital surgery, robotic intraoperative ultrasound has emerged as a promising approach to address these issues, improving real-time decision-making and diagnostic accuracy. This video illustrates three ultrasound-based scenarios highlighting the potential of this image-guided surgical technique.

Methods

A prospective clinical study (R-LYNUS, NCT06621823) is underway to evaluate robotic intraoperative ultrasound for SLN evaluation. Procedures are performed on the da Vinci Xi platform using the Arietta L43K(2-12 MHz, Hitachi) drop-in probe. Real-time ultrasound is displayed in split-view mode via Tile Pro, allowing simultaneous ultrasound and endoscopic visualisation. SLN imaging is carried out

in vivo and ex vivo according to the Vulvar International Tumour Analysis (VITA) consensus. Patients undergoing robotic SLN dissection for cervical or endometrial cancer are included, with final histology used as the reference standard.

Results

Three intraoperative scenarios were observed:

1. SLNs with normal morphology;

2. Adipose tissue lacking nodal structures (empty packets);

3. Nodes showing cortical thickening, heterogeneous echotexture, and transcapsular vascularisation, suspicious for metastasis.

In all cases, ultrasound findings correlated with histology, supporting its value in real-time staging.

Conclusions

Robotic intraoperative ultrasound is feasible, safe, and reproducible, and may help avoid empty packets while allowing nodal assessment without tissue loss. The integration of high-frequency ultrasound could further improve spatial resolution and metastatic detection. Incorporating ultrasound into robotic systems paves the way for multi-console tele-image-guided surgery, promoting remote collaboration and precision in gynaecological oncology.

ID 73

ROBOTIC COMPLETION TRACHELECTOMY AND PELVIC LYMPH NODE SAMPLING FOR INCIDENTAL ENDOMETRIAL CANCER AFTER SUBTOTAL HYSTERECTOMY: SURGICAL CHALLENGES

M Marouli, D Tsonis, D Haidopoulos

First Department of Obstetrics and Gynaecology, Alexandra Hospital, National and Kapodistrian University of Athens, 11528 Athens, Greece

Aim

To present the feasibility and oncological safety of robotic completion surgery in a real-world clinical scenario of incidentally diagnosed endometrial cancer following open subtotal hysterectomy performed outside a gynaecological oncology centre. Additionally, we aim to highlight the surgical challenges related to altered anatomy, adhesions, and sentinel lymph node (SLN) mapping failure, and to propose a systematic approach to their management.

Methods

This is a case-based video of a patient with incidentally diagnosed endometrial cancer following subtotal hysterectomy, demonstrating the surgical steps of robotic completion trachelectomy and pelvic lymphadenectomy. We present a systematic surgical approach focusing on:

- Adhesiolysis for optimal trocar placement
- Restoration of normal anatomical planes and exploration of the abdominal cavity for oncological assessment
- Management of SLN mapping failure and decision-making regarding node sampling
- Technical strategies and intraoperative decision-making were systematically recorded.

Results/Case Presentation

A 58-year-old woman was referred to our centre after undergoing open subtotal hysterectomy and bilateral salpingo-oophorectomy for menorrhagia, with final histology revealing endometrioid endometrial cancer grade I with less than 50% myometrial invasion. A robotic approach for completion surgery was selected. Intraoperatively, extensive adhesions were identified throughout the abdominal cavity. Initial adhesiolysis was performed to achieve safe trocar placement and allow adequate oncologic inspection. This was followed by meticulous dissection of bowel adhesions from the lateral abdominal walls and the cervical stump, ensuring optimal exposure of the surgical field.

Due to altered lymphatic drainage after prior recent surgery, sentinel lymph node mapping was unsuccessful. Consequently, a bilateral lymph node sampling was performed with careful identification of key anatomical landmarks. Robotic trachelectomy was then completed. The cervical stump was manipulated vaginally using a clamp. Final histology showed negative margins and 8 tumour-free lymph nodes. The patient was discharged on D2 and staged as FIGO stage I, currently under surveillance.

Conclusions

Incidental diagnosis of endometrial cancer after supracervical hysterectomy represents a not uncommon real-world clinical scenario. Robotic completion surgery is a feasible and safe option that allows avoidance of a second open procedure while ensuring adequate oncologic management. However, these cases present technical challenges due to altered anatomy, extensive adhesions, and potential failure of sentinel lymph node mapping. A structured and systematic surgical approach is essential, including thorough adhesiolysis, careful anatomical re-orientation, full abdominal exploration and the ability to adapt intraoperative decision-making if SLN mapping is not achieved. Optimal outcomes require an experienced gynaecological oncologic surgeon.

ID 74

ROBOTIC VAGINAL NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC SURGERY (VNOTES) OVARIAN CYSTECTOMY: NOVEL DA VINCI SP APPROACH

Lou Sun[1,2]

[1] Department of Obstetrics, Gynaecology and Women's Health, Taichung Veterans General Hospital, Taichung, Taiwan

[2] Department of Food and Nutrition, Providence University, Taichung, Taiwan

Background/Aim

Although vaginal natural orifice transluminal endoscopic surgery (vNOTES) has been increasingly adopted for adnexal procedures, the application of robotic platforms to natural orifice surgery remains limited. Previous applications of robotic-assisted vNOTES have predominantly been reported in hysterectomy.

In contrast, its use in adnexal surgery has been constrained by instrument collision and limited maneuverability within the confined vaginal space, restricting the applicability of conventional multiport robotic systems. The da Vinci SP system integrates multiple instruments into a single arm, reducing instrument collision and thereby enhancing surgical feasibility in confined spaces.

To our knowledge, da Vinci SP-assisted vNOTES for ovarian cystectomy using an enucleation technique has not been previously described. This study aims to present this novel application and to evaluate its technical feasibility and potential advantages.

Methods

A 44-year-old nulligravid woman with no history of sexual intercourse presented with a left ovarian cyst suggestive of a 5-cm teratoma on sonography. Robotic-assisted vNOTES ovarian cystectomy was performed using the da Vinci SP system. Posterior colpotomy was created to access the pelvic cavity, followed by placement of a small access port kit platform. The procedure was carried out using robotic instruments with emphasis on precise enucleation and preservation of normal ovarian tissue. Operative parameters, including operative time, docking time, console time, and instrument configuration, were recorded.

Results

The procedure was successfully completed without intraoperative complications. The docking time was 6 min, and total operative time was 1 h 20 min, with a console time of approximately 40 min. Compared to initial cases, optimisation of instrumentation-transitioning to dual Cadiere forceps-was associated with improved efficiency and reduced operative duration. The SP system provided stable visualisation and enhanced instrument articulation, facilitating precise dissection and minimising instrument collision within the confined surgical field.

Conclusions

Da Vinci SP-assisted vNOTES ovarian cystectomy using an enucleation technique is feasible and effective in selected patients. The da Vinci SP system overcomes key limitations of conventional robotic approaches in vNOTES, particularly instrument collision, and enables more precise adnexal surgery. This approach may expand the applicability of vNOTES in gynaecological surgery.

ID 75

DA VINCI SINGLE-PORT ROBOTIC ASSISTED SUPRACERVICAL HYSTERECTOMY AND "NERVE - SPARING" SACROPEXY: A STEP-BY-STEP APPROACH

M. Venier, B. De Luca Carignani, A. Del Corso, C. Ripepi, D. Mautone
Departement of Obstetrics and Gynaecology, P. Pederzoli Hospital, Peschiera del Garda VR, Italy

Objective

This video presents a subtotal hysterectomy and bilateral salpingectomy combined with "nerve - sparing" sacropexy in a young woman with genital prolapse, performed using the Da Vinci Single Port robotic system.

Setting

The surgery was performed at Pederzoli Hospital in Peschiera del Garda, Verona, Italy, a referral center for urogynaecology and minimally invasive surgery with a multidisciplinary team trained in robotic-assisted pelvic surgery.

Participant

The patient is a 39-year-old woman presenting with a stage III hystercele. Her obstetric history includes two previous spontaneous vaginal deliveries. She reported symptomatic pelvic pressure and worsening discomfort during daily activities.

Interventions

A subtotal hysterectomy and bilateral salpingectomy combined with "nerve - sparing" sacropexy was performed following these surgical steps:

1. A 25 mm periumbilical skin incision was made, pneumoperitoneum was established and the robotic system was docked.
2. Sacral promontory preparation, identification and exposure of the superior hypogastic plexus and the anterior longitudinal vertebral ligament.
3. Right Okabayashi's medial pararectal space developement with identification and isolation of the right hypogastic nerve
4. Rectovaginal space dissection down to the elevator ani muscles.
5. Vescico-vaginal space developement.
6. Supracervical hysterectomy and bilateral salpingectomy.
7. Placement of the posterior mesh in the dissected rectovaginal space using tension-free interrupted sutures.
8. Fixation of the anterior mesh within the dissected vesicovaginal space using tension-free interrupted sutures.
9. Securing the anterior mesh to the anterior longitudinal vertebral ligament.
10. Peritonealisation over the mesh.

Conclusions

Our case represents the first reported instance in the literature of a combined supracervical hysterectomy with nerve-sparing sacropexy performed entirely using a single-port robotic approach. Robotic surgery provides the surgeon with improved ergonomics, reducing fatigue during lengthy procedures in confined or complex pelvic

anatomical spaces. This technology enhances surgical precision, facilitates the preservation of critical neural structures, and reduces the risk of complications. Furthermore, it offers excellent cosmetic outcomes due to the use of a single small periumbilical skin incision.

In conclusion, Da Vinci single-port robotic supracervical hysterectomy with nerve-sparing sacropexy appears to be a safe and feasible surgical technique.

ID 76

ROBOTIC MYOMECTOMY: ICG GUIDED-ENDOMETRIAL CAVITY SPARING

M. M. Erkan[1] , M. M. Naki[2]
[1] Department of Robotic Surgery, Division of Obstetrics and Gynaecology, Medicana International Izmir Hospital, Izmir, Turkey
[2] Department of Gynaecological Oncology, Division of Obstetrics and Gynaecology, Medipol University, Istanbul, Turkey

Background

Myomectomy for fibroids that protrude into the endometrial cavity carries a meaningful risk of inadvertent cavity entry, with potential implications for intrauterine adhesion formation and future reproductive outcomes. Near-infrared (NIR) fluorescence imaging may provide real-time anatomic guidance to improve cavity preservation during robotic enucleation.

Methods

We describe a cavity-sparing robotic myomectomy technique in which the endometrial cavity is filled transcervically with diluted indocyanine green (ICG) immediately before enucleation. Under NIR fluorescence mode, the ICG-filled cavity generates a high-contrast fluorescent "map" of the endometrial boundary. Dissection is performed by maintaining the surgical plane outside the fluorescent contour, thereby minimizing endometrial trauma. If a cavity breach occurs, fluorescent leakage provides immediate intraoperative recognition, enabling prompt corrective repair.

Results

In a patient with a fibroid protruding into the endometrial cavity, intrauterine ICG instillation produced clear and persistent delineation of the cavity throughout the critical dissection phase. The fluorescent boundary facilitated controlled, atraumatic enucleation while avoiding entry into the endometrial cavity.

No intraoperative complications occurred, and the uterine defect was repaired with standard multilayer closure. The technique was straightforward, did not require additional specialised equipment beyond an NIR-capable robotic platform, and added minimal time to the procedure.

Conclusions

ICG-guided endometrial cavity mapping is a feasible and practical adjunct during robotic myomectomy for cavity-adjacent or cavity-protruding fibroids. By enhancing visualisation of the cavity boundary and enabling early detection of cavity disruption, this approach may support safer dissection and improved preservation of functional uterine anatomy in patients desiring fertility. Further evaluation in larger series is warranted to define optimal dosing, reproducibility, and clinical impact.

ID 77

STAGE II ENDOMETRIAL CANCER IN THE ROBOTIC ERA: IS RADICAL HYSTERECTOMY NECESSARY? A SINGLE-CENTRE RETROSPECTIVE COHORT STUDY (2020–2024)

Amelia Mangroo, Helen Clarke, Meghna Datta, Rebecca Faulkner, Alice M. Schofield, Richard Slade, Eva Myriokefalitaki, Bridget DeCruze, Brett Winter Roach
The Christie NHS Foundation Trust, Manchester, United Kingdom

Background/Aim

Radical hysterectomy has historically been performed in stage II endometrial cancer due to cervical stromal involvement. However, with the widespread adoption of minimally invasive and robotic techniques, the necessity of radical resection remains uncertain. Emerging evidence suggests that total hysterectomy with appropriate staging may be sufficient in selected patients. This study aimed to evaluate whether radical hysterectomy provides additional oncological benefit compared with simple hysterectomy in patients undergoing robotic surgery for stage II endometrial cancer.

Methods

A retrospective cohort study was conducted including patients with histologically confirmed stage II endometrial cancer who underwent robotic surgery between 2020 and 2024 at a tertiary gynaecological oncology centre. Patients were stratified into radical hysterectomy and simple hysterectomy groups. Data collected included patient demographics, tumour characteristics, perioperative outcomes, adjuvant treatment, recurrence, and survival. Primary outcomes were recurrence and overall survival. Secondary outcomes included adjuvant treatment patterns and perioperative outcomes.

Results

Thirty-three patients were included, of whom 6 (18%) underwent radical hysterectomy and 27 (82%) underwent simple hysterectomy.

Recurrence occurred in 33.3% (2/6) of patients in the radical group and 40.7% (11/27) in the simple hysterectomy group. Mortality rates were 16.7% (1/6) and 22.2% (6/27), respectively.

Adjuvant therapy was more frequently utilised in the radical hysterectomy group, with higher rates of radiotherapy (66.7% vs 40.7%) and combined chemoradiotherapy (50.0% vs 18.5%).

Median length of stay was slightly longer following radical

hysterectomy (2 days vs 1–2 days). Complication rates were comparable between groups (16.7% vs 18.5%).

Conclusions

In this cohort, radical hysterectomy was performed in a minority of patients undergoing robotic surgery for stage II endometrial cancer. Oncological outcomes, including recurrence and survival, were comparable between radical and simple hysterectomy groups, despite greater utilisation of adjuvant therapy in the radical cohort.

Differences in tumour biology and underlying risk profile likely influenced both surgical selection and adjuvant treatment patterns, limiting direct comparison between groups.

These findings suggest that, in the robotic era, radical hysterectomy may not confer additional oncological benefit in selected patients with stage II disease and support a more selective approach to surgical radicality.

ID 78

ROBOTIC V-NOTES UTEROSACRAL LIGAMENT SUSPENSION (USLS)

M. M. Erkan[1] , M. M. Naki[2]
[1] Department of Robotic Surgery, Division of Obstetrics and Gynaecology, Medicana International Izmir Hospital, Izmir, Turkey
[2] Department of Gynaecological Oncology, Division of Obstetrics and Gynaecology, Medipol University, Istanbul, Turkey

Background/Aim

Uterosacral ligament suspension (USLS) is an established native-tissue technique for apical pelvic support and remains a relevant mesh-free option in prolapse surgery. With the adoption of transvaginal natural orifice transluminal endoscopic surgery (vNOTES), endoscopic visualisation of the apical support structures has improved. Robotic integration may further enhance precision, dexterity, and ergonomics. This video aims to present a modified **robotic vNOTES USLS**technique and to position it within the current evidence base.

Methods

This is a surgical video presentation of robotic vNOTES USLS. The procedure is performed through a transvaginal endoscopic access platform with robotic assistance. Key operative steps include exposure of the vaginal apex, identification of the uterosacral ligaments, ureter-conscious dissection, bilateral suspension suturing, and restoration of apical support using native tissue.

Results

The video demonstrates the technical feasibility of robotic vNOTES USLS. The approach provides stable transvaginal endoscopic visualisation and may facilitate precise suture placement through improved articulation and ergonomics. Compared with conventional transvaginal exposure, it may allow more controlled dissection in the uterosacral ligament region. Current literature supports the feasibility and safety of vNOTES-USLS; however, published data specifically on robotic vNOTES USLS remain limited.

Conclusions

Robotic vNOTES USLS represents a promising refinement of native-tissue apical prolapse repair. It combines the mesh-free principle of USLS with the visual advantages of vNOTES and the technical precision of robotic surgery. Further prospective studies and long-term outcome data are required.

ID 79

ROBOT-ASSISTED SURGERY AND THE NOSE TECHNIQUE IN THE TREATMENT OF COLORECTAL ENDOMETRIOSIS

A.A. Popov, P.P. Nefedov, T.A. Glebov, Yu.I. Sopova, D.V. Suslikova
Moscow Institute of Obstetrics and Gynaecology named after Academician V.I. Krasnopolsky,Russia

Background

A retro-prospective study assessed single-centre experience with colorectal resections using the NOSE technique since 2018. By March 2026, 78 procedures had been performed; 66 cases are included in this analysis.

Methods

A retrospective cross-sectional study analysed data from 66 patients with confirmed colorectal endometriosis. All underwent radical surgical treatment using robotic-assisted laparoscopy with specimen extraction through the anal canal. The anastomosis was created using two intracorporeal circular sutures and a circular stapler.

Operative time, intraoperative blood loss, intra- and postoperative complications, hospital stay, and C-reactive protein (CRP) levels were analysed. In 23 patients, bacterial contamination was assessed by collecting peritoneal fluid samples at two time points: before opening the intestinal lumen and after completion of the intestinal stage and specimen extraction.

Results

Mean operative time was 144.6 ± 50.1 minutes (range, 75–280 minutes), and mean intraoperative blood loss was 124.6 ± 90.8 mL (range, 20–500 mL). Variability was attributed to additional surgical procedures and adhesion severity. No prophylactic stomas were created.

No intra- or postoperative complications requiring conversion to laparotomy or relaparoscopy were observed. No anastomotic leaks occurred. In 13 patients, body temperature elevation to 38°C was noted on postoperative day 2, interpreted as a postoperative inflammatory response and managed conservatively.

Peak CRP levels were recorded on day 2 (89.91 ± 84.28 mg/L),

decreasing to 66.86 ± 53.09 mg/L by day 3 and to 58.70 ± 53.75 mg/L by day 4. By day 14, levels decreased to 4.88 ± 4.57 mg/L, indicating resolution of the acute inflammatory response.

All patients were mobilised on postoperative day 1. Mean postoperative hospital stay was 4.1 ± 1.1 days (range, 2–6 days). Bacterial contamination assessment revealed opportunistic and pathogenic flora in the second samples, sensitive to standard perioperative antibiotics. However, the clinical postoperative course in this group did not differ significantly from the group with sterile cultures. The postoperative period was uneventful in all patients, with no signs of infectious complications. All patients were discharged for outpatient follow-up within the planned timeframe (day 4).

Conclusions

This study demonstrates that robotic-assisted laparoscopy combined with natural orifice specimen extraction is a safe and effective approach in the surgical management of colorectal endometriosis. Analysis of data from 66 patients confirmed the key advantages of the NOSE technique:

- Economic: elimination of linear staplers and laparotomy instruments
- Cosmetic: absence of a laparotomy incision
- Clinical: accelerated recovery, absence of complications

ID 80

ROBOTIC HYSTERECTOMY FOR A RARE SPONTANEOUS TWIN INTERSTITIAL ECTOPIC PREGNANCY FOLLOWING SUSPECTED MOLAR GESTATION

M.Sasikumari
Department of Obstertrics and Gynaecology, Manipal Hospital, Hal Old Airport Road, Bangalore, Karnataka,India

Background

Interstitial ectopic pregnancy is a rare and potentially life-threatening form of ectopic gestation, accounting for 2–4% of all ectopic pregnancies. Its location within the highly vascular myometrium allows for delayed presentation, increasing the risk of catastrophic hemorrhage and mortality. The occurrence of a spontaneous twin interstitial ectopic pregnancy is exceedingly rare, with an estimated incidence of 1 in 125,000 pregnancies.

Case Presentation

We report the case of a 42-year-old multiparous woman (P2L2A1) who presented with per vaginal spotting following suction and evacuation for a suspected partial molar pregnancy. Serial β-hCG levels showed a declining trend (14,998 mIU/mL to 4,284 mIU/mL). Transvaginal ultrasound revealed two adjacent gestational sacs within the left interstitial region, surrounded by trophoblastic tissue and a thin myometrial mantle (~1 mm), raising suspicion of a twin interstitial ectopic pregnancy. Given the rarity and high-risk nature of the condition, the patient was counselled regarding medical and conservative surgical options. However, due to completed family status, recent uterine instrumentation, anxiety regarding recurrence, and associated adenomyosis, she opted for definitive surgical management.

Management and Outcome

The patient underwent robotic-assisted hysterectomy with bilateral salpingectomy. The procedure was uneventful, with minimal blood loss and rapid postoperative recovery. Histopathological examination confirmed the presence of chorionic villi within the interstitial (cornual) region, consistent with twin interstitial ectopic pregnancy. Follow-up β-hCG levels declined to < 5 mIU/mL.

Discussion

Diagnosis of interstitial ectopic pregnancy relies primarily on ultrasound findings such as an eccentrically located gestational sac, thin endomyometrial mantle, and the interstitial line sign. While medical management with methotrexate remains the first-line treatment in stable patients, surgical intervention is warranted in select cases. Robotic hysterectomy, although not routinely indicated, may be considered in patients with completed family, high hemorrhagic risk, or preference for definitive management.

To our knowledge, this is the first reported case of a spontaneous twin interstitial ectopic pregnancy managed with robotic hysterectomy.

Conclusions

This case highlights the importance of early diagnosis and individualised management in rare ectopic pregnancies. Robotic hysterectomy can be a safe and effective definitive treatment in carefully selected patients, offering favorable perioperative outcomes and rapid recovery.

ID 81

ROBOTIC SINGLE-PORT VERSUS MULTI-PORT SURGICAL STAGING IN OBESE PATIENTS WITH EARLY-STAGE ENDOMETRIAL CANCER

Riccardo Vizza[1], Giorgio Bogani[2], Valentina Bruno[3], Ermelinda Baiocco[3], Manuela Mancini[3], Stefano Uccella[1],Pier Carlo Zorzato[1], Giacomo Corrado[4], Enrico Vizza[3]
[1] Unit of Obstetrics and Gynaecology, Department of Surgery, Dentistry, Pediatrics, and Gynaecology, AOUI, Piazzale Aristide Stefani, 1, Verona, Italy
[2] Department of Gynaecological Oncology. Fondazione IRCCS Istituto Nazionale dei Tumori di Milano, Via Giacomo Venezian, Milan, Italy
[3] Gynaecological Oncologic Unit, Department of Oncological Surgery, ''Regina Elena'' National Cancer Institute, Via Elio Chianesi, 53, Rome, Italy
[4] Department of Women's, Children's and Public Health Sciences, UOC Oncology Gynaecology, Fondazione Policlinico Universitario A. Gemelli, IRCCS, L.Go A. Gemelli 8, Rome, Italy.

Background/Aim

To evaluate the feasibility, safety, and perioperative outcomes of robotic single-port (SP) surgical staging in obese patients with

apparent early-stage endometrial cancer, compared with a matched multi-port (MP) robotic approach.

Methods

A retrospective matched cohort study was conducted at a tertiary gynaecological oncology centre. Obese patients (body mass index ≥ 30 kg/m²) undergoing robotic-assisted surgical staging for apparent early-stage endometrial cancer between January 2021 and December 2025 were included. Patients treated with SP surgery were matched 1:1 with patients undergoing MP surgery based on BMI. Primary outcomes included feasibility and perioperative parameters. Secondary outcomes included intraoperative and postoperative morbidity within 30 days. Statistical comparisons were performed using chi-square, Fisher exact, and Mann-Whitney tests, with $p<0.05$ considered significant.

Results

Among 415 patients undergoing robotic staging, 38 obese patients treated with SP surgery were matched 1:1 with 38 obese patients undergoing MP surgery. Baseline characteristics were comparable between groups, with median BMI of 34.7 and 34.8 kg/m² in the SP and MP groups, respectively (p=0.962). Median operative time was longer in the SP group (120 vs. 100 minutes; p=0.0033), while estimated blood loss was similar. Increasing BMI was not associated with longer operative time in either group. No intraoperative complications or severe postoperative events were recorded. Length of hospital stay was longer in the SP group (3.5 vs. 3.0 days; p=0.0006), mainly due to a single patient requiring prolonged hospitalisation.

Conclusions

Robotic single-port surgical staging appears feasible and safe in obese patients with early-stage endometrial cancer, with perioperative outcomes comparable to multi-port robotics, aside from a modest increase in operative time.

ID 82

DAVIDS. ROBOTIC INTERVAL CYTOREDUCTION

A. Cañizares-Pedrosa, S. Fernández, C. Ortega, M. Barahona, M.D. Martí, G. Molina, J. Ponce
Department of Gynaecology, Hospital Universitari de Bellvitge, Barcelona, Spain

Introduction

Advanced epithelial ovarian cancer (AOC) remains a major therapeutic challenge, with complete cytoreduction (R0) as a key prognostic factor. Neoadjuvant chemotherapy followed by interval debulking surgery (IDS) is a standard approach for patients not suitable for primary debulking surgery. Traditionally performed via laparotomy, IDS is increasingly explored using minimally invasive surgery (MIS) after tumour reduction with chemotherapy. MIS may reduce morbidity and recovery time, but concerns persist regarding tumor assessment and achieving R0.

The prospective LANCE trial evaluated IDS via laparotomy versus MIS, focusing on feasibility rather than oncological outcomes. In this context, we present our series to assess adherence to standards and propose selection criteria for MIS-based IDS, particularly robotic surgery.

Objective

To evaluate:

1. Selection criteria for robot-assisted IDS in AOC
2. Perioperative outcomes
3. Oncological adequacy, including R0 rate, disease-free survival (DFS), and overall survival (OS).

Methods

Retrospective, single-centre study at Hospital Universitario de Bellvitge including patients with FIGO IIIC–IV AOC (2018–2025) undergoing robot-assisted IDS (Da Vinci Xi). Inclusion criteria were favorable PET-CT response, CA-125 <35 IU/L, and laparoscopic confirmation of R0 feasibility.

Results

Patient Selection: Twenty-six patients with high-grade serous carcinoma were included (mean age 64 years; 76.9% FIGO IV). Median CA-125 decreased from 472 U/L to 15.5 U/L post-chemotherapy; 38.5% showed near-complete PET-CT response. All underwent laparoscopic evaluation, with unsuitable cases redirected to laparotomy.

Feasibility: R0 was achieved in 100% (26/26) with no conversions. In LANCE, R0 rates were 88% (MIS) and 83% (laparotomy). Median operative time was 197.5 minutes, and hospital stay was 1 day, shorter than laparotomy (4 days). Major complications occurred in 7.4% (one bladder injury, one hematoma), with no readmissions. LANCE reported 8% complications in MIS vs 26% in laparotomy.

Oncological Outcomes: Histopathological response: CRS 2 (34.6%) and CRS 3 (65.4%). After 34.6 months follow-up, recurrence occurred in 63%. Median DFS was 34.7 months (3-year DFS 37%), and median OS was 57.4 months (3-year OS 59.4%). Comparable long-term data for MIS-based IDS remain limited.

Conclusions

With strict selection criteria (PET-CT, CA-125, laparoscopy), robotic IDS is feasible, achieving 100% R0 with low morbidity and excellent perioperative outcomes. Results are comparable or slightly superior to the MIS arm of the LANCE trial and support the safety of the robotic approach in selected patients. These mid-term oncological outcomes warrant validation in prospective studies.

ID 83

ROBOTIC APPROACH FOR LYMPH NODAL RECURRENCE IN OVARIAN CANCER: LYMPHATIC

ANATOMY, VASCULAR DAMAGE CONTROL, NO-TOUCH EN-BLOC RESECTION

A. Rosati, G. Fiorenza, C. Innocenzi, M. Marraffa, G. Lancellotti, A. Fagotti
UOC Ginecologia Oncologica, Dipartimento di Scienze per la salute della Donna e del Bambino e di Sanità Pubblica, Fondazione Policlinico Universitario A. Gemelli, IRCCS, Rome, Italy

Background

Selected patients with single or oligometastatic lymph node recurrence of ovarian cancer may benefit from minimally invasive secondary cytoreductive surgery, offering favorable perioperative outcomes, reduced blood loss, and shorter hospital stay without compromising survival compared to open approaches.

Robotic surgery adds advantages including enhanced dexterity, tremor filtering, superior visualization, ergonomic positioning, and integrated ultrasound, making it highly effective for managing gynaecological cancer recurrences. This video demonstrates a robotic approach for complex oligometastatic ovarian cancer recurrence, integrating selective vascular and lymphatic control with a no-touch en-bloc resection technique.

Methods

A 61-year-old woman (BMI 20.3 kg/m²) with good performance status presented with a third platinum-sensitive lymph node recurrence of high-grade serous ovarian cancer (BRCA1-mutated). Prior treatment included interval debulking with HIPEC, adjuvant platinum chemotherapy, PARP inhibitor maintenance, and radiotherapy for a previous single node recurrence. CT revealed pelvic and para-aortic inframesenteric oligometastatic recurrence without ascites (Ca125 450 U/mL).

Following multidisciplinary evaluation, secondary cytoreductive surgery (RT=0) was performed using the Da Vinci Xi system. Surgical steps included:

1. **Selective lymphatic control** – Distal and proximal control of common, external, and internal iliac vessels and associated lymphatic pathways; critical neurovascular structures were isolated to minimise bleeding and nerve injury.
2. **Vascular damage control** – Intraoperative external iliac vein injury was managed with vessel clipping and robotic suturing, avoiding conversion to open surgery.
3. **No-touch en-bloc resection** – Lymph node packages were removed en-bloc with gentle traction, reducing the risk of tumour cell spillage.

Results

Operative time was 240 min, estimated blood loss 300 ml, and hospital stay 5 days. No complications occurred within 30 days.

Conclusions

This robotic approach is feasible, reproducible, and technically safe for oligometastatic lymph node recurrences, allowing precise dissection with negative margins. Selective lymphatic clipping reduces lymphatic morbidity, vascular control mitigates complications, and no-touch en-bloc resection maximises oncological safety.

ID 84

TRANSRECTAL MISOPROSTOL: AN EFFECTIVE SOLUTION TO THE BLEEDING MANAGEMENT IN MYOMECTOMIES

A. Drakou[1], A. Fotiou[2], K. Kokkali[2], V. Psomiadou[2], E. Geramani[2], C. Iavazzo[2]
[1] Faculty of Medicine, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania
[2] Department of Gynaecological Oncology, Metaxa Cancer Hospital, Piraeus, Greece

Background/Aim

Uterine fibroids are benign tumours, presenting in 70% of females until 50-years-olds and manifesting with various symptoms (menstrual anomalies, anemia, and pelvic pain) in 20-50% of the cases[1]. Although hysterectomy is the preferred fibroid treatment, a myomectomy can be effective for younger patients, due to uterus maintenance and fertility sustaining[1]. Misoprostol, acting similarly to prostaglanding-E[1], leads to contraction of the myometrium, decreasing local perfusion and, subsequently, reducing intra-operative hemorrhage[1]. This study compares the ability of rectal misoprostol and intravenous ergometrine to minimise intra- and post-operative bleeding in abdominal robotic myomectomy.

Methods

A total of 30 premenopausal women subjected to myomectomy for fibroids in our hospital during a 1-year interval were studied. Those allergic to misoprostol and under medication causing intra-operative bleeding were excluded. Thirteen patients were administered rectal misoprostol (400 mcg - in 2 doses), while a historical cohort of 17 patients was treated with ergometrine (placebo). Sociodemographic data, ultrasonographical and MRI features, pre- and post-operative hemoglobin values, and the number of blood transfused patients were recorded. A statistical analysis was carried out, consisting of Shapiro Wilk, T-, and Mann-Whitney U tests.

Results

To begin with, the number of myomas was not significantly different between the 2 conditions, while the location was mainly intramural in the ergometrine group compared to a more uniform distribution in the misoprostol group. Misoprostol administration resulted in a statistically significant Mean Estimated Blood Loss of 334.62mL, compared to a value of 488.24mL in the placebo group.

The Mean pre-operative hemoglobin was lower in the misoprostol than the ergometrine group (11.22g/dL vs. 11.69 g/dL); however, post-operative hemoglobin was lower in the ergometrine than the misoprostol group, without statistical significance (9.25 vs. 10.1).

Lastly, in only 7.6% of patients treated with misoprostol, in contrast to 29.4%, received transfused blood.

Conclusions

This is an interesting study suggesting that treatment with rectal misoprostol is an effective option in the minimization of bleeding both during the robotic myomectomy surgery and post-operatively.

References

[1] Vilos, George A et al. "The Management of Uterine Leiomyomas." Journal of Obstetrics and Gynaecology Canada : JOGC = Journal d'Obstetrique et Gynecologie du Canada : JOGC vol. 37,2 (2015): 157-178. doi:10.1016/S1701-2163(15)30338-8

ID 85

A JOURNEY FROM SCEPTICISM TO ENTHUSIASM : OUR FIRST 400 COMPLEX ENDOMETRIOSIS SURGERY IN 18 MONTHS

S. Voicu, P. Razvan, P. Alexandru, H. Hadi
RoEndo, Department of Endometriosis, Medicis Medlife Hospital, Timisoara, Romania

Background

Advanced endometriosis surgery is a complex surgery that mobilises considerable resources, is burdened by formidable complications and must deliver consistent and persistent results over the long term. Therefore, it requires thoroughly trained multidisciplinary teams, coordinated by surgeons with expertise and experience. In order for the results delivered to be optimal, the contribution of cutting-edge technology is also needed.

Endometriosis surgery is eminently minimally invasive, with a rate of interventions of this type of over 95% in centres of excellence. Robotic surgery is the latest technology in the arsenal of the endometriosis surgeon and opens new horizons, changing the practical paradigm in this field.

We are a dedicated centre of excellency in endometriosis surgery, and we have performed in the last 12 years more than 3000 surgeries for complex endometriosis, 99.7 % minimally invasive.

Methods

We present the results of our first experience with robotic surgery as we started the robotic program in October 2024. Since then we have performed 403 surgeries for complex endometriosis as follows: 293 rectal resections (all by Nose technique), 23 small bowell resections, 31 ureteral resections (16 anastomosis,15 reimplantations), 8 diaphragmatic resections,14 sacral roots neurolisis, 43 total hysterectomies.

Mean operating time (console time) was 114 minutes ranging from 114 min in the early days to 80 min lately. Estimated blood loss was 250 ml on average. Mean hospitalisation was 2,4 days.

Regarding complications we had 4 Clavian -Dindo III-IV and 7 Clavian -Dindo I-II. The pain scores, ambulation ,recovery time and satisfaction rate were all better than laparoscopy as they were all above mentioned parameters excepting the overall surgery time (counting docking /undocking) which was slightly shorter in laparoscopy .

The learning curve was steep, we felt confident and familiar with the system after 10-15 procedures. We had no conversions to laparoscopy neither to laparotomy even in difficult situations as injury of external iliac artery.

Conclusions

When does robotics help? The robot helps especially in extremely difficult cases such as nervous, diaphragmatic or ureteral endometriosis, but it also helps in situations where some maneuvers, although they can be performed safely laparoscopically, with the help of the robot they are done more precisely, and with a better functional result such as colorectal surgery or endometriotic cyst surgery.

We started this journey with lots of scepticism, as being highly trained in laparoscopy and ended being now enthusiastic.

ID 86

FEASIBILITY OF SINGLE-PORT ROBOTIC LUMBO-AORTIC LYMPHADENECTOMY FOR OVARIAN CANCER

Riccardo Vizza[1], Benito Chiofalo[1,2], Valentina Bruno[4], Giorgio Bogani[3], Stefano Uccella[4], Giacomo Corrado[5], Enrico Vizza[4]
[1] Department of Obstetrics and Gynaecology, AOUI Verona, University of Verona, Verona, Italy
[2] Kore University of Enna, Cannizzaro Hospital, Department of Obstetrics and Gynaecology, Catania, Italy
[3] Gynaecological Oncologic Unit, Department of Oncological Surgery, ''Regina Elena'' National Cancer Institute, Rome, Italy
[4] Department of Gynaecological Oncology, Fondazione IRCCS Istituto Nazionale dei Tumori di Milano, Milan, Italy
[5] Gynaecological Oncology Unit, Department of Health of Women and Children, Catholic University of Sacred Heart

Background

The Da Vinci SP© is a single-port robotic system using one incision with a flexible camera and multi-articulated instruments, proven feasible across various surgical specialties. In gynaecology, the platform has been applied to both benign and malignant procedures, with emerging evidence supporting its use in endometrial and ovarian cancer.

According to the latest ESMO–ESGO–ESP guidelines, minimally invasive surgery has a role for early ovarian cancer staging.

Our aim was to evaluate the single-port robotic surgical technique for comprehensive staging of early-stage ovarian cancer, with particular focus on the feasibility of lumbo-aortic lymphadenectomy.

Methods

We included one patient, a 50 years old woman with two previous cesarean sections and a hysteroscopy for endometrial polyp. The patient underwent pelvic ultrasound, which showed a solid neoplasm with irregular margins, dishomogeneous multilocular cystic structure, about 12 cm in diameter, with vascularisation at color-Doppler. CT performed confirmed the presence of a multilocular cystic lesion.

Results

The patients underwent to radical IA hysterectomy, infracolic omentectomy and lumbo-aortic lymphadenectomy using Da Vinci SP with only one 2,5 cm long incision made over the lower rim of the umbilicus. Regarding lumbo-aortic lymphadenectomy the surgical steps are identical to conventional laparoscopic. Operative time was 155 minutes, hemoglobin drop was 0.4 g/dl and total bold loss was 10 ml. Final histopathological examination of the ovarian mass confirmed high-grade serous ovarian cancer and a IA FIGO stage.

Conclusions

Compared to multiport platforms, the SP system provides greater surgical flexibility, particularly for upper abdominal procedures, by enabling 180° rotation of its single robotic arm, allowing access to both pelvic and para-aortic regions without the need for redocking, as is required with multiport systems. In conclusion, this single case demonstrates that single-port lumbo-aortic lymphadenectomy can be technically performed using the Da Vinci SP platform in selected patients.

ID 89

SENTINEL LYMPH NODE DISSECTION AND ONCOLOGICAL OUTCOMES FOLLOWING ROBOTIC HYSTERECTOMY FOR ENDOMETRIAL CANCER IN PATIENTS AGED ≥70 YEARS: A SINGLE UK TERTIARY CANCER CENTRE RETROSPECTIVE COHORT STUDY

Unnikrishnan Harikrishnan, Falak Babbar, Anupama Rajanbabu
Department of Gynaecology Oncology, James Cook University Hospital, Middlesbrough, Cleveland, UK

Background

Elderly patients with endometrial cancer disproportionately harbour more aggressive tumour biology, including higher-grade disease and non-endometrioid histology, yet are frequently under-staged due to concerns about surgical risk. Sentinel lymph node dissection (SLND) offers a lower-morbidity alternative to systematic lymphadenectomy and is increasingly adopted as the standard staging modality in endometrial cancer. However, its feasibility and oncological yield specifically in patients aged ≥70 years - where age-related changes in lymphatic anatomy and adipose distribution may pose additional technical challenges - remain incompletely characterised. We evaluated SLND completion rates, nodal positivity, and oncological tumour characteristics across age groups in a consecutive robotic hysterectomy cohort.

Methods

A single-centre retrospective observational cohort study of 166 consecutive patients undergoing robotic hysterectomy for endometrial cancer at James Cook University Hospital (July 2022–January 2025). Patients were stratified by age: <70 years (n=97) and ≥70 years (n=69). SLND was performed using indocyanine green (ICG) near-infrared fluorescence according to NCCN guidelines. Outcomes assessed included SLND completion rate, sentinel node positivity, histological subtype, tumour grade, and FIGO 2023 stage distribution. Fisher's exact and chi-square tests were applied for categorical comparisons.

Results

The ≥70 cohort demonstrated a markedly more aggressive oncological profile than younger patients. Grade 3 disease was present in 50.7% of elderly patients versus 37.1% of younger patients (p=0.07), and non-endometrioid histology (high-grade serous carcinoma, HGSC) was more frequent (26.1% vs 15.5%; p=0.09).

Despite this, FIGO stage distribution was similar between groups, with approximately two-thirds presenting with Stage I disease in both cohorts (66.7% vs 67.0%; p=0.97). SLND was successfully completed in 92.8% of elderly patients compared with 86.6% of younger patients (p=0.23), confirming high and comparable completion rates across age groups. The node-positivity rate was equivalent: 14.1% (9/64) in the ≥70 group versus 15.5% (13/84) in the <70 group (p=0.84). Post-surgical MDT decisions reflected the higher-risk tumour biology in the elderly cohort, with a greater proportion receiving adjuvant radiotherapy or sequential chemoradiotherapy, while 26.1% of elderly patients were recommended surveillance alone, confirming comprehensive oncological staging was achieved in all cases.

Conclusions

SLND using ICG fluorescence is technically feasible and oncologically reliable in patients aged ≥70 years undergoing robotic hysterectomy for endometrial cancer, achieving completion rates and nodal positivity comparable to younger patients. Despite harbouring more aggressive tumour biology, elderly patients were successfully staged through the robotic platform, enabling informed adjuvant treatment decision-making. Age alone should not preclude complete oncological staging in this population.

ID 90

ROBOTIC-ASSISTED EXCISION OF AN ENLARGED LEFT PARA-AORTIC LYMPH NODE BETWEEN THE

LEFT RENAL VEIN AND INFERIOR MESENTERIC ARTERY USING THE DA VINCI XI SYSTEM: STEPWISE PICTORIAL EXPLANATION OF SURGICAL PLANNING, MODIFIED SETUP, AND OPERATIVE TIPS AND TRICKS

Unnikrishnan Harikrishnan, Falak Babbar, Anupama Rajanbabu
Department of Gynaecology Oncology, James Cook University Hospital, Middlesbrough, Cleveland, UK

Background

Para-aortic lymph node excision between the left renal vein and inferior mesenteric artery (IMA) represents one of the most technically demanding procedures in gynaecological oncology. We present a case of recurrent endometrial cancer in a 73-year-old with severe aortic stenosis, left bundle branch block, and severe left ventricular dysfunction - originally treated by vaginal hysterectomy due to high anaesthetic risk. She developed para-aortic lymph node cancer recurrence, following counselling regarding systemic alternatives, she opted for surgical excision despite being counselled for adjuvant/neo-adjuvant systemic options. We describe our stepwise pictorial operative approach using the da Vinci Xi system.

Methods

Preoperative PET-CT and MRI defined the nodal morphology and vascular relationships. Full multidisciplinary and cardiology pre-assessment was undertaken. Operative technique is described as six numbered steps, each illustrated with intraoperative images:

Step 1 - Planning and team briefing: PET-CT and MRI review, MDT discussion, cardiology input, and full team briefing.

Step 2 - Modified parallel diagonal docking: Trocars placed below the umbilicus at the midpoint between umbilicus and pubic symphysis, adjusted cranially in a parallel diagonal configuration to direct robotic arms cranially toward the left renal vein. Assistant port positioned for instrument exchange, suction, and specimen retrieval.

Step 3 - Retroperitoneal entry: Peritoneal incision and development of the retroperitoneal space with identification of the aorta, left renal vein, IMA, ureter, and gonadal vessels as operative landmarks.

Step 4 - Three-point bowel suspension: Transverse colon mesenteric suspension,duodenal suspension, and sigmoid mesenteric suspension at the IMA level.

Step 5 - Stepwise nodal dissection: Using a fenestrated bipolar grasper, bipolar scissors, and vessel sealer in combination, the plane between the nodal capsule and aortic adventitia is developed with deliberate, unhurried precision. Each anatomical landmark is confirmed before proceeding. Patience at every step is paramount.

Step 6 - Haemostats: Floseal applied to the retroperitoneal field. Calm continuous team communication throughout.

Results

Complete nodal excision was achieved without conversion. The modified docking provided adequate cranial reach and triangulation at the level just below the renal vein. Recovery was uneventful and histology confirmed recurrent disease, guiding further oncological management.

Conclusions

Robotic para-aortic nodal excision between the left renal vein and IMA is feasible even in high cardiac-risk patients but demands PET-CT and MRI planning, modified parallel diagonal docking, three-point bowel suspension, and a fully briefed team. This should be exclusively performed by experienced robotic surgeons at tertiary cancer centres.

ID 91

FROM LAPAROSCOPY TO ROBOTICS: A PROCTEE'S GUIDE TO FAST-TRACKING PROGRESS IN ROBOTIC GYNAECOLOGICAL SURGERY

Unnikrishnan Harikrishnan, Anupama Rajanbabu
Department of Gynaecology Oncology, James Cook University Hospital, Middlebrough, Cleveland, UK

Background

The transition from experienced laparoscopic surgeon to robotic console operator is one of the hidden counterintuitive challenges in surgical training. Deeply ingrained laparoscopic habits — haptic feedback reliance, fulcrum effect movements, traction-counter traction differences and two-dimensional orientation — must be deliberately unlearned. For new adapters of robotic assisted surgery, this transition can feel humbling regardless of prior conventional minimal access experience. We present a practical nine-step framework from our proctoring programme at JCUH to help proctees fast-track their progress toward safe, independent robotic console practice.

The Nine-Step Framework

1. Watch before you scrub: Systematically watch operative videos across case complexity levels to build mental models before encountering steps live. Visiting reliable video libraries/experts, watching multiple abdomino-pelvic specialties at work can give a global idea of robotic set up and instrumentation.

2. Visualise and mentally rehearse: Before every case, walk through each operative step in sequence. If you cannot visualise it clearly, you are not yet ready to perform it.

3. Write it down: Keep an operative notebook. After every case, write the steps that were new, what surprised you, and the decisions made. Writing consolidates learning that observation alone cannot.

4. Sim2 first, theatre second: Target your weakest domains on the da Vinci Sim2 simulator specifically. A plateau is a signal to change the task, not repeat it.

5. Dock and undock repeatedly: Fluency with system setup removes cognitive load in theatre. Practise until it is automatic.

6. Be the best assistant in the room: Assisting is not passive. Internalise port dynamics, anticipate the next move, and learn the field from a different perspective.

7. Plan every case as if you are operating: Review imaging, plan ports, anticipate challenges, and brief the team. Preparation is a surgical skill.

8. Unlearn your laparoscopy: Resist replicating laparoscopic movements at the console. The absence of haptic feedback and different ergonomics demand a new motor programme. Acknowledge this openly with your proctor.

9. Seek feedback actively: Do not wait to be told what went wrong. Ask specifically, reflect honestly, and document progress.

Conclusions

Fast-tracking robotic progress requires intentional preparation at every stage — not just more console time. Visualisation, mental rehearsal, written reflection, simulation, and active feedback-seeking are accessible tools available to every proctee today. Experienced laparoscopists must recognise and address the unique adaptation challenge of transitioning to robotics. We advocate for structured competency-based proctoring pathways at all robotic gynaecological oncology centres.

ID 92

ROBOTIC HYSTERECTOMY FOR ENDOMETRIAL CANCER IN PATIENTS AGED ≥70 YEARS: EQUIVALENT PERIOPERATIVE OUTCOMES DESPITE HIGH BMI AND COMORBIDITY BURDEN - A SINGLE TERTIARY GYNAECOLOGY ONCOLOGY CENTRE RETROSPECTIVE COHORT STUDY

Unnikrishnan Harikrishnan, Falak Babbar, Anupama Rajanbabu
Department of Gynaecology Oncology, James Cook University Hospital, Middlesbrough, Cleveland, UK

Background

Endometrial cancer incidence peaks in the seventh decade of life, meaning a substantial proportion of patients presenting for surgery are elderly, obese, and comorbid. This combination has historically been associated with higher perioperative risk following conventional open surgery. Robotic-assisted laparoscopic surgery has been proposed to mitigate this risk through reduced blood loss, shorter hospital stay, and faster recovery. We evaluated whether advanced age is independently associated with inferior peri-operative outcomes following robotic hysterectomy for endometrial cancer.

Methods

Single-centre retrospective cohort study of 166 consecutive patients undergoing robotic hysterectomy for endometrial cancer at JCUH (July 2022–January 2025), stratified by age: <70 years (n=97) and ≥ 70 years (n=69). Comorbidity was quantified using the Age-Adjusted Charlson Comorbidity Index (AA-CCI). Primary outcomes were peri-operative complications (Clavien–Dindo) and length of stay (LOS). Secondary outcomes included console time, estimated blood loss (EBL), conversion rate, and intra-operative events. Mann–Whitney U, Fisher's exact and chi-square tests were applied.

Results

The ≥70 cohort (mean age 77.6±4.6 years; range 70–90) had universal AA-CCI ≥3 and 58% obesity prevalence, with more intra-peritoneal adhesions (26.1% vs 18.6%). Despite this, all operative metrics were equivalent: console time 61.4±23.7 vs 61.2±26.7 min (p=0.615), EBL median 50mL both groups (p=0.916), and LOS median 1 day both groups (p=0.157). Conversion was identical (1.1% vs 1.3%; p=0.97). Four intra-operative complications occurred — 2 per group — all resolved without conversion. The ≥70 group experienced zero postoperative complications versus one low-grade event in the younger cohort (p=1.00). No ICU admissions or 30-day mortality occurred in either group. Within the elderly cohort, AA-CCI did not correlate with console time, EBL, or LOS (all Spearman p>0.23).

Conclusions

Robotic hysterectomy is safe and feasible in patients aged ≥70 with endometrial cancer, delivering peri-operative outcomes equivalent to younger patients despite greater comorbidity, obesity, and a more complex intra-abdominal environment. Advanced age and high comorbidity burden should not be considered contraindications to robotic surgery. We recommend that all eligible patients, regardless of age, be considered for the robotic pathway at experienced centres.

ID 93

ASSOCIATION OF UTERINE ARTERY LIGATION AT ITS ORIGIN WITH REDUCED EARLY POSTOPERATIVE WHITE BLOOD CELL CHANGE AFTER ROBOTIC HYSTERECTOMY

S. M. Lee, D. Kong, S. Kim, J. Y. Song
Department of Obstetrics and Gynaecology, Korea University Anam Hospital, Seoul, Republic of Korea

Background/Aim

This study aimed to compare laboratory findings and surgical outcomes according to the use of uterine artery ligation (UAL) during robotic hysterectomy.

Methods

We retrospectively reviewed the medical records of patients who underwent robotic hysterectomy using the da Vinci Xi, SP, or da Vinci 5 systems at Korea University Anam Hospital between January 2022 and July 2025. Patients were divided into a UAL group and a non-UAL group according to whether uterine artery ligation was performed using Hem-o-Lok® clips (Teleflex Medical, Research Triangle Park, NC, USA) at the uterine artery origin. Statistical analyses were performed using Student's t-test, the chi-square test, and logistic regression analysis.

Results

Among a total of 354 patients, 146 were assigned to the UAL group and 208 to the non-UAL group. The operative time was longer in the UAL group compared with the non-UAL group ($p < 0.001$). However, postoperative white blood cell (WBC) change was significantly lower in the UAL group than in the non-UAL group ($p < 0.001$). In multivariate logistic regression analysis, the use of UAL was independently associated with a reduced postoperative WBC change (adjusted odds ratio [OR], 0.25; $p < 0.001$).

Conclusions

Hem-o-Lok–assisted UAL during robotic hysterectomy was associated with reduced early postoperative WBC elevation, suggesting a potential benefit in attenuating the early inflammatory response.

ID 94

ROBOTIC-ASSISTED VNOTES OVARIAN CYST ENUCLEATION USING THE DA VINCI SP SYSTEM: INITIAL EXPERIENCE AND SURGICAL OUTCOMES

Lou Sun[1,2], Shun Ting Chan[1], Chun Kai Lu[1], Shih-Chuan Huang[1], Hsueh-Wen Chang[1], Chien-Hsing Lu[1]

[1] Department of Obstetrics, Gynaecology and Women's Health, Taichung Veterans General Hospital, Taichung, Taiwan;

[2] Department of Food and Nutrition, Providence University, Taichung, Taiwan

Background

Transvaginal natural orifice transluminal endoscopic surgery (vNOTES) offers a scarless approach and enhanced postoperative recovery. However, conventional vNOTES is often limited by instrument triangulation and ergonomic challenges, particularly due to instrument collisions within the narrow vaginal canal, even with conventional robotic assistance. This study evaluates the feasibility and surgical advantages of the da Vinci SP (Single Port) robotic system in overcoming these constraints during vNOTES ovarian cyst enucleation.

Methods

We retrospectively reviewed a case series of five patients who underwent robotic-assisted vNOTES ovarian cyst enucleation using the da Vinci SP system. In the first case of a 30-year-old nulliparous woman with a 2.5-cm mature cystic teratoma: after posterior colpotomy, a small access port kit was placed, followed by docking of the da Vinci SP system. The procedure was performed under three-dimensional visualisation using articulated robotic instruments—including monopolar hook cautery, Maryland bipolar forceps, and a needle driver—under the camera-below configuration to optimise instrument triangulation within the confined transvaginal space.

Results

All procedures were successfully completed without intraoperative or postoperative complications. For the first, representative case, total operative time was 117 minutes (docking time: 6 minutes, console time: 56 minutes) with minimal blood loss. Across the series (n=5), mean console time was 71.6 ± 51.5 minutes (range: 32–160 minutes). The patient resumed oral intake on the same day and was discharged on postoperative day 2. Final pathology confirmed a mature cystic teratoma. Follow-up at 1 month and 3 months demonstrated appropriate healing and no adverse events.

Discussion

Robotic-assisted vNOTES combines the advantages of natural orifice surgery with enhanced dexterity and stable visualization. A significant advantage of the da Vinci SP system is its articulated endo-elbow instruments, which effectively minimise instrument collisions and facilitate precise suturing within the confined transvaginal workspace-tasks that are technically demanding in conventional vNOTES. Our experience with five cases supports the reproducibility and safety of this approach. However, further case accumulation is required to validate its long-term clinical benefits.

Conclusions

Robotic-assisted vNOTES ovarian cyst enucleation using the da Vinci SP system is feasible and safe, offering a scarless approach with rapid recovery. The system's specialised architecture overcomes traditional vNOTES limitations, potentially expanding the surgical indications of robotic natural orifice surgery in gynaecology.

ID 95

ROBOTIC MANAGEMENT OF LATERAL COMPARTMENT ENDOMETRIOSIS: SURGICAL BURDEN IN LATERALLY EXTENDED DISEASE

Manu Andrei[1,2], Coreluca Bogdan Catalin[1], Coreluca Ciprian Andrei[1], Hashemi Anca[3], Iacob Cristina[3], Banu Arina[3], Bratila Elvira[1]

[1] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

[2] PhD Student, "Carol Davila" University of Medicine and Pharmacy Doctoral School, Bucharest, Romania

[3] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", Bucharest, Romania

Background/Aim

To characterise parametrial and urinary-adjacent disease in robotic endometriosis surgery and assess the associated surgical burden.

Methods

We retrospectively reviewed robotic endometriosis cases from a tertiary referral center, focusing on lateral compartment disease. Parametrial lesions, ureterolysis, parametrial resection, bladder and ureteral involvement, and perioperative outcomes were analysed. In this cohort, surgery was mainly indicated for pain and infertility.

Results

Laterally extended disease represented a major component of the robotic endometriosis series. Left parametrial involvement was found in 85.1% of evaluable cases and right parametrial involvement in 71.3%. Parametrial resection was performed in all the cases. Ureterolysis was required in all of evaluable procedures, underscoring the technical burden of lateral pelvic dissection.

A minority of cases showed extension toward sacral root or other deep lateral pelvic structures, reflecting the spectrum of advanced disease managed in this series. Median operative time was 95.5 minutes, median console time was 79.5 minutes, and median estimated blood loss was 164 mL.

Conclusions

Lateral compartment endometriosis represents a technically demanding form of advanced disease, frequently requiring ureterolysis and extensive parametrial dissection or resection. Robotic surgery appears to offer an effective platform for the management of such anatomically complex cases.

ID 96

ROBOTIC MANAGEMENT OF DEEP INFILTRATING ENDOMETRIOSIS: PERIOPERATIVE OUTCOMES AND SURGICAL COMPLEXITY

Bogdan Catalin Coroleuca[1], Andrei Manu[1,2], Ciprian Andrei Coroleuca[1], Anca Hashemi[3], Cristina Iacob[3], Arina Banu[3], Elvira Bratila[1]

[1] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

[2] PhD Student, Doctoral School, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

[3] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", Bucharest, Romania

Aim

To evaluate the surgical complexity and perioperative outcomes of robotic surgery for endometriosis in a tertiary referral centre.

Methods

We performed a retrospective analysis of robotic procedures for endometriosis matched with a structured endometriosis database. Demographic characteristics, disease distribution, surgical procedures, and perioperative outcomes were assessed. In this cohort, the main indications for surgery were pain and infertility. The primary outcomes were operative time, console time, estimated blood loss, and postoperative complications.

Results

The cohort reflected advanced and surgically demanding disease. Rectal lesions were present in 62.1% of evaluable cases, sigmoid lesions in 14.9%, ileal lesions in 4.6%, and cecal lesions in 2.2%. Rectovaginal septum involvement was identified in 54.0% of cases. Parametrial disease was frequent, involving the left parametrium in 85.1% of evaluable patients and the right parametrium in 71.3%. Intestinal treatment was required in 59.8% of evaluable patients and included shaving, discoid excision, segmental resection, EMEB, and lateral resection. Median operative time was 95.5 minutes, median console time was 79.5 minutes, and median estimated blood loss was 164 mL. Postoperative complications were uncommon.

Conclusions

Robotic surgery enabled the management of a highly complex spectrum of endometriosis, including frequent rectal, rectovaginal, and parametrial disease, with acceptable operative times, limited blood loss, and a low postoperative complication rate. These findings support robotics as a feasible platform for advanced endometriosis surgery in high-volume referral centres.

ID 98

ROBOTIC MANAGEMENT OF ENDOMETRIAL CANCER AND PREMALIGNANT ENDOMETRIAL PATHOLOGY IN OBESE PATIENTS

Manu Andrei[1,2], Coreluca Bogdan Catalin[1], Coreluca Ciprian Andrei[1], Hashemi Anca[3], Iacob Cristina[3], Banu Arina[3], Bratila Elvira[1]

[1] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

[2] PhD Student, "Carol Davila" University of Medicine and Pharmacy Doctoral School, Bucharest, Romania

[3] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", Bucharest, Romania

Aim

To evaluate the perioperative outcomes of robotic surgery for endometrial cancer and premalignant endometrial pathology in obese patients.

Methods

We performed a retrospective analysis of robotic procedures for endometrial cancer and premalignant endometrial pathology in a tertiary referral centre. Demographic characteristics, operative time, console time, and estimated blood loss were assessed.

Results

A total of 32 robotic procedures were identified. Median age was 54 years and median BMI was 38.8 kg/m². All patients had a BMI of at least 30 kg/m², while 71.9% had a BMI of at least 35 kg/m² and 40.6% had a BMI of at least 40 kg/m². Median operative time was 96 minutes, median console time was 79.5 minutes, and median estimated blood loss was 159.5 mL. Robotic surgery consisted of hysterectomy-based procedures with individualised nodal assessment according to disease profile. Median operative time was 96 minutes,

median console time was 79.5 minutes, and median estimated blood loss was 159.5 mL. No clearly documented postoperative complications were identified in the available dataset.

Conclusions

Robotic surgery appears to be a feasible approach for endometrial cancer and premalignant endometrial pathology in obese patients. Acceptable operative times and limited blood loss support the role of robotics in this technically challenging population.

ID 99

ROBOTIC INTRAOPERATIVE ULTRASOUND AND INDOCYANINE GREEN FLOURESCENCE GUIDED CERVICAL MYOMECTOMY WITH PROPHYLACTIC TRANSABDOMINAL CERCLAGE: CASE REPORT

K.A. Gutierrez , E.J. Ocampo
Department of Obstetrics and Gynaecology, Section of Minimally Invasive Gynaecological Surgery and Robotic Surgery, St. Luke's Medical Centre, Global City, Taguig City, Philippines

Background

We report the case of a 43-year-old nulligravid woman with a large cervical myoma who desired fertility preservation. Magnetic resonance imaging revealed a 6-cm anterior cervical myoma extending into the lower uterine segment. The patient underwent robotic-assisted cervical myomectomy combined with prophylactic transabdominal cerclage (PTC), utilizing robotic intraoperative ultrasound (RIOUS) and indocyanine green (ICG) fluorescence guidance.

The integration of robotic technology with RIOUS and ICG fluorescence enabled real-time visualisation of tumour margins, vascular structures, and adjacent critical anatomy, thereby facilitating precise dissection and enhancing intraoperative decision-making, safety, and efficiency. The procedure was completed successfully with minimal blood loss and no intraoperative or postoperative complications.

Methods

The patient underwent first reported case in the Philippines of robotic-assisted cervical myomectomy combined with prophylactic transabdominal cerclage using both RIOUS and ICG fluorescence guidance in a fertility-desiring patient.

Results

The patient had an uncomplicated postoperative course and was discharged on postoperative day 2. Histopathology confirmed leiomyoma. Follow-up imaging demonstrated a reconstructed cervix with intact endocervical canal and findings consistent with successful cervical reconstruction.

Conclusions

The integration of robotic surgery with RIOUS and ICG fluorescence enhances operative precision and safety during complex cervical myomectomy. The addition of prophylactic transabdominal cerclage offers a fertility-preserving strategy in patients at risk of cervical insufficiency.

This combined approach may improve surgical confidence, particularly for complex cases involving distorted pelvic anatomy.

ID 102

ROBOTIC UTERINE-SPARING SURGERY FOR FIBROIDS AND ADENOMYOSIS

Manu Andrei[1,2], Coreluca Bogdan Catalin[1], Coreluca Ciprian Andrei[1], Hashemi Anca[3], Iacob Cristina[3], Banu Arina[3], Bratila Elvira[1]
[1] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania
[2] PhD Student, "Carol Davila" University of Medicine and Pharmacy Doctoral School, Bucharest, Romania
[3] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", Bucharest, Romania

Aim

To evaluate the feasibility and perioperative outcomes of robotic uterine-sparing surgery for symptomatic fibroids and adenomyosis in a tertiary referral centre.

Methods

We performed a retrospective analysis of robotic uterine-sparing procedures for benign uterine disease. Cases included robotic myomectomy and robotic adenomyomectomy, with or without associated conservative procedures for concomitant pelvic pathology. Demographic characteristics, operative time, console time, estimated blood loss, and postoperative morbidity were assessed.

Results

A total of 76 robotic uterine-sparing procedures were identified. Median age was 36 years and median BMI was 23.8 kg/m^2. Robotic myomectomy represented the majority of procedures, while robotic adenomyomectomy accounted for a smaller but clinically relevant subgroup.

Concomitant endometriosis was present in 40.8% of cases, highlighting the complexity of this surgical population. Median operative time was 94 minutes, median console time was 78.5 min., and median estimated blood loss was 300 mL. No postoperative complications were recorded in the analysed cohort.

Conclusions

Robotic uterine-sparing surgery for fibroids and adenomyosis appears to be a feasible and safe approach, even in patients with associated complex pelvic pathology. The combination of acceptable operative times, controlled blood loss, and very low perioperative morbidity supports the role of robotics in conservative uterine surgery for carefully selected patients.

ID 103

ROBOTIC REPAIR OF VESICOVAGINAL FISTULA: INITIAL EXPERIENCE AND SURGICAL TECHNIQUE

A. Benická[1], P. Dzvinčuk[1], R. Pilka[1], I. Hartmann[2], J. Klát[1]
[1] Department of Obstetrics and Gynaecology, University Hospital Olomouc, Olomouc, CZ
[2] Department of Urology, University Hospital Olomouc, Olomouc, CZ

Background

Vesicovaginal fistula (VVF) is a serious complication of gynaecological surgery and significantly affects patient's quality of life. A robot-assisted approach allows better visualisation of the surgical field and more precise dissection. The aim is to present our first series of patients and the main principles of robotic repair at our hospital.

Methods

Between 2023 and 2026, 9 patients with VVF underwent robotic surgery. In one case, a combined recurrent VVF with a left ureterovaginal component was present. All procedures were done together with the urology team. Fistulas developed after laparoscopically assisted vaginal hysterectomy (4 cases), total laparoscopic hysterectomy (4 cases), and excision of protruded transvaginal mesh (1 case). The standard surgical technique included identifying the fistula, excision of fistula, vaginal wall reconstruction, interposition of a peritoneal flap, and two-layer closure of the urinary bladder.

Results

Median patient age was 50 years (range 30–74). Median operative time was 154 minutes, and estimated blood loss did not exceed 100 ml. One perioperative complication occurred (iatrogenic bilateral ureteral injury). One patient required reoperation for persistent fistula. After treatment, all patients were without recurrence.

Conclusions

Based on our initial experience, robotic repair of vesicovaginal fistula is a technically feasible and safe method with a high success rate. The robotic approach allows precise dissection and reliable reconstruction and may represent a suitable alternative to open or conventional laparoscopic approaches.

ID 104

FROM HYSTERECTOMY TO RECONSTRUCTION: FIRST ROBOTIC UTERO-VAGINAL ANASTOMOSIS FOR CONGENITAL CERVICAL MALFORMATIONS

A. Naldini[1], Angelucci C.[1,2], U. Catena[1], F. Pozzati[1], B. Gui[3], F. Fanfani[1]
[1] Gynaecological Oncology Unit, Department of Women's, Children's, and Public Health Sciences, Agostino Gemelli University Hospital Foundation, Rome, Italy; Catholic University of the Sacred Heart, Rome, Italy
[2] Gynaecological and Obstetric Clinic, Department of Medicine, Surgery and Pharmacy, University of Sassari, Sassari, Italy
[3] Department of Diagnostic Imaging, Radiation Oncology and Hematology, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy

Background

Congenital cervical malformations are among the rarest and most challenging Müllerian anomalies, typically presenting with obstructed menstrual flow, severe pelvic pain, and compromised reproductive potential. For decades, these patients were often relegated to hysterectomy or unsuccessful attempts at cervical canalisation, with definitive loss of fertility.

More recently, uterovaginal anastomosis has emerged as a conservative alternative in highly selected cases; however, experience remains extremely limited and restricted to non-robotic approaches. In the era of advanced robotic surgery, reconstructive options may be redefined. To date, no robotic-assisted uterovaginal anastomosis has been reported. We present the first robotic experience, demonstrating the feasibility of a minimally invasive, fertility-sparing approach in this complex setting.

Methods

Two consecutive patients with congenital cervical malformations were treated at a tertiary referral center over a two-year period. Both underwent robotic uterovaginal anastomosis: one with the Da Vinci platform and one with the Toumai system.

The procedure consisted of precise identification of the uterine cavity, meticulous dissection of the vaginal apex, and construction of a tension-free, well-vascularised anastomosis between the uterine corpus and the vagina under enhanced 3D visualisation. Perioperative outcomes and short-term functional results were prospectively evaluated. Follow-up included clinical assessment and office hysteroscopy at 1 and 3 months.

Results

Robotic reconstruction was successfully achieved in both cases without conversion or intraoperative complications. No major postoperative complications occurred. Hospital stay was limited to 3 and 4 days. Both patients experienced immediate restoration of menstrual outflow with complete resolution of obstructive symptoms. Importantly, both resumed satisfactory sexual activity. Hysteroscopic evaluation at 1 and 3 months confirmed a patent uterine cavity and a stable, well-functioning utero-vaginal anastomosis.

Conclusions

This initial experience suggests that robotic-assisted uterovaginal anastomosis is not only feasible but may represent a paradigm shift in the management of congenital cervical malformations. Procedures once considered incompatible with fertility preservation can now be approached with precision, minimal invasiveness, and functional success. In expert tertiary centers, robotic technology enables complex reconstructive surgery that challenges the historical

indication for hysterectomy in these young patients. To our knowledge, this is the first report of robotic uterovaginal anastomosis. Larger studies and longer follow-up are required to confirm durability and reproductive outcomes.

ID 105

ROBOT-ASSISTED LAPAROSCOPIC PERITONEAL RESECTION AND ADHESIOLYSIS DURING ENDOMETRIOSIS SURGE

JW Moon, YS. Cheon, MJ. Song
Department of Obstetrics and Gynaecology, Yeouido St. Mary's Hospital, College of Medicine, The Catholic University of Korea

Background

A 49-year-old female patient visited the outpatient clinic complaining of severe pelvic pain unresponsive to analgesics and a pulling sensation around the anus. The patient had a history of laparoscopic ovarian cystectomy in 2023 for a right ovary endometriotic cyst and daily use of dienogest 2 mg. A pelvic MRI showed deep infiltrative endometriosis in the pelvic peritoneum, along with severe adhesions of the rectum and sigmoid colon to the peritoneum and the left posterior wall of the uterus.

Methods

The patient underwent robot-assisted laparoscopic surgery. In the surgical field, the adhesions of the rectum and sigmoid colon caused by deep infiltrative endometriosis were dissected, and the completely obliterated posterior cul de sac was dissected.

Additionally, the pelvic peritoneum invaded by deep infiltrative endometriosis was removed, and the uterosacral ligament, which was strained due to the invasion, was released. After the surgery, a gel-type anti-adhesion agent was applied to the site of the peritoneum removal. The patient's pelvic pain and pulling sensation around the anus resolved after the surgery, and she is currently managing without medication.

Results

In cases of endometriosis where adhesions are severe, particularly when the posterior cul de sac is completely obstructed, patients often complain of pelvic pain that does not respond to medication and a pulling sensation around the anus. For these patients, performing surgery to lysis of adhesions and remove the peritoneum invaded by deep endometriosis can help alleviate their symptoms.

Conclusions

Robot-assisted laparoscopic surgery has the advantage of reducing organ damage and intraoperative bleeding because it allows for the observation of the subperitoneal soft tissues invaded by endometriosis through a three-dimensional view and the identification of the boundaries between different adhered organs.

ID 107

ROBOTIC EXTRAPERITONEAL PARAAORTIC DEBULKING IN RELAPSED ENDOMETRIAL CARCINOMA

M. Gracia, I. Pellicer, I. Zapardiel
Gynecological Oncology Department. La Paz University Hospital

Background

A 65-year-old woman was diagnosed in 2024 with serous endometrial carcinoma (p53-abnormal), FIGO 2023 stage IIIA1. Primary surgical management consisted of robotic total hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic sentinel lymph node biopsy, and omentectomy. Postoperatively, the patient received adjuvant treatment with six cycles of carboplatin–paclitaxel chemotherapy, followed by pelvic external beam radiotherapy and vaginal brachytherapy.

During routine follow-up, imaging studies performed in December 2025 revealed an isolated paraaortic nodal recurrence, consisting of two left paraaortic lymph nodes measuring less than 1 cm. After multidisciplinary tumor board discussion, the patient was proposed for extraperitoneal paraaortic lymph node debulking by robotic approach.

Methods

This video demonstrates a left paraaortic lymph node debulking performed via extraperitoneal by robotic approach using the da Vinci Xi surgical system. The procedure began with an initial transperitoneal exploration through an 8-mm umbilical trocar to exclude peritoneal carcinomatosis or additional disease.

Subsequently, an extraperitoneal access to the left paraaortic region was established. Three 8-mm robotic trocars and one accessory 8-mm trocar were placed under direct vision. The retroperitoneal space was developed to expose key anatomical landmarks, including the psoas muscle, ureter, and major vascular structures (aorta and inferior vena cava). Careful dissection allowed identification and complete removal of the pathological lymph nodes while preserving surrounding structures.

The procedure emphasises meticulous retroperitoneal dissection, precise vascular control, and the advantages of robotic articulation in confined anatomical spaces.

Results

The surgery was completed successfully using a fully robotic extraperitoneal approach without intraoperative complications. Total operative time was 55 minutes, with minimal estimated blood loss. No conversion to laparotomy was required. The postoperative course was uneventful, and the patient was discharged on postoperative day 1. Final histopathological analysis confirmed metastatic involvement of two of the four resected paraaortic lymph nodes. At the time of reporting, the patient remains under oncological

follow-up, and further adjuvant management is being considered based on multidisciplinary evaluation.

Conclusions

Robotic extraperitoneal paraaortic lymph node debulking is a safe and feasible minimally invasive approach in selected patients with isolated nodal recurrence of endometrial cancer. This technique provides excellent exposure of the paraaortic region while avoiding intraperitoneal adhesions and reducing bowel manipulation.

The enhanced dexterity and visualization offered by robotic platforms may facilitate precise dissection in challenging anatomical areas, potentially improving surgical outcomes. This approach represents a valuable option in the multimodal management of nodal recurrences in gynecological oncology.

ID 109

ROBOTIC SURGERY IN SUPER MORBIDLY OBESE WOMEN (BMI ≥50) WITH GYNAECOLOGICAL CANCER: FEASIBILITY AND PERIOPERATIVE OUTCOMES – THE CHRISTIE EXPERIENCE

Amelia Mangroo, Meghna Datta, Helen Clarke, Samurddhi Tillekeratne, Suhasini Wakhloo, Rebecca Faulkner, Alice M Schofield, Richard Slade, Bridget DeCruze, Brett Winter-Roach, Eva Myriokefalitaki
The Christie NHS Foundation Trust, Manchester, United Kingdom

Background

Women with super morbid obesity (BMI ≥50) undergoing surgery for gynaecological malignancy represent a particularly high-risk cohort due to increased perioperative morbidity, anaesthetic complexity, wound complications, venous thromboembolism, prolonged hospital stay, and higher rates of conversion to laparotomy. Robotic assisted minimally invasive surgery may offer advantages in this population through improved ergonomics, enhanced visualisation, and reduced surgical morbidity. However, evidence evaluating robotic surgery in women with extreme obesity remains limited.

Aim

To evaluate the feasibility and perioperative outcomes of robotic surgery in women with super morbid obesity (BMI ≥50) undergoing surgical management for gynaecological malignancy at a high-volume tertiary gynaecological oncology centre.

Methods

A retrospective subgroup analysis was performed of women with BMI ≥50 undergoing robotic surgery for gynaecological malignancy at The Christie NHS Foundation Trust between January 2020 and December 2024. Patient demographics, peri-operative characteristics, surgical procedures, and postoperative outcomes were reviewed. Postoperative complications were classified according to the Clavien–Dindo grading system.

Results

Fifty-one women with super morbid obesity underwent robotic surgery during the study period. Mean age was 57.6 years (range 50–70) and mean BMI was 54.3 kg/m² (range 50–70). Significant comorbidity burden was observed, with 27% of patients having diabetes mellitus, 35.3% chronic respiratory disease, and 90% classified as ASA grade III.

Most patients underwent robotic hysterectomy with bilateral salpingo-oophorectomy, with additional procedures including omentectomy and sentinel lymph node biopsy where indicated. Among patients with intermediate- and high-risk pathology, 78% successfully underwent nodal staging.

Robotic surgery was successfully completed in 98% of cases, with only one conversion to laparotomy (2%). Mean length of hospital stay was 2 days. No grade IV–V postoperative complications or perioperative mortality were observed. One grade IIIb complication occurred (hernia on specimen retrieval site). Thirty-day readmission rate was 11.8%.

Conclusions

Robotic surgery appears feasible and safe in carefully selected women with super morbid obesity undergoing treatment for gynaecological malignancy within experienced high-volume tertiary centres. Despite substantial comorbidity burden, robotic surgery demonstrated high completion rates, short hospital stays, low severe complication rates, and acceptable perioperative outcomes. These findings support the role of robotic assisted minimally invasive surgery in managing this increasingly complex patient population and highlight the importance of specialised multidisciplinary perioperative care within tertiary gynaecological oncology units.

ID 110

ROBOTIC-ASSISTED LAPAROSCOPY WITH SIMULTANEOUS HYSTEROSCOPY FOR TREATMENT OF UTERINE ISTHMOCELE: A RETROSPECTIVE STUDY

A. Hochstrasser, M. Mueller, R. Rothmund, C. Tsaousidis
Department of Gynaecology and Obstetrics, Frauenzentrum Bern, Lindenhofspital AG, Bern, Switzerland

Background

Uterine isthmoceles are a frequent complication after caesarean sections and may lead to symptoms such as abnormal uterine bleeding, pelvic pain or secondary infertility in a significant number of patients. Various surgical techniques for treating this myometrial defect have been established (vaginal approach, hysteroscopic resection and laparoscopic procedures).

The robotic-assisted laparoscopy has emerged as a promising minimally invasive technique, which can be combined with a simultaneous hysteroscopy to enhance visualisation and diagnostic findings with limited data on this combined approach.

Objective

We aim to evaluate the safety of robotic-assisted laparoscopic isthmocele-repair with simultaneous hysteroscopy, as well as the efficacy in improving clinical symptoms and fertility outcomes.

Methods

In this retrospective, monocentric observational cohort study we included every robotic-assisted uterine isthmocele repair with simultaneous hysteroscopy performed between 1. January 2025 until 31. March 2026. We analysed the cases of 7 patients who were referred to our department due to secondary infertility with or without accompanying symptoms such as pelvic pain. We examined patient characteristics such as symptoms, body mass index (BMI), preoperative residual myometrial thickness (RMT), as well as operation time, intra- and postoperative complications and duration of hospitalisation.

Results

All patients were referred to our department due to secondary. In our patient cohort, the patients were isthmocele was referred due to secondary infertility (100 %), to pelvic pain (28.6 %), or abnormal uterine bleeding (42.9 %). The mean preoperative RMT was 2.4 mm (range 1.5 - 4.2 mm). There were no intraoperative and postoperative complications (0 %) and hospitalisation time was a mean duration of 1.43 days (range 1 - 2 days). Outcome regarding postoperative symptoms showed residual symptoms in 1 patient with abnormal uterine bleeding. Data regarding subsequent pregnancies is limited due to the short follow-up time in this cohort with only 3 patients having had the surgery performed over 6 months ago. 1 of those 3 patients (33.3%) conceived post operatively.

Conclusions

Robot-assisted repair of an isthmocele with simultaneous hysteroscopy is a safe procedure that allows excellent visualisation to refine the minimal invasive approach. We found comparatively few peri- and postoperative complications in our cohort with a short operation time as well as a comparatively short duration of hospitalisation. We conclude that this technique is a promising approach for targeted and minimally invasive uterine isthmocele.

ID 111

TOUMAI®: A NOVEL ROBOTIC TECHNIQUE FOR UTEROVAGINAL RECONSTRUCTION IN COMPLEX MÜLLERIAN APLASIA, FIRST CAS

A. Naldini[1], C. Angelucci[1,2], U. Catena[1], F. Pozzati[1], B. Gui[3], F. Fanfani[1]
[1] Gynaecological Oncology Unit, Department of Women's, Children's and Public Health Sciences, Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy
[2] Gynaecological and Obstetric Clinic, Department of Medicine, Surgery and Pharmacy, University of Sassari, Sassari, Italy
[3] Fondazione Policlinico Universitario A. Gemelli IRCCS, Unit of General and Interventional Radiology, Diagnostic Imaging Area, Department of Diagnostic Imaging, Radiation Oncology and Hematology, Rome, Italy

Background

We present the case of a 28-year-old woman who presented to the emergency department with abdominal pain and a strong desire for pregnancy.She is affected by a complex Müllerian malformation characterized by cervical aplasia, aplasia of the upper third of the vagina, and asymmetric uterine anomalies. The patient was undergoing medical therapy with Decapeptyl. Initial ultrasound evaluation showed both ovaries in situ: the right ovary was at the upper limit of normal size with a polycystic ovary-like appearance, while the left ovary appeared cranialized with reduced follicular activity. Imaging identified two uterine buds.

The left hemiuterus, larger in size, demonstrated a hyperechoic endometrial signal (4.2 mm), confirming the presence of an endometrial cavity. The right uterine structure was smaller and lacked a clear endometrial signal. No communication between the uterine structures and the vagina was detected, although the vagina appeared regular, patent, and approximately 8 cm long. Renal anatomy was normal.

Gynaecological examination confirmed normal external genitalia and a regular, patent vagina, with no indication for dilation therapy. Further diagnostic workup established the diagnosis of cervical dysgenesis with aplasia of the upper third of the vagina and a left aplastic uterus with a rudimentary cavity not communicating with the vagina (ESHRE/ESGE classification U5a), associated with a right uterine horn without endometrial signal.

Methods

Considering the patient's symptoms, anatomical complexity, and reproductive goals, a robot-assisted surgical approach was planned. The procedure, performed under general anesthesia, included examination under anesthesia, hysteroscopy, and robotic surgery using the Toumai platform. Surgical steps involved removal of the rudimentary right uterine horn with the ipsilateral fallopian tube, resection of the aplastic upper vaginal segment, and a key reconstructive step: uterovaginal anastomosis between the functional left uterine cavity and the vagina. A Foley catheter (Ch 6) was placed at the end of the procedure to maintain patency and prevent collapse of the anastomosis.

Results

The surgery was completed without intraoperative complications. The robotic approach allowed precise dissection, enhanced visualization of pelvic anatomy, and accurate suturing, all essential in complex reconstructions. The postoperative course was uneventful. At first hysteroscopic follow-up, the Foley catheter was removed, and a second evaluation 10 days later showed no complications.

Conclusions

This case highlights the importance of a multidisciplinary approach in managing rare Müllerian anomalies and supports the role of robot-assisted surgery in treating cervical aplasia. Uterovaginal

anastomosis may represent a conservative option to restore menstrual outflow and potentially fertility in selected patients.

ID 112

A REPRODUCIBLE TRACTION STRATEGY USING GAUZE AND NEEDLE IN SINGLE-PORT(SP) ROBOT MYOMECTOMY

Ha Kyun Chang, Taekyung Lee, So Yun Park, Hye-Sung Moon
Ewha Womans University Seoul Hospital, Seoul, South Korea

Background

Single-port (SP) robotic surgery offers excellent cosmetic outcomes with virtually scarless surgery for patients. However, due to limited instrument triangulation and the absence of dedicated traction devices, achieving adequate and powerful traction remains a technical challenge.

Objective

To demonstrate a simple and reproducible traction technique using gauze and needle during SP robot myomectomy.

Methods

We present a video of a patient undergoing SP robot myomectomy. A gauze-assisted traction method combined with needle anchoring was applied to optimize exposure of the myoma and facilitate dissection.

Results

The technique allowed stable traction and improved visualization of the dissection plane. Myoma enucleation was completed efficiently without complications, and hemostasis was effectively achieved.

Conclusions

The gauze and needle-assisted traction technique is a simple, safe, and reproducible method that enhances surgical efficiency in SP robot myomectomy.

ID 113

ROBOT ASSISTED PELVIC CYTOREDUCTION IN OVARIAN CANCER

R. Joshi
Department of Gynae Oncology, Fortis Memorial Research Institute, Gurugram, India

Background

Surgical cytoreduction is the cornerstone the management of ovarian cancer; however, achieving optimal debulking through minimal access surgery remains technically challenging.

Robotic-assisted techniques offer a minimally invasive alternative in selected patients. This video demonstrates robotic pelvic cytoreduction in ovarian cancer precisely using the da Vinci Xi system, following oncological principles.

Methods

Key steps include precise dissection techniques highlighted for pelvic disease clearance. En-bloc excision of the ovarian tumour performed with the involved uterus, pelvic peritoneum including bladder surface peritoneum and contralateral adnexa, all removed as a single specimen. Frozen section reported High Grade Serous Cancer Ovary.

Results

Received adjuvant Chemotherapy of Cisplatin Paclitaxel for final stage II High grade Serous Carcinoma Ovary. She is NED on last follow-up at 2 years.

Conclusions

The robotic platform enables enhanced visualization and dexterity, facilitating meticulous tumour debulking while minimizing blood loss. This approach appears feasible and safe in selected cases, offering potential benefits of reduced perioperative morbidity without compromising oncological outcomes.

ID 114

COMPARATIVE PERIOPERATIVE OUTCOMES OF HUGO™ RAS VERSUS DA VINCI® XI IN ENDOMETRIAL CANCER SURGERY: A PROPENSITY SCORE–MATCHED ANALYSIS

S. Mastrovito, E. Perrone, A. Rosati, R. Oliva, D. Arrigo, S. Russo De Lucia, G. Lancellotti, A. Fagotti, F. Fanfani
Department of Women's and Children's Health, Complex Unit of Gynaecological Oncology, Fondazione Policlinico Universitario A. Gemelli IRCCS. Catholic University of Sacred Heart, Rome, Italy

Background

Robotic-assisted surgery (RAS) is widely adopted for the management of endometrial cancer (EC). Although several robotic platforms are now available, comparative evidence between systems remains limited. The Hugo™ RAS system (Medtronic Inc.) is a novel platform characterised by indipendent arms and open console.

Preliminary data suggests promising results, but direct comparisons with the established Da Vinci® Xi (Intuitive Surgical, Inc) system are lacking. This study aimed to compare perioperative outcomes of EC staging procedures performed with Hugo™ RAS versus Da Vinci® Xi, after adjusting for baseline and procedural heterogeneity.

Methods

Data from prospectively collected Hugo™ RAS cases was compared with a retrospective cohort of Da Vinci® Xi procedures. To minimise selection bias, a 1:1 propensity score matching was applied based on age, body mass index, surgical indication, and nodal staging.

Covariate balance was evaluated using standardised mean differences (SMD <0.1 acceptable). Continuous variables were compared using the Mann–Whitney U test, and categorical variables using the χ^2 or Fisher's exact test. Statistical significance was defined as $p<0.05$.

Results

In the unmatched cohort (Hugo n=60; Da Vinci n=146), the DaVinci group showed higher BMI (34.9 vs 25.0 kg/m², p<0.001) and more frequent pelvic lymphadenectomy (26% vs 1.7%, p<0.001), with longer operative times (153 vs 133.5 min, p=0.02). In the matched analysis, median OT did not differ significantly between the Hugo™ RAS and Da Vinci® groups (135 vs 148 minutes, p=0.90). Estimated blood loss remained superimposable after matching, with a median of 50 mL in both cohorts.

Conversion to laparotomy occurred in one patient per group, corresponding to a rate of 2.9%, which was consistent before and after matching. Only one intraoperative complication occurred, consisting of a bowel injury in the Da Vinci® cohort that was repaired intraoperatively, while no intraoperative complications were observed in the Hugo™ RAS group (0% vs 2.9%, p=0.31). Postoperative complications were infrequent and comparable, with two cases in the Hugo™ cohort (5.9%) and one case in the Da Vinci® cohort (2.9%, p=0.35). Overall, after PSM, perioperative outcomes between the two robotic platforms appeared comparable.

Conclusions

This is the first matched comparison between the Hugo™ RAS and Da Vinci® Xi systems in EC staging. After adjustment, both platforms demonstrated equivalent safety profiles and perioperative outcomes. These findings suggest that Hugo™ RAS represents a safe and effective alternative for EC staging, and that surgeons experienced with Da Vinci® technology may achieve a seamless transition to the new platform.

ID 115

ROBOTIC SINGLE-PORT HYSTERECTOMY: INITIAL OUTCOMES FROM A CONSECUTIVE CASE SERIES

G Sidoti[1], G Carlo[2], L Nelva Stellio[3], C Quatrale[3], L Calzolari[3], F Ottolini[3], F Spelzini[3]

[1] Unit of Gynaecology and Obstetrics, Department of Human Pathology in Adulthood and Childhood "G. Martino" , University of Messina, Italy

[2] Department of Obstetrics and Gynaecology, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; School of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy

[3] Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background/Aim

Hysterectomy represents a cornerstone procedure in gynaecological surgery and constitutes the standard treatment for a wide range of conditions, both benign and malignant. In this context, the evolution of minimally invasive techniques has led to the development of robot-assisted single-port surgery.

The present study aims to analyse perioperative and short-term outcomes of robot-assisted laparoscopic hysterectomy performed using the Da Vinci® SP system, in order to assess its feasibility and effectiveness in clinical practice.

Methods

A monocentric observational study was conducted, including all patients who underwent robot-assisted laparoscopic hysterectomy with the da Vinci® SP system between May 2025 and February 2026 in Grande Ospedale Metropolitano Niguarda. For each patient, demographic and clinical data, as well as key intraoperative and postoperative parameters, were collected. Continuous variables are expressed as the median of individual values. Postoperative complications were assessed based on emergency department visits and reports from post-discharge follow-up evaluations.

Results

A total of 36 patients were included. The median age was 46 years and the median BMI was 23.6 kg/m². Surgical indications included 26 cases of benign disease and 10 cases of premalignant or malignant pathology. During surgery, the use of an accessory trocar (a second laparoscopic access) was required in 11 cases, whereas in 25 procedures hysterectomy was completed using a single-port approach exclusively.

The median operative time was 180 minutes and median estimated blood loss was 100 cc. Only one procedure required conversion to laparotomy. One intraoperative complication occurred, consisting of a right ureteral injury. The mean postoperative length of stay was 3 days. Postoperative follow-up data are currently available for 31 patients: among these, 5 minor complications were reported, including transient bladder atony, 1 episode of postoperative anemia requiring blood transfusion, and umbilical cutaneous dehiscence.

Conclusions

In our experience, single-port robot-assisted laparoscopic hysterectomy proved to be a feasible and generally safe technique, with a low conversion rate and a reduced incidence of major complications. Preliminary results suggest that this approach may represent a valid minimally invasive alternative to conventional multiport laparoscopy in selected patients. Larger studies with longer follow-up are needed to confirm the potential advantages of this technique.

ID 116

ROBOT-ASSISTED SINGLE-PORT BURCH COLPOSUSPENSION FOR STRESS URINARY INCONTINENCE: A FEASIBILITY AND EARLY OUTCOMES STUDY

E. Burello[1], M. Cei[2], L. Nelva Stellio[3], C. Quatrale[3], L. Calzolari[3], F. Ottolini[3], F Spelzini[3]

[1] Department of Obstetrics and Gynaecology, Vittore Buzzi Children's Hospital, ASST Fatebenefratelli-Sacco, Milan, Italy; Department of Biomedical and Clinical Sciences "L. Sacco", University of Milan, Milan, Italy

[2] Department of Obstetrics and Gynaecology, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; School of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy

[3] Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background

Stress urinary incontinence (SUI) is common in urogynaecology and significantly affects quality of life. Mid-urethral slings are the most frequent treatment, but non-prosthetic alternatives are needed in cases of sling failure or contraindications to synthetic materials.

Burch colposuspension is a well-established technique with favorable long-term outcomes. Robotic surgery, particularly the Da Vinci Single-Port System, allows complex pelvic procedures through a single access. This study evaluates the safety, feasibility, and functional efficacy of single-port robotic Burch colposuspension.

Methods

We conducted a retrospective analysis of 10 consecutive patients who underwent single-port robotic Burch colposuspension at Grande Ospedale Metropolitano Niguarda between May 2025 and February 2026.

Demographic, clinical, and perioperative data were collected, including operative time, robotic docking time, estimated blood loss, Clavien–Dindo complications, and hospital stay. Functional outcomes were assessed using the International Consultation on Incontinence Questionnaire–Short Form (ICI-SF) pre- and postoperatively and patient-reported improvement via the Patient Global Impression of Improvement (PGI-I). Paired pre- and postoperative ICI-SF scores were compared using the Wilcoxon signed-rank test. Percentage reduction, effect size (r), and 95% confidence intervals (CI) were calculated.

Results

Mean age was 53 ± 7 years, mean BMI 28 ± 3 kg/m². Mean operative time was 126 ± 18 minutes, docking time 15 ± 4 minutes. Blood loss was minimal (<50 mL), with no conversions to laparotomy and no major complications.

Median hospital stay was 2 days. At a median follow-up of 3 months, mean ICI-SF score improved significantly from 17 ± 3.2 to 3 ± 2.1, with a mean reduction of 82% ($p < 0.01$; $r \approx 0.80$; 95% CI 72–92%). Ninety percent of patients reported significant clinical improvement on PGI-I.

Conclusions

Single-port robotic Burch colposuspension is safe, feasible, and effective for treating SUI. The single-port approach offers minimally invasive access while maintaining robotic precision, representing a valid alternative in cases of sling failure or contraindications to prosthetic materials. Prospective studies with larger cohorts and longer follow-up are needed to confirm these findings.

ID 117

MODIFIED DOCKING CONFIGURATION FOR THE HUGO™ RAS SYSTEM IN GYNAECOLOGICAL ONCOLOGY: A SINGLE-SETUP STRATEGY FOR PELVIC AND LUMBOAORTIC PROCEDURES

S. Mastrovito, A. Rosati, E. Perrone, R. Oliva, A. Fagotti, F. Fanfani
[1] Department of Women's and Children's Health, Complex Unit of Gynaecological Oncology, Fondazione Policlinico Universitario A. Gemelli IRCCS. Catholic University of Sacred Heart, Rome, Italy

Background

The Hugo™ robotic-assisted surgery (RAS) system is a modular robotic platform with independent arm carts that enable multiple docking configurations. In gynaecological surgery, a standardised docking using the published "Bridge" port placement and "Compact" configuration has been described and validated for pelvic procedures. However, the extensive experience gained with the system since its release, the introduction of advanced energy devices (LigaSure™ RAS) and indocyanine green (ICG), has expanded robotic gynaecological oncology to complex multi-quadrant procedures such as lumboaortic lymphadenectomy and upper abdominal staging.

In these procedures, the conventional configuration may limit instrument reach and increase arm collisions, potentially requiring redocking. We aimed to develop and clinically validate a modified docking configuration to improve access to both pelvic and upper abdominal targets without need for redocking avoiding collisions.

Methods

We designed a modified docking based on progressive adjustments of arm tilt and trocar positioning. The tilt angles of robotic arms 2 and 3 were increased from –45° to –15°, expanding their cranial range of motion and facilitating access to the para-aortic region. Trocar placement was adapted accordingly, with the trocars for arms 1 to 3 placed on the transumbilical line and the trocar for arm 4 positioned more cranially to allow bowel retraction during upper abdominal dissection.

A second variant was also developed, placing the trocar for arm 3 slightly below the umbilical line, which improves perpendicular access to pelvic structures in procedures including sentinel lymph node mapping or pelvic lymphadenectomy, where the third arm is commonly used for LigaSure or monopolar shears. This docking strategy was applied in a consecutive cohort of 80 procedures, including 20 cases requiring upper abdominal surgery with lumboaortic lymphadenectomy. Feasibility, need for redocking, and intraoperative workflow were assessed.

Results

The modified docking configuration was successfully implemented in all cases. Adequate instrument reach to the upper abdomen was consistently achieved, allowing completion of procedures without the need for robotic redocking. Across the cohort, the modified setup reduced external arm interference and maintained a smooth

operative workflow. No docking-related conversions or major technical limitations were observed.

Conclusions

A modified Hugo RAS docking configuration with increased arm tilt and adjusted trocar placement enables safe and efficient performance of multi-quadrant gynaecological oncology procedures, including lumboaortic lymphadenectomy, without redocking. The proposed setup preserves optimal pelvic access while extending reach to the upper abdomen and may represent a practical standardised configuration for complex robotic gynaecological surgery.

ID 118

SINGLE PORT ROBOTIC-ASSISTED MYOMECTOMY: SURGICAL OUTCOMES AND EARLY PATIENT-REPORTED SATISFACTION

M Cei[1], F Carlucci[1], L Nelva Stellio[2], C Quatrale[2], L Calzolari[2], F Ottolini[2], F Spelzini[2]

[1] Department of Obstetrics and Gynaecology, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; School of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy

[2] Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Objective

Myomectomy is the gold standard conservative surgical treatment for symptomatic uterine fibroids in women desiring fertility preservation. The introduction of next-generation robotic platforms has enabled complex procedures to be performed through a single incision. The Single Port (SP) robotic system combines the advantages of robotic surgery with enhanced minimally invasive access. The aim of this study was to evaluate feasibility, safety, perioperative outcomes, and patient-reported outcomes following SP robotic-assisted myomectomy.

Methods

A retrospective analysis was conducted on the first 19 consecutive patients undergoing SP robotic-assisted myomectomy at Grande Ospedale Metropolitano Niguarda between 2025 and 2026. Collected data included demographic characteristics, fibroid features (number, size, and location), operative time, estimated blood loss (EBL), hemoglobin variation, length of hospital stay, need for additional trocars, conversion rate, intra- and postoperative complications, surgical site infections (SSI), transfusion requirement, and patient-reported outcomes. Pre- and postoperative symptoms (pelvic pain and abnormal uterine bleeding) were compared. Patient satisfaction was assessed using a 5-point Likert scale (CSAT).

Results

Mean age was 36.8 ± 7.2 years and mean BMI was 21.4 ± 3.3 kg/m². Mean operative time was 162.6 ± 56.5 minutes, with mean EBL of 315.6 ± 408.1 mL. Fibroid size ranged from 4 to 12 cm (mean 7.2 ± 2.4 cm), predominantly intramural and subserosal, with selected cases of multiple fibroids. Mean hemoglobin decreased from 12.9 g/dL preoperatively to 11.3 g/dL at discharge. Mean length of stay was 2.8 ± 0.8 days. An additional trocar was required in 47% of cases. No conversions to laparotomy were recorded. No intraoperative or major postoperative complications and no surgical site infections occurred; two patients required blood transfusion. A significant postoperative improvement in pelvic pain and abnormal uterine bleeding was observed. Patient satisfaction was high, with a mean CSAT score of 4.7 ± 0.6.

Conclusions

SP robotic-assisted myomectomy appears to be a feasible and safe minimally invasive approach, even for large or complex fibroids. It is associated with favorable perioperative outcomes, low morbidity, significant symptom improvement, and high patient satisfaction. Larger prospective studies with longer follow-up are warranted to confirm these findings and define its role in clinical practice.

ID 119

ROBOTIC-INTEGRATED DROP-IN VERSUS LAPAROSCOPIC AND ENDOVAGINAL ULTRASOUND PROBES IN ROBOTIC GYNAECOLOGICAL PROCEDURES: A COMPARATIVE CASE SERIES

E. Ocampo

Section of Minimally Invasive Gynaecological Surgery and Robotic Surgery, Department of Obstetrics and Gynaecology

Objective

To compare robotic drop-in, laparoscopic, and endovaginal intraoperative ultrasound (IOUS) probes used in robotic-assisted gynaecological surgery, focusing on surgeon control, maneuverability, workflow integration and clinical utility.

Methods

This retrospective case series included 13 consecutive patients who underwent robotic IOUS–guided gynecologic surgery between January 2025 and January 2026 at a single tertiary center. All procedures were performed by a single surgeon using the da Vinci Xi system integrated with the BK5000 ultrasound platform. Three IOUS probes were evaluated: robotic drop-in, laparoscopic, and endovaginal. IOUS was systematically used for lesion localisation, depth and margin assessment, vascular navigation, safety guidance, and post-resection confirmation of complete excision and tissue integrity. Outcomes were descriptively analysed.

Results

The mean patient age was 35.6 years (range: 24–47 years). Mean operative time measured 184.5 minutes (range: 52–400 minutes), with an average estimated blood loss of 132.3 mL (range: 20–500 mL). In robotic-assisted myomectomy cases (n = 10), intraoperative ultrasound (IOUS) accurately mapped FIGO type 2–8 myomas, including deep intramural lesions. Precise delineation of margins and

assessment of depth were achieved in all cases, and avascular planes were consistently identified. Additional occult myomas not visible on preoperative imaging were discovered in 50% of procedures. IOUS facilitated ureteral localisation during complex cervical myoma surgeries and provided intraoperative diagnostic clarification for adnexal pathology, ensuring complete excision in all cyst cases. The robotic drop-in probe offered enhanced surgeon autonomy, improved maneuverability, and better eye–hand coordination compared to laparoscopic and endovaginal probes.

Conclusions

Robotic drop-in probe provides full surgeon autonomy, superior control navigation maneuverability, enhanced real-time decision making, and seamless workflow integration , transforming robotic gynaecological surgery from assistant-dependent to surgeon autonomous.

ID 120

SENTINEL LYMPH NODE MAPPING WITH INDOCYANINE GREEN USING THE HUGO™ RAS SYSTEM IN ENDOMETRIAL CANCER STAGING: OUTCOMES OF A PROSPECTIVE SERIES

R. Oliva, A. Rosati, E. Perrone, S. Mastrovito, D. Arrigo, S. Russo De Lucia, G. Lancellotti, A. Fagotti, F. Fanfani
Department of Women's and Children's Health, Complex Unit of Gynaecological Oncology, Fondazione Policlinico Universitario A. Gemelli IRCCS. Catholic University of Sacred Heart, Rome, Italy

Background

Minimally invasive surgery represents the gold standard for presumed early-stage endometrial cancer. In this setting, sentinel lymph node has replaced systematic lymphadenectomy in the surgical staging algorithm. The HUGO™ Robotic-Assisted Surgery (RAS) system is a modular platform with the newly integrated fluorescence. We aimed to evaluate perioperative outcomes and sentinel lymph node mapping rates using indocyanine green during surgery for endometrial cancer staging.

Methods

Prospective cohort of consecutive patients undergoing total hysterectomy with or without adnexal surgery and sentinel lymph node biopsy using the HUGO™ RAS system at one single referral centre. A four-arm compact configuration was used in all cases. Sentinel lymph node mapping was performed with standard cervical indocyanine green injection. Sentinel lymph node detection was performed with a multimodal approach using the three integrated fluorescence visualisation modes of the HUGO™ platform (overlay with green/blue light, monochromatic near-infrared view, and quantitative intensity map). Demographics characteristics, operative data (operative time, docking time, estimated blood loss), sentinel lymph node detection rates (bilateral, unilateral, failed), number of sentinel lymph nodes harvested, conversion rate, and intra/postoperative complications (using Clavien-Dindo classification) were prospectively recorded and analysed.

Results

Sixty patients were included. Median age was 54 years (39–79), BMI 25 kg/m² (19–37). Median operative time was 133.5 minutes (68–320) and docking time 5 minutes (3–12). Bilateral sentinel lymph node detection was achieved in 51/60 (85%), unilateral detection in 1/60 (1.7%), while mapping failure occurred in 7/60 (11.7%). Median number of sentinel lymph nodes harvested was 2 (0-7). No technical failures of the fluorescence mode were observed.

Conversion to laparotomy occurred in 2/60 (3.3%) for specimen extraction. Estimated blood loss was low (median 20 mL), and median discharge was postoperative day 2 (1–6). One intraoperative and one postoperative Grade I complication (1.7% each) were recorded. No major complications occurred. Final pathology demonstrated endometria atypical hyperplasia in 51.7%, and endometrial carcinoma in 48.3% of cases.

Among endometrial cancers, 93.1% were endometrioid; FIGO 2023 stages ranged from IA to IIIA1. Upstaging from atypical hyperplasia occurred in 11.6%. Most patients (62.1%) were classified as low-risk.

Conclusions

In early stage endometrial disease, the HUGO™ RAS system proved technical reliability, efficient workflow, and high bilateral lymph node detection rates with minimal morbidity and short hospitalisation. These findings support its integration into contemporary gynaecological oncologic practice and provide a robust rationale for comparative evaluation with established robotic platforms.

ID 121

EARLY OUTCOMES OF THE TOUMAI® MT-1000 ROBOTIC SYSTEM IN GYNAECOLOGICAL SURGERY: A CONSECUTIVE CASE SERIES

R. Oliva, B.Costantini, A. Naldini, G. Gaia, S. Mastrovito, M. C. Giuliano, A. Fossatelli, R. Sardo Infirri, A. Fagotti, F. Fanfani
Department of Women's and Children's Health, Complex Unit of Gynaecological Oncology, Fondazione Policlinico Universitario A. Gemelli IRCCS. Catholic University of Sacred Heart, Rome, Italy

Background

The introduction of new-generation robotic platforms requires objective clinical validation in real-world surgical practice beyond technical specifications alone. The purpose of this study was to evaluate the technical feasibility and early workflow performance of the Toumai® MT-1000 robotic system (MicroPort MedBot, China) in a consecutive series of benign gynaecological procedures performed by experienced robotic surgeons, with specific focus on setup reproducibility and perioperative outcomes.

Methods

A prospective database of 30 consecutive benign gynaecological procedures performed with the Toumai robotic system at a single tertiary referral center was analysed. Cases were performed by three experienced robotic surgeons on established platforms (e.g., da Vinci and Hugo RAS), minimising the confounding effect of primary robotic learning curves. Recorded metrics included procedure time: total operative time, docking time, estimated blood loss, conversion rate, length of stay, intra-/post-operative complications (Clavien–Dindo scale), and technical workflow events (arm collisions, system faults and docking failures).

A standardised four-arm configuration was adopted in all cases: bipolar forceps (arm 1), 3D endoscope (arm 2), monopolar scissors (arm 3), and grasper (arm 4). A single assistant trocar was positioned in the left subcostal region for suction, irrigation and additional traction. In all procedures, the integrated smoke removal mode was systematically activated from the console to maintain vision clarity during energy use.

Results

All 30 procedures were completed robotically without conversion. Median age was 49 years (37–72) and median BMI was 25 kg/m² (18–40). Concomitant bilateral salpingo-oophorectomy was performed in 25 cases (83.3%), while bilateral salpingectomy was performed in 5 cases (16.7%). Median operative time was 115 minutes (39–248). Median docking time was 8 minutes (6–17), reflecting reproducible setup across consecutive cases. Median estimated blood loss was 50 mL (0–200), and length of hospital stay was 2 days median (2–3). No docking failures or system faults requiring procedural interruption were observed. Arm collisions resolved at the console occurred in 2 cases (6.7%). Postoperative complications occurred in 1 patient (3.3%; Clavien–Dindo II).

Conclusions

In this consecutive early experience performed by expert robotic surgeons, the Toumai robotic system demonstrated technical feasibility and stable intraoperative performance in benign hysterectomy, with no conversions and no docking failures or critical system faults. Workflow interruptions were limited and manageable from the table assistant, supporting further structured evaluation of efficiency and ergonomics across larger multicentre cohorts with comparision with other established robotic platforms currently available.

ID 122

PUSHING LIMITS: SINGLE-PORT ROBOTIC HYSTERECTOMY FOR A 2 KG UTERUS

L Nelva Stellio, C Quatrale, L Calzolari, F Ottolini, F Spelzini
Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background/Aim

The management of very large uteri remains a challenge in minimally invasive gynecologic surgery. Robotic single-port (SP) platforms may may increase indications even in extreme cases. This video aims to demonstrate the feasibility, safety, and technical considerations of robotic SP hysterectomy for a massively enlarged uterus.

Methods

A robotic single-port hysterectomy was performed using the Da Vinci SP system through a single umbilical incision in a 50-year-old woman (height 160 cm, weight 80 kg BMI 31) with symptomatic uterine fibromatosis. The patient presented with pelvic bulk symptoms, including difficulty with bowel and bladder emptying, and severe menometrorrhagia leading to acute anemia requiring intravenous iron therapy. Preoperative MRI showed no suspicion of sarcoma. The uterus reached 2 cm above the transverse umbilical line, with predominant fundal development, corresponding to approximately 18 weeks' gestation size (largest myoma 16×11×15 cm). Temporary vascular control was achieved by bilateral clamping of the uterine arteries at their origin. Total hysterectomy was completed robotically via single-port access. Specimen extraction was performed by contained morcellation.

Results

Total operative time was 80 minutes. Vaginal Morcellation required an additional 90 minutes. Estimated blood loss was approximately 100 mL. No intraoperative or postoperative complications occurred. The postoperative course was uneventful, and the patient was discharged on postoperative day two.

Conclusions

Robotic single-port hysterectomy is a feasible and safe approach even in cases of extreme uterine enlargement when performed in experienced hands. Adequate vascular control and careful preoperative assessment are key to minimising blood loss. This approach challenges traditional size limitations of minimally invasive surgery and supports the advantages of single-port robotics in complex gynaecological cases.

ID 124

EVALUATING THE IMPACT OF TELEHEALTH VISITS AFTER ROBOTIC GYNAE SURGERY: AN OBSERVATIONAL STUDY OF PATIENT SATISFACTION, SAFETY AND FEASIBILITY

Anupama Bahadur, Pragati Jakhar, Priyanka R.
Dept of Obstetrics & Gynaecology, AIIMS, Rishikesh

Background/Aim

In India, access to healthcare remains a challenge, particularly for rural populations. Robotic Gynaecological surgeries, though increasingly common, are centralised in urban tertiary centres, often making postoperative follow-up difficult for patients. Telehealth has

emerged as a potential solution, especially during the COVID-19 era, to enhance healthcare accessibility, efficiency, and continuity. However, its utility and patient satisfaction in postoperative gynaecological care remain underexplored. This study aimed to evaluate and compare patient satisfaction, safety, and usability between postoperative telehealth visits and traditional in-person follow-up after Robotic gynaecological surgeries.

Methods

A prospective observational study was conducted at AIIMS Rishikesh between February 2024 and August 2025. Women aged 40–60 years undergoing elective Robotic gynaecological surgeries were recruited. Patients received both a telehealth and an in-person follow-up postoperatively. Satisfaction was assessed using two validated tools: the Telehealth Usability Questionnaire (TUQ) and the Patient Satisfaction Questionnaire (PSQ). Statistical analyses included descriptive statistics, independent t-tests, and effect size measurements (Cohen's d). A total of 32 patients completed the TUQ and PSQ assessments.

Results

The mean TUQ score was 6.37 (95% CI: 6.29–6.46), indicating high satisfaction and usability of the telehealth interface. The PSQ (in-person) score was 2.97 (95% CI: 2.86–3.08). The difference between groups was statistically significant ($t = 47.50$, $p = 3.11e-43$), with a very large effect size (Cohen's $d = 12.69$) favoring telehealth. Specific areas of high satisfaction in telehealth included friendly doctor behavior (mean ≈ 1.04), ease of care access (mean ≈ 1.5), and time efficiency (mean ≈ 1.54). However, concerns remained regarding emergency wait times (mean ≈ 4.14), appointment availability (mean ≈ 4.04), and cost clarity. No increase in postoperative complications or delayed identification of issues was observed during telehealth follow-up.

Conclusions

Postoperative telehealth visits following robotic gynaecological surgery were found to be safe, feasible, and highly satisfactory. Telehealth significantly outperformed in-person visits in terms of usability, time efficiency, and provider-patient interaction. While logistical and emergency care concerns persist, the findings support telehealth as a viable alternative to traditional follow-up in selected patient populations. Further large-scale studies are recommended to optimize integration into standard postoperative care pathways, particularly in resource-limited settings like India.

ID 125

SINGLE-PORT ROBOTIC INGUINAL LYMPHADENECTOMY: CASE REPORT OF A NOVEL MINIMALLY INVASIVE APPROACH TO TREAT LYMPH NODES IN A PATIENT WITH VULVAR CARCINOMA

C.Quatrale[1], G. Sircana[2], L. Nelva Stellio[1], L. Calzolari[1], M. Battistello[1], F. Ottolini[1], M.P. Odorizzi[1], F. Spelzini[1]
[1] Department of Obstetrics and Gynaecology, Grande Ospedale Metropolitano Niguarda, Milan, Italy
[2] Department of Obstetrics and Gynaecology, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; School of Medicine and Surgery; University of Milano-Bicocca Monza, Italy

Background/Aim

Inguinal lymph node dissection has been demonstrated to improve survival in patients diagnosed with neoplastic diseases of the lower genital tract. However, whether performed for staging or therapeutic purposes, this procedure is associated with significant postoperative clinical morbidity and requires a medium-to-high level of oncologic surgical expertise.

In this case report, we present a novel technique for bilateral inguinal lymphadenectomy performed using the DaVinci single-port robotic system to yield lymph nodes involved in tumor lymphatic drainage through two small skin incisions at the level of Scarpa's triangle bilaterally.

Methods

We included a 53-years-old caucasian patient diagnosed with HPV-unrelated moderately differentated squamous cell vulvar carcinoma at biopsy in February 2026. A chest–abdomen CT scan showed no evidence of distant metastatic disease and the patient was scheduled for a radical vulvectomy combined with bilateral inguinal lymphadenectomy. Using the DaVinci single-port robotic platform two symmetrical skin incisions were performed to expose Scarpa's triangles and fascia lata up to the level of the saphenous opening (fossa ovalis). After careful identification and dissection of the femoral neurovascular bundles, the lymph node stations of interest were removed up to their insertion along the inguinal ligament and submitted for definitive histopathological evaluation.

Results

No intraoperative complications were observed during the procedure and conversion to a conventional surgical approach was not required. Estimated intraoperative blood loss at the end of surgery was negligible (less than 50 mL). Overall, the lymphadenectomy resulted in the retrieval of six lymph nodes from the right groin and six lymph nodes from the left groin respectively, out of which 1/12 was positive for metastatic involvement, so the final diagnosis was HPV-independent squamous cell vulvar carcinoma, FIGO stage IIIA. Surgical drains were removed on postoperative day four and the patient was discharged the day after. No surgical site complications were observed during the postoperative course.

Conclusions

DaVinci single-port robotic inguinal lymphadenectomy is a promising technique for managing lymph nodes in vulvar malignancies treatment, with the potential to reduce complications and accelerate recovery while ensuring an adequate nodal yield. Larger studies are needed to validate its role as a new standard of care.

ID 126

MINIMALLY INVASIVE ANTERIOR PELVIC EXENTERATION FOR ENDOMETRIAL CANCER RECURRENCE USING THE HUGO™ RAS PLATFORM

E. Perrone, D. Arrigo, S. Mastrovito, R. Oliva, A. Rosati, F. Fanfani
Department of Woman, Child and Public Health, Fondazione Policlinico Universitario Agostino Gemelli IRCCS; Università Cattolica del Sacro Cuore, Rome, Italy

Aim

Pelvic exenteration is a potentially curative option for carefully selected patients with primary, persistent, or recurrent gynaecological malignancies. Over time, improvements in surgical techniques, instrumentation, and postoperative care have reduced the morbidity and perioperative mortality associated with this major procedure. Traditionally performed through laparotomy, pelvic exenteration remains associated with substantial morbidity, prolonged recovery, and significant psychological burden.

Although well established in open surgery, its feasibility in minimally invasive gynaecological oncology has been only limitedly explored. Potential advantages of a minimally invasive approach include lower perioperative morbidity, reduced blood loss, shorter hospital stay, and faster recovery. Robotic-assisted surgery may further improve feasibility and safety by providing magnified three-dimensional vision and wristed instruments that facilitate precise dissection in deep pelvic spaces. We report our initial experience with minimally invasive anterior pelvic exenteration performed with the HUGO™ RAS platform as salvage treatment for centrally recurrent endometrial cancer.

Methods

A 68-year-old woman with endometrioid endometrial carcinoma developed a central pelvic recurrence arising from the vaginal cuff. The disease persisted despite multiple radiotherapy treatments, including brachytherapy and stereotactic body radiation therapy. Preoperative work-up supported the presence of a localised central recurrence without distant metastases. After multidisciplinary tumour board discussion and extensive patient counselling regarding surgical morbidity, urinary diversion, and functional implications, a robotic-assisted minimally invasive anterior pelvic exenteration was planned.

Results

The procedure was successfully completed without major vascular or nerve injury and without intraoperative tumor disruption or dissemination. Despite a challenging operative field due to previous major abdominal surgery, dense adhesions, and pelvic irradiation, the HUGO™ RAS platform allowed safe retroperitoneal dissection and effective vascular control.

Complete resection with negative margins was achieved. Operative time was 245 minutes and estimated blood loss was 200 mL. Postoperative recovery was complicated by fever requiring intravenous antibiotics, classified as Clavien–Dindo grade II. The patient was discharged on postoperative day 12. Final histopathology confirmed vaginal/paracolpial and urethral involvement with free surgical margins. She was subsequently scheduled for adjuvant chemo-immunotherapy.

Conclusions

Pelvic exenteration may represent the only treatment with curative intent for selected patients with centrally recurrent endometrial cancer after prior irradiation. In this case, robotic-assisted anterior pelvic exenteration using the HUGO™ RAS platform proved technically feasible, safe, and oncologically effective in a complex, previously irradiated pelvis. Further experience and longer follow-up are needed to confirm reproducibility and long-term oncological outcomes.

ID 127

ROBOTIC SINGLE-PORT SURGERY FOR DEEP INFILTRATING ENDOMETRIOSIS WITH RECTAL DISC RESECTION

C Quatrale, L Nelva Stellio, L Calzolari, F Ottolini, F Spelzini
Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background/Aim

Deep infiltrating endometriosis (DIE) involving the rectum represents one of the most challenging scenarios in minimally invasive gynaecological surgery. While multiport laparoscopy and robotics are well established, the role of single-port (SP) robotic surgery in combined gynaecological and colorectal procedures remains unexplored. This study aims to demonstrate the feasibility and safety of a pure single-port robotic approach for complex DIE with rectal involvement.

Methods

We report the case of a 39-year-old woman presenting with severe dysmenorrhea, dyspareunia and tenesmus. Preoperative imaging revealed bilateral ovarian endometriomas and a rectouterine ligament nodule of approximately 2 cm with suspected infiltration of the rectal muscularis.

A robotic single-port procedure was performed using the Da Vinci SP system through a single 27 mm transumbilical incision, without additional trocars. Intraoperative findings confirmed bilateral ovarian endometriomas, dense adhesions, complete obliteration of the pouch of Douglas, and a rectouterine ligament endometriotic nodule with infiltration of the rectum. Surgical procedure included adhesiolysis, bilateral ureterolysis, enucleation of bilateral endometrioma, bilateral salpingectomy and excision of the uterosacral ligament nodule. A discoid rectal resection was performed using a transanal circular stapler (CPH34). Pneumatic leak test was negative, and additional reinforcing sutures were placed.

Results

The procedure was completed entirely through a single umbilical access without the need for additional laparoscopic ports. Estimated blood loss was negligible. No intraoperative or postoperative complications occurred. The rectal endometriotic nodule was completely excised and intraoperative rectoscopy confirmed adequate resection with intact mucosa prior to stapling and proper anastomotic integrity after resection. The postoperative course was without complications.

Conclusions

Robotic single-port surgery enables safe and effective management of complex deep infiltrating endometriosis, including cases requiring rectal discoid resection, without additional abdominal access. This approach allows precise dissection in confined pelvic spaces while maintaining the advantages of minimal invasiveness. This case shows the feasibility of a multidisciplinary approach in robotic SP surgery for severe endometriosis, offering an alternative to conventional multiport techniques.

ID 128

FLUORESCENCE-GUIDED URETERAL IDENTIFICATION USING INTRAURETERAL INDOCYANINE GREEN DURING ROBOTIC SACROCOLPOPEXY WITH THE HUGO™ RAS SYSTEM: A CASE SERIES

C. Riccetti, S. Mastrovito, D. Arrigo, F. Fanfani, A. Fagotti, G. Panico
Gynaecological Oncology Unit, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Catholic University of the Sacred Heart, Rome, Italy

Introduction

Fluorescence-guided surgery with indocyanine green (ICG) is increasingly used in minimally invasive pelvic surgery to improve the identification of critical anatomical structures. During sacrocolpopexy, ureteral recognition may be particularly challenging at the time of presacral dissection and mesh fixation, especially in patients with distorted pelvic anatomy.

The integration of Rubina™ near-infrared (NIR) imaging into the Hugo™ Robotic-Assisted Surgery (RAS) system has enabled fluorescence-guided navigation during robotic pelvic surgery. We aimed to report our initial experience with cystoscopic intraureteral ICG instillation for ureteral identification during robotic sacrocolpopexy performed with the Hugo™ RAS platform.

Methods

This retrospective descriptive case series included ten consecutive women with symptomatic multicompartment pelvic organ prolapse (POP-Q stage III–IV) who underwent nerve-sparing robotic sacrocolpopexy at a tertiary referral centre. Median age was 65.5 years (range 45–79), median body mass index was 27.8 kg/m² (range 22.4–35.6), and 40% had previous abdominal surgery. In all cases, cystoscopic intraureteral ICG instillation was performed before pelvic dissection. A 4-F open-ended ureteral catheter was placed into the ureteral orifice, and 5–6 mL of ICG solution (25 mg diluted in 10 mL sterile water) was injected into the mid-ureter while the catheter was gradually withdrawn. Fluorescence imaging was obtained intraoperatively using the Karl Storz IMAGE1 S Rubina™ system integrated with Hugo™ RAS, with Overlay, Intensity Map, and Monochromatic modes available on demand.

Results

Intraureteral ICG injection and ureteral catheterisation were feasible in all ten patients. Fluorescence-guided bilateral ureteral visualisation was achieved intraoperatively in all cases, enabling clear identification of the ureteral course during key steps of pelvic dissection, particularly during deep pelvic dissection.

The procedure was completed robotically in all patients, with no conversions, system malfunctions, arm collisions, intraoperative complications, postoperative complications, or ICG- or catheterisation-related adverse events. Median estimated blood loss was 30 mL (range 25–100), and median postoperative hospital stay was 2 days (range 2–4). A representative case involved a 60-year-old woman with stage III multicompartmental prolapse and a 5-cm posterior isthmic fibroid compressing the right ureter, in whom fluorescence guidance improved anatomical orientation.

Conclusions

Intraureteral ICG instillation during robotic sacrocolpopexy with the Hugo™ RAS system appears to be a feasible, safe, and reproducible adjunct for real-time ureteral identification. This approach may be especially useful in anatomically complex cases, enhancing surgical orientation during deep pelvic dissection and potentially reducing the risk of ureteral injury. Larger prospective studies are warranted to confirm its clinical value.

ID 129

ROBOTIC SENTINEL LYMPH NODE MAPPING IN GYNAECOLOGICAL ONCOLOGY

Bogdan Catalin Coroleuca[1], Andrei Manu[1,2], Ciprian Andrei Coroleuca[1], Anca Hashemi[3], Cristina Iacob[3], Arina Banu[3], Elvira Bratila[1]
[1] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania
[2] PhD Student, Doctoral School, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
[3] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", Bucharest, Romania

Aim

To evaluate the feasibility and perioperative outcomes of robotic sentinel lymph node mapping in gynaecological oncology.

Methods

We performed a retrospective analysis of robotic oncological procedures that included sentinel lymph node mapping in a tertiary referral centre. The study included patients undergoing surgery for

gynaecological malignancies or premalignant disease requiring oncological staging. Demographic data, surgical indication, associated nodal procedures, operative time, console time, estimated blood loss, and perioperative outcomes were assessed. The analysis focused on the role of robotic surgery as a platform for the implementation of sentinel lymph node mapping in contemporary gynaecological oncology practice.

Results

A total of 26 robotic procedures including sentinel lymph node mapping were identified. Sentinel lymph node mapping was used mainly in patients with endometrial and cervical malignancies, as well as in selected premalignant conditions requiring surgical staging. The median age of the cohort was 53 years. Median operative time was 97 minutes, median console time was 82 minutes, and median estimated blood loss was 157 mL.

Additional pelvic lymphadenectomy was performed in 26% of cases, while para-aortic lymphadenectomy was required only exceptionally. These findings suggest that sentinel lymph node mapping was successfully incorporated into robotic oncological surgery in a wide spectrum of cases, while maintaining an acceptable perioperative profile. In the available dataset, perioperative evolution was favorable, and no clearly documented postoperative complications were identified in the analysed cohort.

Conclusions

Robotic sentinel lymph node mapping appears to be a feasible and safe staging strategy in selected gynaecological oncology cases. In this series, the combination of acceptable operative times, limited blood loss, and low perioperative morbidity supports the integration of sentinel node techniques into minimally invasive robotic oncological surgery. These findings further support the use of robotics as an effective platform for tailored nodal assessment in specialised gynaecological oncology centres.

ID 130

ROBOTIC SURGERY FOR CERVICAL CANCER: PERIOPERATIVE OUTCOMES ACROSS FERTILITY-SPARING, RADICAL AND EXENTERATIVE PROCEDURES

Bogdan Catalin Coroleuca[1], Andrei Manu[1,2], Ciprian Andrei Coroleuca[1], Anca Hashemi[3], Cristina Iacob[3], Arina Banu[3], Elvira Bratila[1]

[1] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

[2] PhD Student, Doctoral School, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

[3] Clinical Hospital of Obstetrics and Gynaecology "Prof. Dr. Panait Sârbu", Bucharest, Romania

Aim

To evaluate the perioperative outcomes of robotic surgery for cervical cancer across different surgical indications and levels of procedural complexity.

Methods

We performed a retrospective analysis of robotic procedures undertaken for cervical cancer in a tertiary referral center. Demographic data, type of oncological procedure, associated nodal assessment, operative time, console time, and estimated blood loss were reviewed. The analysis included fertility-sparing, radical, and selected exenterative procedures performed according to tumour stage, oncological characteristics, and individualised surgical planning.

Results

A total of 6 robotic procedures for cervical cancer were identified. The cohort included a heterogeneous spectrum of surgical management, ranging from fertility-sparing procedures to radical resections and highly selected exenterative surgery. Nodal assessment was performed selectively according to the oncological scenario. Median age was 43 years. Median operative time was 93 minutes, median console time was 77 minutes, and median estimated blood loss was 155 mL. These findings suggest a favorable perioperative profile for robotic surgery even in a cohort including procedures of different complexity. In the available dataset, perioperative evolution was favorable.

Conclusions

Robotic surgery appears to be a feasible minimally invasive approach for selected patients with cervical cancer, including both conservative and radical procedures, as well as highly selected exenterative cases. In this series, robotic management was associated with acceptable operative times and limited blood loss, supporting the role of robotics in individualised cervical oncology surgery within specialised centres.

ID 131

ROBOTIC SINGLE-PORT REPAIR OF VESICOVAGINAL FISTULA

E. Ripamonti[1], L. Nelva Stellio[2], C. Quatrale[2], L. Calzolari[2], F. Ottolini[2], F. Spelzini[2], A. Galfano[3]

[1] Department of Obstetrics and Gynaecology, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; School of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy

[2] Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

[3] Department of Urology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background/Aim

Vesicovaginal fistula (VVF) is a distressing condition characterised by continuous urinary leakage due to an abnormal communication between the bladder and vagina. While several surgical approaches

achieve favorable outcomes, robotic surgery has emerged as a preferred minimally invasive option. Evidence regarding single-port (SP) robotic repair remains limited. This study aims to evaluate the feasibility and safety of robotic SP VVF repair in a complex clinical setting.

Methods

A 37-year-old woman with bilateral nephrostomies was referred for management of VVF and right ureteral obstruction following prior laparotomy-assisted hysterosalpingectomy for uterine fibromatosis and subsequent repair of a ureteroperitoneal fistula performed at another institution. Preoperative assessment included urogynaecological, anaesthesiological, and radiological evaluation. Cystoscopy, CT cystography, and bilateral pyelography identified a 2 mm vesicovaginal fistula located at the left paramedian posterior bladder wall and obstruction of the right nephrostomy.

After replacement of the right nephrostomy and placement of an 18 Fr Foley catheter, a combined urological and gynaecological robotic procedure was performed using the Da Vinci SP system. The patient was placed in Lloyd-Davies position. VVF repair was achieved with layered closure and interposition of a pedicled omental flap. Bilateral double-J ureteral stents were placed.

Results

Total operative time was 110 minutes. Blood loss was negligible. No intraoperative or postoperative complications occurred. During the postoperative course, nephrostomies were kept closed with adequate urinary drainage via Foley catheter. Both nephrostomies and ureteral stents were removed on postoperative day nine after retrograde cystography confirmed fistula closure and absence of vesicoureteral reflux.

The patient was discharged on postoperative day nine in good clinical condition; total hospital stay was 18 days. At one-month follow-up, urological and gynaecological evaluation confirmed [complete resolution of symptoms and no evidence of fistula recurrence].

Conclusions

Robotic single-port repair of vesicovaginal fistula is a safe and effective option in selected complex cases. The SP platform enables precise dissection and suturing in confined spaces while maintaining minimal invasiveness.

This case highlights the importance of a multidisciplinary approach and careful preoperative planning. Although current evidence is limited, single-port robotic surgery may represent an important evolution in the management of complex urogynaecological fistulas, warranting further investigation in larger cohorts with long-term follow-up.

ID 132

TAMING BLEEDING AT THE SOURCE: SINGLE-PORT MYOMECTOMY WITH UTERINE ARTERY BULLDOG CLAMPING

L. Nelva Stellio, C. Quatrale, L. Calzolari, F. Ottolini, A. Limena, F. Spelzini
Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background/Aim

Minimally invasive surgery continues to evolve toward reducing surgical trauma while maintaining efficacy. Robotic single-port (SP) platforms represent the latest step in this progression. This study aims to evaluate the feasibility and safety of robotic SP myomectomy using the Da Vinci SP system for the treatment of multiple uterine fibroids.

Methods

A robotic single-port myomectomy was performed in a healthy woman with no prior surgical history, presenting with symptomatic uterine fibroids causing compressive symptoms. Surgery was conducted through a single 3 cm transumbilical incision using the Da Vinci SP system. Two FIGO type 6 fibroids measuring 7 cm and 5 cm were enucleated. Temporary vascular control was achieved by bilateral clamping of the uterine arteries at their origin and the utero-ovarian vessels using bulldog clamps. Operative time, estimated blood loss, perioperative outcomes, and length of hospital stay were recorded.

Results

Total operative time was 100 minutes. Estimated blood loss was less than 100 mL. No intraoperative or postoperative complications occurred. Both fibroids were successfully enucleated, and adequate myometrial reconstruction was achieved. The postoperative course was uneventful, and the patient was discharged on postoperative day two.

Conclusions

Robotic single-port myomectomy using the Da Vinci SP system is a safe and feasible technique for selected patients with multiple intramural-subserosal fibroids. Temporary vascular control may significantly reduce intraoperative blood loss. This approach combines surgical precision with minimal invasiveness, offering potential advantages in postoperative recovery and cosmetic outcomes, and represents a forward step in the evolution of gynaecological minimally invasive surgery.

ID 133

AWAKE ROBOTIC BURCH: COLPOSUSPENSION UNDER SPINAL-EPIDURAL ANESTHESIA

E. Ripamonti[1], L. Nelva Stellio[2], C. Quatrale[2], L. Calzolari[2], F. Ottolini[2], P. M. Odorizzi[2], C. Capuzzello[2], F. Spelzini[2]
[1] Department of Obstetrics and Gynaecology, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; School of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy

[2] Department of Obstetrics and Gynaecology, ASST Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background/Aim

Single Port (SP) robot-assisted Burch colposuspension is an effective surgical procedure for the treatment of female stress urinary incontinence. Traditionally, it is performed under general anesthesia. Recently, robot-assisted procedures under neuraxial anesthesia have been reported, demonstrating feasibility in selected patients.

Methods

We report a case of robot-assisted extraperitoneal Burch colposuspension performed under combined spinal–epidural anesthesia (CSE) using the da Vinci SP surgical system in a 40-year-old woman with bothersome daily stress urinary incontinence and a history of bilateral hysterosalpingectomy.

Results

The procedure was completed in the supine position via an extraperitoneal approach. Total operative time was 70 minutes, with negligible blood loss. No intraoperative complications occurred.

The procedure was well tolerated, with effective postoperative pain control. The patient was discharged on postoperative day 1, with no post-void residual urine and complete resolution of stress urinary incontinence.

Conclusions

Robot-assisted extraperitoneal Burch colposuspension under combined spinal–epidural anesthesia appears to be a feasible and safe approach, potentially avoiding general anesthesia in selected patients. Larger studies are required to better define its role.

ID 134

HANDS VERSUS CONSOLES: DOES TECHNOLOGY TRANSLATE TO BETTER ENDOMETRIOSIS OUTCOMES?

J. Tahar Aissa[1], S. Ballal[1], J. Mathew[2], V. Jackson[3], S. George[1]

[1] Stockport Endometriosis Centre, Department of Obstetrics and Gynaecology, Stepping Hill Hospital, Stockport, Greater Manchester, United Kingdom
2 Faculty of Medicine, Medical University of Varna, Varna, Bulgaria
3 Stockport Endometriosis Centre, Department of Radiology, Stepping Hill Hospital, Stockport, Greater Manchester, United Kingdom

Background/Aim

Robotic and conventional laparoscopic approaches are widely used in the surgical management of endometriosis. Robotic-assisted surgery is emerging as the gold-standard modality for deep infiltrating endometriosis, providing enhanced visualisation, instrument articulation and precision. Current evidence suggests broadly comparable outcomes between the two approaches. This study aimed to evaluate the safety of robotic-assisted, compared with conventional laparoscopic surgery for severe endometriosis within a tertiary centre, to ensure the safe adoption of this surgical advance.

Methods

A retrospective review was conducted of medical records from 179 patients between 2015 and 2025 undergoing surgery for deep infiltrative endometriosis requiring opening of the pararectal space. Patients were grouped according to surgical approach - conventional laparoscopy or robot-assisted surgery (da Vinci X system, Intuitive).

Data collected included the type of surgery (conservative vs radical), extent of disease (including bladder, ureteric and bowel involvement), type of bowel procedure performed, length of hospital stay and intra- and postoperative complications. Complication rates were compared using Fisher's exact test.

Results

A total of 72 robotic and 107 laparoscopic procedures were identified, with rates of conservative versus radical surgery comparable between groups (57% vs 55%, respectively). The robotic cohort demonstrated a lower proportion of patients requiring bowel resection than the conventional approach (3.4% vs 6.4%, respectively), and a higher proportion were managed with rectal shaving techniques (96% vs 93%, respectively).

The median length of hospital stay was one night in both groups, although variability was greater in the laparoscopic cohort (IQR 1 vs 0). Intraoperative complications were less frequent in the robotic group, with only a minor event reported.

However, the laparoscopic group experienced a higher rate of intraoperative complications (5%), including conversion to open surgery and a ureteric injury. Postoperative complications were also more frequent following laparoscopy (n=15, 14%), including organ-related complications, collections and pain requiring readmission.

The robotic group primarily experienced minor complications (n=4, 6%), such as small collections and infections. There was no statistically significant difference in the overall complication rates between the two groups despite these observed differences (Fisher's exact test, $p>0.05$).

Conclusions

Robotic-assisted surgery for severe endometriosis appears to be a safe alternative to conventional laparoscopy, with a trend towards fewer complications and reduced need for bowel resection. Although these differences did not reach statistical significance, both approaches demonstrate comparable safety profiles. Ongoing evaluation is being conducted to compare the groups' outcomes for operating times and patient-reported quality of life.

ID 135

ROBOTIC CERVICAL STUMP EXCISION: A STEP-BY-STEP TECHNIQUE USING A RUMI MANIPULATOR

I. Ptacek, Y. Coker
Department of Obstetrics and Gynaecology, Barking, Havering and Redbridge University Hospitals NHST Trust, UK

Background

Subtotal (supracervical) hysterectomy is typically performed to reduce the operative complexity in challenging cases such as a large fibroid burden or deep infiltrating endometriosis. However, cervical stump retention risks persistence or recurrence of pathology and subsequent excision is technically challenging due to distorted pelvic anatomy and adhesions. The optimal excision technique is not well established. A robotic approach may offer advantages through enhanced visualisation and improved instrument dexterity.

Aim

To demonstrate the technical steps of robotic cervical stump excision using a modified RUMI manipulator

Methods

A video presentation of the technical steps of robotic cervical stump excision for symptomatic cervical remnants following supracervical hysterectomy. Procedures were performed using the RUMI II uterine manipulator, modified to allow secure placement within the cervical canal to facilitate manipulation of the residual cervix. The video illustrates patient positioning, port placement, identification of pelvic landmarks, developments of vesicocervical and pararectal spaces, ureteric identification, colpotomy and specimen removal.

Results

Robotic cervical stump excision was performed successfully in all cases without conversion to laparotomy. The modified manipulator provided improved exposure and facilitated safe dissection of the vesicocervical plane without injury to surrounding structures.

Conclusions

Robotic cervical stump excision using a modified RUMI II uterine manipulator is feasible and safe. This video highlights reproducible technical steps that may assist surgeons performing this complex procedure.

ID 136

ROBOTIC-ASSISTED SURGERY AND MANAGEMENT IN RECTAL DEEP INFILTRATING ENDOMETRIOSIS: A DESCRIPTIVE SINGLE-CENTER EXPERIENCE (2021–2024)

Q. Ampurdanés Noró, S. Monreal Clua, L. Mañalich Barrachina, D.A. Guerrero Lojano, M. Míguez Medina, A. Ruano López, E. Vila Escudé, E.Suárez Salvador
Department of Gynaecolgy, Hospital Universitari Vall d'Hebron, Barcelona, Spain

Background/Aim

Bowel endometriosis is a form of deep infiltrating endometriosis (DIE) that occurs in 8-12% of cases, with approximately 90% of lesions affecting the colorectal segment. It represents a complex surgical condition requiring a balance between radical excision and preservation of bowel function.

There are two main surgical approaches: radical (segmental resection) and conservative (rectal shaving or disc excision). Available evidence suggests that radical approaches are associated with higher complication rates, whereas conservative techniques are feasible even in advanced disease, with lower immediate morbidity and improved digestive functional outcomes. An increased risk of recurrence has not been demonstrated with conservative management.

Robotic-assisted surgery has been progressively adopted in this setting, offering enhanced visualization and surgical precision, which may facilitate organ-preserving approaches. However, real-world data describing its implementation and clinical outcomes remain limited.

The aim of this study is to describe surgical practice patterns in rectal DIE, including the use of robotic-assisted urgery, the adoption of conservative techniques, and associated perioperative and recurrence outcomes.

Methods

We performed a retrospective descriptive study including all consecutive patients undergoing surgery for posterior compartment DIE with rectal involvement at a tertiary referral centre between January 2021 and October 2024.

Outcomes included postoperative complications (Clavien–Dindo classification), and recurrence defined as the development of clinical symptoms or radiological findings consistent with endometriosis during follow-up.

Data were analysed descriptively. Temporal evolution in surgical practice was explored using graphical and descriptive analyses.

Results

A total of 48 patients were included, of whom 85.42% (n=41) underwent robotic-assisted surgery, with a median follow-up of 24 months.

In the robotic-assisted group 73.17% (n=30) underwent conservative procedures (80% shaving and 20% disc excision), while 26.83% (n=11) underwent radical approaches. The overall complication rate in robotic-assisted surgeries was 19.51% (n=8), with 12.20% (n=5)

of patients experiencing major complications, all of them with suture dehiscence (Clavien–Dindo ≥ III). Clinical or radiological recurrence was observed in 29.27% (n=12) of patients during follow up; among these cases, 75% (n=9) occurred after conservative procedures and of 25% (n=3) after radical surgery.

Conclusions

In this single-centre descriptive study, the adoption of robotic-assisted surgery paralleled an increasing use of conservative techniques for rectal DIE. Perioperative outcomes were acceptable, and recurrence was observed in both groups without a clear difference between approaches. These findings reflect evolving surgical practice toward organ-preserving strategies in complex endometriosis.

ID 137

INDOCYANINE GREEN IN OVARIAN CANCER SURGERY: PROMISING TOOL WITH VARIABLE PERFORMANCE

C. Iavazzo[1], N. N. Armata[1], K. Vatzia[1], G. Panorgias[1], E. Chounta[1], E. Karavioti[1], G. Patsouras[2], G. Vorgias[1], K. Patsouras[1]

[1] Gynaecological Oncology Department, Metaxa Memorial Cancer Hospital of Piraeus, Athens, Greece

[2] Vostanio General Hospital of Mytilene, Lesbos, Greece

Background

Complete cytoreduction remains the most important prognostic factor in ovarian cancer patients. However, intraoperative detection of minimal metastatic implantations, evaluation of lymphatic drainage, and identification of residual disease can be challenging with conventional techniques. Near-infrared fluorescence imaging using indocyanine green (ICG) has been proposed as a tool in improving intraoperative identification of suspicious lesions. This review aims to summarise the available data concerning the use of ICG in ovarian cancer surgery for sentinel lymph node (SLN) mapping and fluorescence-guided minimal tumour detection.

Methods

A structured literature review was conducted in PubMed using the terms "ovarian cancer," "ovarian neoplasms," "ovarian carcinoma," "indocyanine green," and "ICG". A total of 124 articles were retrieved, with title and abstract screening performed for relevance. Studies were excluded if they were non-human, unrelated to ovarian cancer, or did not involve ICG, resulting in the exclusion of 83 articles. Data were extracted from the remaining 41 studies, regarding study design, patient population, clinical indications, and outcomes. 8 studies specifically evaluated the use of ICG in minimally invasive approaches, including laparoscopic and robotic surgery.

Results

Among the included studies, most evidence focused on SLN mapping in early-stage disease. Small clinical and single-centre prospective studies reported high detection rates, frequently exceeding 85%, particularly when ICG was combined with technetium-99m and injected into the infundibulopelvic and utero-ovarian ligaments. Lymphatic drainage was repeatedly identified toward the para-aortic region.

However, results from larger multicentre studies were less consistent. In the SELLY study, the mapping rate was 58.6% and sensitivity 73.3%, raising concerns about reproducibility. Ultrastaging improved detection of low-volume nodal disease. In advanced ovarian cancer, intravenous ICG fluorescence enabled identification of additional peritoneal lesions and residual disease following neoadjuvant chemotherapy.

Nevertheless, specificity remained limited, with positive predictive values often below 50%, reflecting false-positive uptake in benign or treatment-related tissue. Ex vivo nodal fluorescence showed high negative predictive value but poor specificity. Notably, ICG has been successfully integrated into minimally invasive and robotic approaches, supporting its feasibility in modern surgical practice.

Conclusions

ICG fluorescence imaging is a promising addition in ovarian cancer surgery, with the most consistent evidence in SLN mapping. However, heterogenous performance and limited specificity in detecting metastatic disease restrict its current clinical use. Its integration into minimally invasive surgery is favorable, but further studies are needed to define its impact on surgical and oncological outcomes.

ID 138

ROBOTIC SACROCOLPOPEXY WITH HUGO™ RAS IN DEEP ENDOMETRIOSIS: DEEP UTEROSACRAL LIGAMENT "JUMPING" FOR SAFE ACCESS TO THE RECTOVAGINAL SEPTUM

S. Mastrovito[1], D. Arrigo[1], C. Riccetti[1], A. Ercoli[2], F. Fanfani[1], A. Fagotti[1], G. Panico[1]

[1] Department of Woman, Child and Public Health, Fondazione Policlinico Universitario Agostino Gemelli IRCCS; Università Cattolica del Sacro Cuore, Rome, Italy

[2] UOC Ginecologia, Università degli Studi di Roma "Tor Vergata", Rome, Italy

Background

Deep infiltrating endometriosis of the rectovaginal septum (RVS) is associated with fibrosis and distortion of posterior pelvic anatomy, increasing the risk of ureteral, rectal, and autonomic nerve injury. Concomitant pelvic organ prolapse and deep endometriosis represent a rare and surgically demanding association, as reconstructive and excisional principles must be integrated in altered anatomy. Safe access to the RVS is particularly challenging when sacrocolpopexy is required. Deep uterosacral ligament (DUSL), a retroperitoneal neurofascial condensation extending from the

posterolateral cervix toward S2–S4, represents a constant landmark. We present a robotic sacrocolpopexy performed using the Hugo™ RAS platform in a patient with a rectovaginal septum nodule, applying a standardized DUSL-guided cranial crossing technique to achieve safe, nerve-sparing access to the RVS.

Methods

A patient with symptomatic multicompartment prolapse and deep rectovaginal endometriosis underwent robotic sacrocolpopexy using the Hugo™ RAS system. A stepwise retroperitoneal approach was adopted:

1. Right pelvic sidewall opening with rectal mobilisation;
2. Sacral promontory peritoneal incision;
3. Identification of iliac vessels and ureter;
4. Preservation of the hypogastric nerve within Heald's space;
5. Identification of the DUSL as a retroperitoneal band medial to the ureter and lateral to the presacral fascia;
6. Controlled cranial crossing of the DUSL upper margin to enter an avascular subperitoneal plane;
7. Exposure of the RVS;
8. Nerve-sparing excision of the rectovaginal nodule;
9. Posterior mesh placement and completion of sacrocolpopexy.

Results

The DUSL was clearly identified and served as a reproducible anatomical boundary separating the presacral space from the posterior compartment. Cranial crossing of its upper margin consistently allowed entry into an avascular subperitoneal plane corresponding to the subperitoneal Douglas pouch, despite fibrotic obliteration of the cul-de-sac. The RVS was safely exposed under direct visualisation, permitting precise excision of the rectovaginal nodule while preserving the ureter and hypogastric nerve. Posterior mesh placement was achieved without intra-operative complications. No rectal injury, ureteral compromise, or major bleeding occurred.

Conclusions

Although the coexistence of pelvic organ prolapse and deep rectovaginal endometriosis is uncommon, this case illustrates how a fascia-based, landmark-driven approach can facilitate safe posterior compartment dissection in complex anatomy. The DUSL provides a constant retroperitoneal landmark. DUSL-guided cranial crossing enables controlled, nerve-sparing entry into the subperitoneal Douglas pouch and RVS, even in distorted planes. Beyond this rare clinical scenario, this standardised approach may be applicable to complex posterior pelvic surgery where anatomical landmarks are altered by fibrosis, prior surgery, or deep infiltrating disease.

ID 139

ROBOTIC HUDSON PROCEDURE FOR ADVNACED OVARIAN CANCER

A.Roy
Department of Gynaecological Oncology, Manipal Comprehensive Cancer Centre, Manipal Hospital EM Bypass, Kolkata, India

Background

The Hudson procedure is a radical surgical technique for advanced ovarian cancer that removes uterus, tubes, ovaries and pelvic peritoneum en-block via a retroperitoneal approach. It enables complete cytoreduction (CC-0) in omen with fixed ovarian tumour or extensive pelvic peritoneal carcinomatosis, often avoiding rectosigmoid bowel resection.

Objective

To establish the safety and feasibility of Robotic Hudson procedure as a part of interval debulking surgery (IDS) in women with advanced ovarian cancer.

Methods

Women with stage IIIc-IVa epithelial ovarian cancer who had received NACT and were found to be suitable for IDS with a pelvic mass <8 cm on response CT scan were selected for this study at our centre. Laparoscopic assessment was done at initiation of surgery to decide for Robotic surgery or conversion to open surgery. The primary outcome was complete cytoreduction rate (%) and the secondary outcomes were quality of life (EORTC QLQC30/OV28), pain, surgical complications, conversion to open surgery (%), and overall and progression-free survival at 1 year.

Results

Overall, 10 patients who were eligible were recruited. Median age was 62 years (range 45-75). All patients had high grade serous histology. In total, 70 % (7/10) were stage III,30% (3/10) were stage IV, 90% (9/10) had a partial response, while 10% (1/10) had stable disease by RECIST 1.1. Median peritoneal cancer index was 21 (range 6-28). 90% (9/10) underwent robotic interval debulking surgery, and 10% (1/10) had open surgery after initial laparoscopic evaluation.

All patients achieved CC-0. No patients had conversion to open. Median estimated blood loss was 60 mL for robotic (range 30-400 mL), 1500 mL for open (range 1200 -2500 mL) (p=0.001). Median intensive care length of stay was 0 days for robotic (range 0-3) and 3 days (range 3-8) for Open (p=0.012). The median length of stay was 2 days for robotic (range 1-6), 6 days for open (range 5-21) (p=0.012). The time to chemotherapy was as follows 14 days for robotic (range 13-21), 25 days for open (range 22-30) (p=0.139).

Conclusions

Robotic Hudson appears safe and feasible for experienced robotic surgeons in selected patients while attaining complete cytoreduction and avoiding bowel resection.

ID 140

JOINT ROBOTIC SACROCOLPOPEXY AND RECTO-PEXY FOR COMPLEX PELVIC FLOOR PROLAPSE

I. Ptacek[1], R. Boulton[2], Y. Coker[1]
[1] Department of Obstetrics and Gynaecology, Barking, Havering and Redbridge University Hospitals NHS Trust, UK
[2] Department of Colorectal Surgery, Barking, Havering and Redbridge University Hospitals NHS Trust, UK

Background
Patients with concomitant vaginal and rectal prolapse often undergo staged procedures by separate gynaecology and colorectal teams, increasing the overall operative risk and recovery time.

Aim
To demonstrate the safety and feasibility of a combined robotic sacrocolpopexy and rectopexy.

Methods
We present a case from a tertiary centre demonstrating a joint robotic sacrocolpopexy and rectopexy performed collaboratively by colorectal and gynaecological surgeons. Key steps, including peritoneal dissection, mesh placement, and fixation, are highlighted.

Results
Shared robotic operative planes and dual-console use enabled simultaneous repair. Porcine dermal collagen mesh was used for rectopexy and Y-shaped polypropylene mesh for sacrocolpopexy. The procedure was completed robotically without conversion to open surgery. There were no intraoperative or short-term complications. The patient benefited from a single operative procedure, addressing both vaginal and rectal prolapses and avoiding the need for staged surgeries.

Conclusions
Combined robotic sacrocolpopexy and rectopexy appears to be a safe and feasible approach to complex pelvic floor prolapse. The technique enables a multidisciplinary team to treat multi-compartmental disease simultaneously, minimising patient morbidity and leveraging robotic advantages for precise dissection and mesh placement. Prospective cohort studies are needed to evaluate long-term symptomatic and anatomical outcomes.

ID 141

A ROBOTIC APPROACH TO URETERIC AND BLADDER ENDOMETRIOSIS

I. Ptacek[1], A. Shridar[2], Y. Coker[1]
[1] Department of Obstetrics and Gynaecology, Barking, Havering and Redbridge University Hospitals NHS Trust, UK
[2] Department of Urology, University College London Hospitals NHS Trust, UK

Background
Urinary tract endometriosis can lead to significant morbidity if left untreated, including ureteric obstruction, renal compromise and bladder dysfunction. Surgical management aims to clear disease whilst preserving urinary tract function. Robotic surgery, with enhanced vision, dexterity and dual-console mode, enables a conservative and organ preserving approach to surgical management.

Aim
To demonstrate a series of organ preserving robotic surgical treatments for urinary tract endometriosis.

Methods
A video case series of robotic management of ureteric obstruction and bladder endometriosis on joint gynaecology and urology operative lists at a British Society of Gynaecological Endoscopy accredited endometriosis centre. This case series includes; ureterolysis for extrinsic ureteric compression, ureterolysis with ureteric reimplantation and Boari flap formation for extensive distal ureteric disease, ureteric resection with primary end-to-end anastomosis and partial cystectomy for bladder endometriosis. We highlight the role of pre-operative MRI, Mercaptoacetyltriglycine renogram and multi-disciplinary team discussion in surgical planning and how instillation of anterograde and retrograde indocyanine green guided intra-operative decision making.

Results
Robotic surgery facilitated precise dissection and reconstruction, enabling conservative strategies that avoided more extensive procedures where possible. All cases achieved disease clearance while preserving urinary tract function.

Conclusions
Robotic surgery allows a tailored and multi-disciplinary approach to urinary tract endometriosis, reducing the need for extensive reconstruction and offering organ-preserving management for complex endometriosis.

ID 142

SPIEGEL HERNIA – IS IT POSSIBLE IN ROBOTIC SURGERY?

M. Bizon, M. Olszewski
LUX MED Oncology, Warsaw, Poland

Background
Spiegel hernia is a rare spontaneous abdominal anterolateral hernia, which stands 0.12% of abdominal hernia in patients in 40-70 years old. It is an important clinical entity due to its high risk of strangulation. Computed tomography is recommended in diagnosis. Early diagnosis and treatment allow to avoid bowel resection.
The aim of the study was to analise reasons of Spiegel hernia after robotics surgery and prevention.

Methods
76-year-old patient with breast cancer in the past, after mastectomy was admitted to the Clinic because of endometrial cancer G1 for

surgical treatment. In 17th September hysterectomy with bilateralsalpingovariectomy and bilateral sentinel lymph nodes biopsy was performed. Because of bigger uterus, it was removed by Pfannenstiel incision. In the fourth day after surgery the patient complained of lower abdominal pain. The next day there was no symptoms. On the 23th September patient presented nausea, gas stopping and lower abdominal pain. Intestinal obstruction was diagnosed. CT scan was performed. Patient was qualified to exploratory laparoscopy.

Conclusions

1. Perpendicularly insertion of troackars is a prevention of Spiegel hernia.
2. Age, fragility, immunodifieciency are risk factorsof Spiegel hernia.
3. Assistant troackar with less diameter should be consider in case of risk factors of Spiegel hernia.

ID 143

ROBOTIC SURGERY OVERCOMES THE CHALLENGES OF OBESITY IN ENDOMETRIAL CANCER: EVIDENCE OF RAPID AND CONSISTENT POSTOPERATIVE RECOVERY

C. Iavazzo[1], K. Vatzia[1], N. N. Armata[1], G. Panorgias[1], E. Chounta[1], E. Karavioti[1], G. Patsouras[2], K. Patsouras[1]
[1] Gynaecological Oncology Department, Metaxa Memorial Cancer Hospital of Piraeus, Athens, Greece
[2] Vostanio General Hospital of Mytilene, Lesbos, Greece

Background/Aim

Obesity poses a significant challenge in the surgical management of endometrial cancer, being associated with increased technical difficulty and perioperative morbidity. Robotic-assisted surgery has emerged as a minimally invasive approach that may overcome these limitations. This study evaluates perioperative outcomes, with particular emphasis on postoperative recovery and hospital stay.

Methods

A retrospective analysis was conducted of obese patients (BMI >30 kg/m²) undergoing robotic surgery for endometrial cancer at "Metaxa Memorial Cancer Hospital of Piraeus", in Greece. Data was extracted from an institutional database. Evaluated parameters included length of hospital stay (calculated from the date of surgery to discharge), perioperative blood loss as reflected by transfusion requirements, and postoperative pain characteristics.

Results

Over a three-year period (2022–2025), 345 robotic procedures were performed, of which 117 involved endometrial cancer. The BMI distribution within this cohort was as follows: 30–35 kg/m² in 37 patients, 35–40 kg/m² in 59 patients, and >40 kg/m² in 21 patients. The mean postoperative hospital stay was 1.9 days, with a median of 1.6 days (range 1.4–5.6). Recovery was consistently rapid, with most patients discharged slightly beyond 24 hours following surgery.No patient required perioperative blood transfusion, indicating minimal intraoperative blood loss across the cohort. Postoperative pain was generally mild, with the majority of patients reporting discomfort localised to the clavicular region, consistent with referred pain patterns such as Kehr's sign, rather than significant abdominal pain.

Prolonged hospitalisation occurred in a small minority of cases and represented outliers; one such case, attributed to the early learning curve, was excluded from the final analysis. Taken together, these findings reflect low surgical morbidity and enhanced postoperative recovery.

Conclusions

Robotic surgery is associated with a very short postoperative hospital stay in obese patients with endometrial cancer, with recovery typically achieved just beyond 24 hours, while maintaining a zero transfusion rate. These findings support its role as an effective minimally invasive approach capable of overcoming obesity-related surgical challenges.

ID 144

A FIVE YEAR COHORT EVALUATING ONCOLOGICAL OUTCOMES OF ADOPTION OF ROBOTIC SENTINEL LYMPH NODE DISSECTION FOR INTERMEDIATE AND HIGH RISK ENDOMETRIAL CANCER

Amelia Mangroo, Helen Clarke, Meghna Datta, Bridget DeCruze, Rebecca Faulkner, Alice M Schofield, Richard Slade, , Brett Winter Roach, Eva Myriokefalitaki
The Christie NHS Foundation Trust, Manchester, United Kingdom

Background

Pelvic lymph node dissection (PLND) has historically been the standard for surgical staging in endometrial cancer. With the introduction of sentinel lymph node dissection (SLND), many centres have transitioned through a hybrid phase before full adoption. While SLND has demonstrated high diagnostic accuracy, robust real-world data evaluating its impact on oncological outcomes across large cohorts remain limited.

Aim

To evaluate oncological outcomes following the transition from PLND to SLND in patients undergoing robotic surgery for intermediate- and high-risk endometrial cancer in a tertiary centre.

Methods

A retrospective cohort study was conducted including patients undergoing robotic surgical staging for intermediate- and high-risk endometrial cancer between 1 January 2020 and 31 December 2024.

Patients were stratified into three groups based on nodal assessment:
• Pelvic lymph node dissection (PLND)
• Combined sentinel and pelvic lymph node dissection (SPLND)
• Sentinel lymph node dissection alone (SLND)
Clinicopathological variables and oncological outcomes, including recurrence and overall survival, were analysed.

Results
A total of 480 patients were included: 20% underwent PLND, 24.5% SPLND, and 55.4% SLND.

The cohort represented a high-risk population:
• 62% high-grade tumours
• 30.5% p53-mutated disease
• 29% >50% myometrial invasion
• 6.2% cervical stromal involvement
• 18% ≥ FIGO stage III (2009)

Overall recurrence was 17.2%, occurring at a mean of 18 months post-surgery.

Recurrence rates differed across staging groups:
• **PLND:** 29.9%
• **SPLND:** 19%
• **SLND:** 12.4%

When stratified by molecular subtype:
• **p53-mutated tumours:**
  - PLND: 44%
  - SPLND: 39%
  - SLND: 22%
• **p53 wild-type tumours:**
  - PLND: 29%
  - SPLND: 10%
  - SLND: 7%

Across all groups, p53 mutation was strongly associated with increased recurrence:

• 31% (p53-mutated) vs 11.6% (p53 wild-type)

Despite less extensive nodal dissection, the SLND group demonstrated the lowest recurrence rates, suggesting no oncological disadvantage with sentinel node mapping.

Conclusions
Robotic SLND is a safe and effective staging strategy in intermediate- and high-risk endometrial cancer.
In this large real-world cohort, SLND was associated with lower recurrence rates compared to PLND, despite reduced surgical extent. These findings suggest that increasing the extent of lymph node dissection does not overcome the adverse prognostic impact of aggressive tumour biology.
Recurrence risk appears to be predominantly driven by molecular factors, particularly p53 mutation status. These results support the adoption of SLND in high-volume centres as an oncologically sound approach to staging endometrial cancer.

ID 145

ROBOTIC SENTINEL OBTURATOR NODE: STEP-BY-STEP PROCEDURE

Stamatios Petousis[1], Chrysoula Margioula-Siarkou[2]
[1] 2nd Department of Obstetrics and Gynaecology, Aristotle University of Thessaloniki, Greece
[2] 2nd Robotic Gynaecological Clinic, Geniki Kliniki, Thessaloniki, Greece

Background
To describe step-by-step the typical procedure for robotic approach and dissection for pelvic sentinel node located in the obturator area.

Methods
The surgical video of the patient was reviewed along with epideliogical and histopathological characteristics of the case.

Results
The video highlights the basic surgical steps to perform sentinel node excision despite the difficulties that the obturator position may set. Opening of retroperitoneal area, cutting round ligament, recognition of paravesical space, recognition of lymphatic path, dissection of sentinel node, recognition of obturator nerve and excision of sentinel node are the fundamental steps to perform properly the method.

Conclusions
Sentinel node represents a common standard procedure that may safely and effectively be performed robotically.

ID 146

NERVE MATTERS: ROBOTIC HYPOGASTRIC NERVE PRESERVATION IN FROZEN PELVIS ENDOMETRIOSIS

N. Gul, D. Rowlands
MIS Department, Merseyside and Cheshire Endometriosis Centre,Spire Healthcare Wirral, UK

Background
Surgery for deep infiltrating endometriosis in a frozen pelvis is technically demanding and carries a significant risk of pelvic autonomic nerve injury, potentially leading to bladder, bowel, and sexual dysfunction. Preservation of the hypogastric nerves remains a critical yet challenging objective.

Objective
To demonstrate a reproducible robotic technique for hypogastric nerve identification and preservation during excision of severe endometriosis in a frozen pelvis.

Methods
We present a robotic-assisted case of stage IV endometriosis with complete obliteration of the posterior compartment. A structured

stepwise approach was adopted:

1. Retroperitoneal access and systematic ureterolysis
2. Development of pararectal and paravesical spaces
3. Identification of key anatomical landmarks, including the hypogastric nerves
4. Nerve-sparing excision of deep infiltrating endometriotic lesions
5. Restoration of normal pelvic anatomy.

Results

Complete excision of endometriotic disease was achieved. The hypogastric nerves were clearly identified and preserved bilaterally. No intraoperative complications occurred. The patient demonstrated an uneventful recovery with preserved bladder and bowel function in the immediate postoperative period.

Conclusions

Robotic surgery enables precise identification and preservation of the hypogastric nerves, even in complex frozen pelvis cases. A standardized anatomical approach enhances surgical safety and optimizes functional outcomes. Nerve preservation should be considered a fundamental principle in advanced endometriosis surgery.

ID 147

ONE-YEAR AUDIT OF ROBOTIC HYSTERECTOMY: INCIDENCE AND PREVENTION OF SECONDARY PV BLEEDI

N. Gul, D. Rowlands, G. Carr
MIS Gynaecology Department, Merseyside and Cheshire Endometriosis Centre Spire Healthcare, Wirral, UK

Background

Secondary PV bleeding after hysterectomy is reported in 0.2–2% of cases and represents a clinically significant cause of delayed readmission. A one-year retrospective audit of 59 robotic procedures across two institutions (24; 35) was performed. Twenty-one patients underwent hysterectomy.

Methods

There were no intraoperative complications (0/59). Secondary PV bleeding occurred in 2/21 hysterectomy cases (9.5%), both presenting three weeks postoperatively. One patient required transfusion; the other underwent re-look laparoscopy with no active bleeding source identified. Postoperative infection occurred in three cases (5.1%).

Results

Root cause analysis suggests a multifactorial aetiology, including tissue necrosis from thermal spread, delayed vessel sloughing, impaired healing (smoking, diabetes), early mechanical stress, and possible variation in thromboprophylaxis protocols. A Quality Improvement Project was implemented focusing on energy discipline, vault inspection, enhanced counselling, and structured follow-up.

Conclusions

Robotic hysterectomy demonstrates excellent intraoperative safety; however, continuous audit and risk stratification are essential to minimise delayed complications.

ID 148

WHEN PERFECT SURGERY IS NOT ENOUGH: PREVENTING SECONDARY PV BLEEDING IN ROBOTIC HYSTERECTOMY

N. Gul
Merseyside and Cheshire Endometriosis Centre, Spire Healthcare, Wirral UK

Background

Secondary per vaginal (PV) bleeding following hysterectomy is reported in 0.2–2% of cases, with vault infection occurring in 1–4%. Despite meticulous technique, delayed bleeding remains a recognised complication, particularly following minimally invasive surgery.

Methods

This educational video presents two cases of secondary PV bleeding occurring three weeks after robotic hysterectomy in a one-year audit of 59 robotic procedures (21 hysterectomies). Intraoperative footage demonstrates meticulous interrupted Vicryl vault closure in a dry operative field without technical concerns. Both patients later presented with acute bleeding; one required transfusion and conservative management, while the other underwent re-look laparoscopy with normal findings.

Results

The pathophysiology of delayed bleeding, including tissue devascularisation, thermal spread, eschar sloughing, vault infection, and impaired healing. Surgical, patient, and perioperative risk factors are discussed, alongside preventive strategies including careful energy use, vault inspection, patient counselling, and risk-based follow-up.

Conclusions

This video reinforces that technical excellence alone does not eliminate risk; integrating surgical precision with risk stratification and audit-driven reflection optimises postoperative safety.

ID 149

SYDNEY SHAVING TECHNIQUE FOR RECTAL ENDOMETRIOSIS- KDAH EXPERIENCE

Anshumala Shukla Kulkarni
Department of Obstetric and Gynaecology ,Minimally Invasive Gynaecology, Kokilaben Dhirubhai Ambani Hospital, Mumbai India

Background

Deep Infiltrative Endometriosis (DIE): Characterised by lesions extending more than 5 mm beneath the peritoneum, often affecting the rectovaginal septum, bladder, ureters, bowel, and pelvic nerves. Bowel endometriosis, particularly involving the rectovaginal septum, rectum, and sigmoid colon, affects 8-12% of patients with endometriosis.

Primary surgical approaches for rectovaginal endometriosis include rectal shaving, rectal disc resection, rectal segmental resection. In cases of muscular involvement rectal shaving has a chance of inadvertent breach of the submucosa and mucosa which can lead to higher leak rate by primary closure.

Aim

We applied the Sydney Shaving Technique described laparosco-pically in our robotic surgery to excise muscle deep lesions on rectal wall without beach of submucosa and mucosa with primary closure.

Methods

10 cases of rectal lesions ranging form 1.5-3 cm upto muscularis not exceeding 30% of circumferecne were included. Interject needle was used, its a thin needle with a long tune allowing passage through the port to the rectum and delivering diluted methylene blue solution below the lesions. The dye stains the submucosa and mucosa blue clearly seperating the muscularis.

Robotic 3 d visualisation helps to identufy the margin of the firbotic lesion. We used a rectal probe to lift up the anterior rectal wall to give access.

The articulating scissors are then able to stay parallel to the rectal wall and shave off the lesion without entering the submucosa, which is the layer coating blood vessels and nerves. A multi layer closure of the defect is done using pds suture. Integrity of bowel wall is checked with air leak test.

Results and Conclusions

• Careful excision of endometriotic lesions, avoiding unnecessary damage to healthy tissue.
• Bowel preservation, reducing the risk of complications commonly associated with more extensive surgery.

This approach is particularly beneficial for patients who wish to avoid major bowel surgery, offering faster recovery times and a lower risk of post-operative complications. The dye helps isolating the lesion and robitic vision and instruments all precise dissection. In our experience we used this technique in 10 patients with rectal wall involvement successfully with no leak, infection and good outcome at the end of 6 months follow-up.

ID 150

REAL-TIME SURGICAL GUIDANCE WITH INTRAOPERATIVE ULTRASOUND USING TILE PRO IN ROBOTIC SURGERY FOR BOWEL ENDOMETRIOSIS

Anshumala Shukla, Anushka Mehta, Priyanshi Thakur, Kiran Konda
Department of Obstetrics and Gynaecology, Minimally Invasive Gynaecology, Kokilaben Dhirubhai Ambani Hospital, Mumbai India

Background

Deep infiltrating endometriosis (DIE) involving the bowel poses a surgical challenge in accurately assessing lesion depth and determining the extent of resection. Pre opartive Mri can under or over report the lesions, especially in cases that have lot of fibrosis or adhesions from past surgery.

Aim

We have used intraoperative Usg probe (endoultrasound) as a guide to determine the presence, extend and depth of the lesion in order to ensure complete excision. In cases who are post previous surgery this has also helped eliminate the need of any bowel excision saving the patinet an incision on the bowel wall. Intraoperative endorectal ultrasound (Endo-USG), integrated with the robotic TilePro interface, facilitated real-time assessment and precision in bowel deep infiltrating endometriosis surgery.

Methods

All procedures were performed using a robotic surgical platform. After completion of pelvic dissection and exposure of the rectovaginal and pararectal spaces, intraoperative endorectal ultrasound was performed to assess bowel wall involvement. IOUS was conducted using a standard high-frequency endorectal ultrasound probe (e.g.,GE Healthcare endocavitary transducer, 5–9 MHz), commonly available in tertiary centres in India.

The examination was performed by the operating gynaecological surgeon holiding the probe with robotic grasper and using tile pro to visualise the exact location of the lesion.

Ultrasound assessment included evaluation of bowel wall layers-serosa, muscularis propria, and submucosa-using longitudinal and transverse scanning planes. We used intrarectal saline to fill the bowel lumen and allow good delineation of the anterior wall.

Lesions were identified as hypoechoic nodules or plaques, and depth of infiltration was determined based on disruption or thickening of the muscularis layer. In redo surgery we found it useful to identify normal musculature with no lesion and only superficial fibrosis.

The ultrasound image was integrated into the robotic console using the TilePro™ system, allowing simultaneous visualisation of the operative field and ultrasound image during dissection. This enabled real-time correlation between ultrasound findings and surgical anatomy.

Conclusions

Integration of Endo-USG through the robotic TilePro system further enhances precision. With TilePro, the surgeon views both the operative field and the ultrasound image simultaneously on the console screen, guiding dissection and confirming complete lesion clearance intraoperatively.[8] This dual-visualization approach reduces intraoperative uncertainty, lowers risk of incomplete resection, and preserves bowel integrity.

ID 151

ROBOTIC SENTINEL LYMPH NODE BIOPSY: EVALUATING ANATOMICAL MAPPING AND DOCUMENTATION

M. Dokmeci[1,2,3,4], E. Brierley[1], A. Corha[1], D. Chandrasekaran[1], N. Francis[3,4,5,6]

[1] Department of Gynaecological Oncology, UCLH, London, UK
[2] Institute for Women's Health, UCL, London, UK
[3] The Griffin Institute, Harrow, UK
[4] Hawkes Institute, UCL, London, UK
[5] Department of Colorectal Surgery, Somerset NHS Foundation Trust, Somerset, UK
[6] Division of Surgery and Interventional Science, UCL, London, UK

Background/Aim

Endometrial cancer is the most common gynaecological cancer, with most patients diagnosed early and two-thirds undergoing minimally invasive surgery. Sentinel lymph node biopsy (SLNB) is the standard of care for uterine-confined disease and is becoming established in cervical cancer. However, variability in surgical technique and the absence of Level-1 evidence highlight the need for precise anatomical mapping and accurate SLN identification. SLN identification essential.

Furthermore, while the robotic approach to SLNB (rSLNB) is rapidly gaining adoption, robotic expertise alone does not confer proficiency in rSLNB with approximately 40 cases required to achieve competence. AI could mitigate both technical variability and accelerate training through guidance on mapping complete- ness and nodal identification. Through this project, we aim to evaluate our rSLNB practice and identify areas for improvement in surgical technique and documentation.

Methods

This retrospective evaluation was conducted at a tertiary gynae-oncology centre. Consecutive patients with pre-op Stage-1 EC between 2020-2024 undergoing robotic SLNB were included. The anatomical site of SLN mapping and excision were extracted from operation notes and histology. Descriptive statistics were performed using MS Excel.

Results

Successful mapping of at least one sentinel lymph node (SLN) was achieved in 122/133 cases (92%). However, documentation of anatomical mapping was highly variable. In operative records, 73% (n=89) documented only opening of the pelvic sidewall or retroperitoneal space without specifying a defined anatomical compartment, while 18% (n=22) contained no documentation of anatomical space at all. The obturator fossa was the most frequently specified site (12%, n=12). In 10% (n=12), the site of SLN excision was not specified.

A total of 276 SLN specimens were submitted for histological analysis, of which 7% (n=21) contained no lymphatic tissue. Positive SLNs were identified in 9.8% of patients (n=12), including bilateral positivity in two cases. Where documented, positive nodes were in the obturator (n=5), external iliac (n=4), and infra-iliac (n=1) regions; anatomical location was not documented in two cases.

Overall, 44% (n=55) of cases demonstrated discrepancies between anatomical sites recorded in operative notes and those reported on histology, most frequently in cases with non-specific or absent anatomical documentation.

Conclusions

Incomplete documentation of anatomical sites made it unclear whether incomplete mapping reflected surgical technique or inadequate recording. We aim to address this through a standardised operation note. Additionally, future integration of AI tools may enable objective verification of anatomical mapping and SLN identification to improve surgical training and patient outcomes.

ID 152

ROBOTIC VERSUS LAPAROSCOPIC APPROACH IN THE PELVIC AND PARAAORTIC LYMPHADENEC- TOMY IN GYNAECOLOGICAL CANCER STAGING

Pluvio J. Coronado, Nerea Olivares, Mar Ramírez, Mónica Bellón, Javier F. García-Santos

Women's Health Institute, Hospital Clinico San Carlos. IdISCC, Faculty of Medicine, Complutense University, Madrid, Spain

Objective

To compare the perioperative outcomes of robotic-assisted (RAL) and laparoscopic (LPL) pelvic and paraaortic lymphadenectomies for the staging of gynaecological cancers.

Methods

A prospective non-randomised study was carried out in the hospital Clinico San Carlos of Madrid, a tertiary centre for women's health. We include all women diagnosed with endometrial or ovarian carcinoma who underwent staging surgery, which included a pelvic and paraaortic lymphadenectomy. All women were operated by the same surgical team and using the same surgical techniques. RAL was performed using the Da Vinci System standard until 2015, followed by Xi. A comparison analysis of perioperative outcomes and complications was performed.

Results

Out of the 204 patients selected, 146 women (71.6%) were opera-

ted by RAL and 58 (28.4%) by LPL, 114 were diagnosed of endometrial, 79 ovarian and 11 cervical cancers. There were no differences between robotic-assisted and laparoscopy for the type of cancer, comorbidities, parity, presurgical hemoglobin, rate of hysterectomy and rate of omentectomy. In the robotic group, the age, IMC and ASA score 3-4 were significantly higher than in the laparoscopy group.

The time to change from pelvic to superior abdomen field was higher in RAL than in the LPL group (14.5 vs. 10.8 min; p=0.001). There were no differences between the RAL and LPL groups regarding the skin-to-skin operating time (183.6 min vs. 180.3 min, respectively), number of pelvic (16,6 vs 16.2), and paraaortic nodes (8.2 vs. 10.0), estimated blood loss (111.7 vs. 115.1 ml), and hospital stay (4.5 vs. 3.3 days).

Overall complications rate was less common in RAL than in LPL (13.0% vs. 31.0%, respectively, p=0.003): intraoperative (2.1% vs. 1.7%, p=0.878) and postoperative (11.6% vs. 39.3%; p=0.002). The tiredness of the surgeon was lower in RAL than in LPL (4.7 vs. 6.8 over 10 points; p<0.001).

Conclusions

Robotic-assisted pelvic and paraaortic lymphadenectomy for the staging of endometrial and ovarian cancer is comparable to the laparoscopic approach except in the complication rate and fatigue. RAL has fewer complications and less surgeon fatigue, in a group of women who are older, more obese and with worse ASA scores than the LPL group.

ID 153

ROBOTIC ASSISTED HYSTERECTOMY IN ADVANCED ENDOMETRIOSIS

J.Raina
Max Superspeciality Hispital, Dehradun, Uttarakhand, India

Background

I have submitted video of Robotic assisted Hysterectomy in Advanced Endometriosis.

This video shows extensive bowel and B/L ureteric and pararectal dissection and removal of rectal endometriotic nodule in a case of deep infiltrating endometriosis.

It shows how robotic 3D vision is very efficient in cases of pelvic Endometriosis with decreased morbidity and better patient outcome.

ID 154

FIRST ROBOTIC ASSISTED MYOMECTOMY IN WEST AFRICA: A CASE REPORT

A. Abdullahi[1,2], O. Ekwenna[2], I. Wada[1], D. Ejenobo[1], I. James[2]
[1] Department of Obstetrics and Gynaecology, Nisa Premier Hospital, Alex Ekwueme Way, Jabi, Abuja, Nigeria
[2] Robomed Academy, No 14, Tapeta Street, British Village, Wuse 2, Abuja, Nigeria

Background

Gynaecological surgery across Africa has traditionally relied on open abdominal procedures, despite minimally invasive techniques being the global standard of care. High equipment costs, infrastructural challenges and limited technical support have restricted the adoption of robotic surgical platforms in low and middle income countries (LMICs). This case report describes the first robotic assisted myomectomy performed in West Africa, demonstrating the feasibility of implementing robotic gynaecological services in a resource constrained setting through a multi-disciplinary specialty programme.

Methods

A 22 year old female presenting with symptomatic uterine fibroids underwent robotic assisted myomectomy at NISA Premier Hospital, Abuja, Nigeria in January 2026. The Procedure was performed using the Toumai MT 1000, a four arm robotic platform, and was conducted as part of a structured multi-disciplinary specialty programme involving gynaecology, urology and general surgery.

Results

The procedure was completed successfully with minimal intra-operative blood loss, no requirement for blood transfusion, reduced post-operative pain and 48 hours discharge.

Conclusions

This case demonstrates that robotic surgery for gynaecological conditions is feasible and safe in resource constrained settings when supported by structured training models, robust multi-disciplinary collaboration and dedicated institutional partnerships.

ID 155

ROBOTIC SINGLE-PORT (SP) RESECTION OF A PRESACRAL OLIGOMETASTATIC OVARIAN CANCER RECURRENCE USING ICG-GUIDED URETERAL VISUALISATION

D. Vatansever, O. Turkkan, B. Giray, E. Erhan Donmez, M. Canturk, M. Arvas, C. Taskiran
Department of Obstetrics and Gynaecology, Division of Gynaecological Oncology, Koc University Hospital, Istanbul, Turkey

Background/Aim

To demonstrate the feasibility, safety, and technical advantages of the Da Vinci Single Port (SP) platform in the surgical management of isolated presacral recurrences in patients with a history of multiple abdominal surgeries.

Methods

We present the case of a 67-year-old female with recurrent high-grade serous ovarian carcinoma. Imaging (Thoracoabdominal CT and PET-CT) identified an isolated 1.5 cm oligometastatic

recurrence located in the presacral area. The procedure was performed using the Da Vinci Single Port (SP) system through a single 3.7 cm transumbilical incision. Due to the patient's prior surgical history, extensive adhesiolysis was required to access the pelvic cavity. To ensure surgical safety and precise navigation near the right ureter (adjacent to the mass), Indocyanine Green (ICG) was administered via cystoscopy to both ureters.

Results

The Firefly™ fluorescence mode allowed for real-time, clear visualisation of the ureters, significantly facilitating the safe dissection of the mass from the surrounding retroperitoneal tissues. A Nelaton catheter was utilised for efficient aspiration during the procedure. The mass was successfully resected with no intraoperative complications. The patient's recovery was excellent; she bypassed the intensive care unit and was discharged on postoperative day 2.

Conclusions

The Da Vinci SP platform, coupled with ICG-guided ureteral visualisation, provides a safe and minimally invasive approach for complex oncological reoperations. This technique allows for high-precision dissection in difficult anatomical locations like the presacral space, even in the presence of significant postoperative adhesions, while optimizing patient recovery times.

ID 156

SINGLE-PORT ROBOTIC CYTOREDUCTION FOR RECURRENT OVARIAN CANCER: A PROSPECTIVE CASE SERIES ON FEASIBILITY AND SAFETY

Lucia Ribero[1], Gabriella Schivardi[1], Livia Xhindoli[1], Alessia Aloisi[1], Maria Teresa Achilarre[1], Ilaria Betella[1], Annalisa Garbi[1], Giovanni Damiano Aletti[1,2], Nicoletta Colombo[1], Angelo Maggioni[1], Francesco Multinu[1,2], Vanna Zanagnolo[1]

[1] Department of Gynaecology, European Institute of Oncology, IEO, IRCCS, Milan, Italy

[2] Department of Oncology and Hemato-Oncology, University of Milan, Milan, Italy

Background

Single-port robotic surgery has demonstrated feasibility and safety in gynaecological oncology, with previous studies focusing on primary surgery and staging procedures. Its application in recurrent ovarian cancer, a technically demanding setting characterised by carefully selected patients with prior surgery, has not been described. This study aims to assess the role of single-port robotic surgery in secondary cytoreduction in recurrent ovarian cancer.

Methods

We conducted a prospective cohort study of all consecutive patients who underwent a single-port robotic approach for recurrent ovarian cancer at the European Institute of Oncology, Milan, between July 2024 and March 2026. Surgical procedures were performed by a dedicated gynaecological oncology team in accordance with international guidelines. Patient demographics, intra-operative characteristics, and post-operative outcomes were prospectively collected.

Results

Nine patients underwent single-port robotic cytoreduction for recurrent ovarian cancer. Median age was 61 years (IQR 54–66), median BMI was 22.3 kg/m² (IQR 19-24), and all patients (100%) had a history of prior abdominal surgery. FIGO stages ranged from I to IV (stage I: n=3, 33.3%; stage III: n=4, 44.4%; stage IV: n=2, 22.2%). Histotypes included epithelial carcinoma in 7 patients (77.8%): high-grade serous carcinoma (n=6, 66.7%) and clear cell carcinoma (n=1, 11.1%); and non-epithelial tumors in 2 patients (22.2%) corresponding to granulosa cell tumours.

All patients presented with oligometastatic recurrence. Procedures included secondary cytoreduction in 7 patients (77.8%) and tertiary cytoreduction in 2 (22.2%). Cytoreductive procedures included isolated tumour resection (n=5, 55.6%), single-site hepatic resection (n=1, 11.1%), and combined resections involving peritonectomy, splenectomy, or omentectomy (n=3, 33.3%). Complete cytoreduction (R0) was achieved in all 9 patients (100%). Median operative time was 105 minutes (IQR 91-144), median estimated blood loss was 30 mL (IQR 10–50), and median length of stay was 2 days (IQR 2–3).

No conversion to multi-port or open surgery occurred, and no additional ports were required. There were no intraoperative or postoperative complications. At a median follow-up of 4 months (IQR 1-6), 6 patients (66.7%) were alive with no evidence of disease and 3 (33.3%) alive with disease.

Conclusions

Single-port robotic cytoreduction is feasible and safe in recurrent ovarian cancer, even in heavily pretreated patients with advanced disease. The complete cytoreduction rate, zero conversion rate, and absence of complications extend the applicability of single-port robotic surgery beyond primary surgery and support its selective use in cytoreductive surgery for recurrence within high-volume referral centres.

ID 158

ROBOTIC ABDOMINAL CERVICAL CERCLAGE FOR RECURRENT SECOND-TRIMESTER PREGNANCY LOSS

E. Kaya[1], E. Kahraman[2], D. Gedik[2], E. Karabuk[2], F. Kose[2]

[1] Department of Obstetrics & Gynaecology, Doruk Health Group, Bursa, Turkey

[2] Department of Obstetrics & Gynaecology, Acibadem University Hospital, Istanbul, Turkey

Background/Aim

Cervical insufficiency is a significant cause of recurrent second-trimester pregnancy loss. While transvaginal cervical cerclage remains the first-line treatment, failure in selected cases necessitates

alternative approaches. Abdominal cervical cerclage (ACC), particularly when performed prior to pregnancy, has demonstrated improved obstetric outcomes in patients with prior unsuccessful vaginal cerclage. With advances in minimally invasive surgery, robotic-assisted ACC offers enhanced dexterity, precision, and suturing capability. This video aims to demonstrate the surgical steps and feasibility of robotic abdominal cervical cerclage using polypropylene mesh in a patient with recurrent pregnancy loss due to cervical insufficiency.

Methods

We present the case of a 30-year-old patient with a history of two second-trimester pregnancy losses. In her first pregnancy, a cervical cerclage was placed at 21 weeks of gestation; however, spontaneous abortion occurred at 23 weeks. In the second pregnancy, a prophylactic cerclage was performed at 12 weeks, followed by an additional cerclage at 18 weeks due to cervical dilatation; this pregnancy ended at 21 weeks. Given the failure of transvaginal cerclage, a preconception abdominal cerclage was planned.

A robotic-assisted approach was selected due to its minimally invasive nature and superior suturing capabilities. Instead of conventional suture material, a polypropylene mesh was utilised to reinforce the cervicoisthmic region and potentially reduce recurrence risk. The key surgical steps are demonstrated in the accompanying video.

Results

The robotic abdominal cerclage procedure was completed successfully without intraoperative complications. The mesh was securely placed at the cervicoisthmic junction with optimal positioning. Operative time was 65 minutes and blood loss was minimal. The patient had an uneventful postoperative course and was discharged on postoperative day one. No early complications were observed.

Conclusions

Robotic-assisted abdominal cervical cerclage is a safe and effective minimally invasive option for patients with cervical insufficiency and prior failed vaginal cerclage. The use of polypropylene mesh may provide additional structural support and reduce recurrence risk, although further studies are needed to evaluate long-term outcomes. This technique combines the benefits of minimally invasive surgery with enhanced precision, making it a promising alternative in selected high-risk patients.

ID 159

FEASABILITY OF ROBOT-ASSISTED LAPAROSCOPIC CYTOREDUCTIVE SURGERY IN ADVANCED STAGE ENDOMETRIAL CANCER: A RETROSPECTIVE COHORT STUDY

J.S. Toelsie, A. de Jong, R.P. Zweemer, J.P. Hoogendam, C.G. Gerestein
Department of Gynaecological Oncology, Division of Imaging and Oncology, University Medical Center Utrecht, Utrecht, the Netherlands

Background/Aim

Cytoreductive surgery is an important component of treatment for patients with advanced-stage endometrial cancer. In recent years, robot-assisted laparoscopy has increasingly been adopted in gynaecological oncology. However, data on robot-assisted laparoscopic cytoreduction in endometrial cancer remains limited. This retrospective single-centre cohort study evaluated the feasibility of robot-assisted laparoscopic cytoreductive surgery in patients with advanced-stage endometrial cancer.

Methods

Between May 2017 and December 2025, 35 patients with FIGO 2009 stage III–IV endometrial cancer underwent robot-assisted laparoscopic cytoreductive surgery as part of their primary treatment at a tertiary academic referral centre. All patients underwent preoperative assessment with transvaginal ultrasound and thoracic and abdominal computed tomography. Clinical and surgical data were extracted from medical records. Intraoperative and postoperative complications within 42 days were graded according to CTCAE version 5.0. Data are presented as counts (percentages) and median (interquartile range).

Results

Patient and tumour characteristics were as follows: age was 67.0 years (IQR 61.0-74.0) and BMI was 26.5 kg/m2 (IQR 24.1-30.1). Histological subtypes included endometrioid- in 19 patients (54.0%), serous- in 11 patients (31.0%), clear cell adenocarcinoma in three patients (9.0%), carcinosarcoma in one patient (3.0%) and squamous cell carcinoma in one patient (3.0%). 25 patients (71.4%) had FIGO 2009 stage III disease and six patients (17.0%) had FIGO 2009 stage IVB disease. In four patients (11.4%), advanced-stage disease was detected perioperatively and cytoreductive surgery was performed. No conversions to laparotomy were required.

Complete cytoreduction was achieved in 28 patients (80%). Operative time was 186 minutes (IQR 136-262), estimated blood loss was 100 ml (IQR 50-200), and length of hospital admission was three days (IQR 3.0-4.0). Perioperative complications occurred in four patients (11.4%) and included serosal injury, vaginal laceration, obturator nerve injury, and vagally mediated bradycardia during pneumoperitoneum insufflation. All were managed intraoperatively with complete recovery. Within 42 days, one patient (3.0%) developed a grade ≥3 complication consisting of small bowel herniation through a subumbilical port site requiring surgical re-intervention, with complete recovery.

Conclusions

Robot-assisted laparoscopic cytoreduction appears to be a feasible

and safe approach for the primary surgical management of advanced-stage endometrial cancer.

ID 161

ROBOT-ASSISTED LATERAL ENDOPELVIC RESECTION OF LEIOMYOSARCOMA WITH URETERAL REIMPLANTATION

M. Barahona, G. Molina, S. Fernandez-Gonzalez, L. Martí, J. Ponce
University Hospital of Bellvitge (IDIBELL), University of Barcelona, Barcelona, Spain

Background

A 73-year-old female patient was referred to our institution with a diagnosis of a retroperitoneal mass incidentally detected during imaging for nonspecific abdominal discomfort. PET/CT scan revealed a well-defined, heterogeneous lesion located in the right retroperitoneal space, closely associated with the right ureter and adjacent vascular structures. Radiological features were suggestive of a retroperitoneal sarcoma, and multidisciplinary evaluation recommended surgical resection with curative intent.

Methods

The patient underwent a robotic-assisted retroperitoneal tumour resection using the da Vinci Xi surgical system. Preoperatively, indocyanine green (ICG) was instilled through a pre-existing right percutaneous nephrostomy tube to facilitate intraoperative ureteral visualisation. This approach allowed precise delineation of the ureteral course, which was essential given the tumour's proximity and partial encasement of the structure.

The procedure was performed via a transperitoneal robotic approach. After careful adhesiolysis, the retroperitoneal space was accessed and the mass was identified. Near-infrared fluorescence imaging enabled clear identification of the ICG-enhanced ureter, significantly reducing the risk of inadvertent injury during dissection. Despite meticulous surgical technique, a segment of the right ureter was found to be inseparable from the tumour, needing resection.

Results

Following complete tumour excision with negative macroscopic margins, attention was turned to urinary reconstruction. A right ureteral reimplantation was performed using a psoas hitch technique to ensure a tension-free anastomosis. The bladder was mobilised and anchored to the psoas muscle, allowing adequate approximation to the remaining ureteral segment. Ureteral reimplant was subsequently completed over a double-J stent to ensure patency and promote optimal healing.

Hemostasis was achieved, and a surgical drain was placed in the operative field. The patient tolerated the procedure well, with no intraoperative complications. Postoperative recovery was uneventful, with stable renal function and no evidence of urinary leakage. The ureteral stent was removed six weeks postoperatively without incident.

Histopathological analysis confirmed a high-grade retroperitoneal sarcoma with negative surgical margins. At follow-up, the patient remained asymptomatic, with no radiological evidence of recurrence and preserved renal function.

Conclusions

This case illustrates the feasibility and effectiveness of a robotic-assisted approach using the da Vinci Xi platform in the management of complex retroperitoneal sarcomas. Furthermore, the use of ICG via nephrostomy provides a valuable adjunct for ureteral identification, enhancing surgical safety and precision, particularly in cases requiring concomitant ureteral resection and reconstruction.

ID 162

STANDARDISED ROBOTIC TYPE II RADICAL HYSTERECTOMY WITH SLN MAPPING AND PROTECTIVE SPECIMEN EXTRACTION IN FIGO IB1 ENDOCERVICAL ADENOCARCINOMA: STEP-BY-STEP VIDEO

T. Zengin Aksel
Department of Gynaecological Oncology, Etlik City Hospital, Ankara, Turkey

Background/Aim

Sentinel lymph node (SLN) mapping is increasingly adopted in early-stage cervical adenocarcinoma to reduce surgical morbidity while maintaining oncological safety. Protective specimen extraction strategies are critical in minimally invasive approaches to minimise intraperitoneal tumour spread. The aim of this video is to demonstrate a standardised robotic Type II radical hysterectomy with SLN mapping and protective specimen extraction, highlighting key technical steps, anatomical landmarks, and oncological safety measures.

Methods

A 46-year-old premenopausal woman (G2P2) with FIGO 2018 stage IB1 endocervical adenocarcinoma underwent robotic surgery. Indocyanine green was injected for SLN mapping. Key steps included retroperitoneal dissection, ureteral mobilisation, uterine artery control, parametrial resection within Type II limits, and bilateral SLN identification. The vaginal cuff was secured using an endoscopic stapling device (EndoGIA with a green cartridge), and the specimen was enclosed in an endobag and extracted vaginally. Key technical tips and anatomical landmarks are highlighted throughout.

Results

Final pathology confirmed complete resection with negative surgical margins. The tumour measured 8 × 10 mm, with deep stromal invasion, and was endocervical type adenocarcinoma. LVSI was positive. Bilateral sentinel lymph nodes (2 right, 2 left) were negative for macro- or micrometastases and isolated tumour cells, and the

adnexa (ovaries and fallopian tubes) were histologically normal. Parametrium, vaginal cuff, and peritoneal lavage samples were negative. These findings demonstrate that the procedure was oncologically safe and reproducible, with protective specimen extraction minimising the risk of intraperitoneal tumour dissemination.

Conclusions

Robotic Type II radical hysterectomy with SLN mapping and protective specimen extraction is a feasible, reproducible, and safe approach in early-stage endocervical adenocarcinoma. Standardisation of surgical steps combined with protective extraction techniques enhances oncological safety, particularly in LVSI-positive cases, by minimising the risk of tumour spillage.

ID 163

ROBOTIC APPROACH TO SECONDARY CYTOREDUCTION WITH DISTAL GASTROSPLENOPANCREATECTOMY IN RECURRENT HIGH-GRADE SEROUS OVARIAN CANCER

Andrea Rosati[1], Silvio Andrea Russo[2], Claudia Diella[2], Virginia Vargiu[1], Guido Lancellotti[2], Matteo Figà[2], Giovanni Esposito[2], Matteo Bruno[1], Sara Mastrovito[1], Francesco Santullo[3], Anna Fagotti[1,2]

[1] Department of Woman, Child and Public Health Science, Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Rome, ITALY
[2] Catholic University of the Sacred Heart, Rome, ITALY
[3] Surgical Unit of Peritoneum and Retroperitoneum, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy

Background/Aim

Secondary cytoreductive surgery (SCS) provides a survival advantage in recurrent high-grade serous ovarian carcinoma (HGSOC) when complete macroscopic resection is achievable. Splenic recurrence occurs in less than 2% of cases, while pancreatic or gastric involvement is even more exceptional, requiring complex upper-abdominal procedures traditionally reserved for open surgery.

The evolution of minimally invasive and robotic techniques has progressively expanded cytoreductive indications to these challenging anatomical areas. We report a case of robotic distal gastrosplenopancreatectomy for isolated splenic recurrence of HGSOC.

Methods

A 68-year-old woman with FIGO stage IVB HGSOC, BRCA1/2 wild type, underwent primary debulking in December 2020 followed by six cycles of carboplatin–paclitaxel and maintenance niraparib until August 2024, achieving a platinum-free interval of 42 months. In February 2025, imaging revealed an isolated 6 × 5.5 cm lesion within the splenic parenchyma, extending to the hilum and contiguous with the pancreatic tail and gastric curvature. Preoperative three-dimensional (3D) reconstruction supported surgical planning and anatomical assessment. A robotic distal pancreatectomy, splenectomy and partial gastrectomy were performed using the Da Vinci Xi system.

Results

The procedure was completed entirely robotically without conversion or intraoperative complications. Blood loss was minimal, oral intake resumed on postoperative day 3, and discharge occurred on day 7. Final pathology confirmed metastatic HGSOC with negative margins (R0). No postoperative complications were observed, and the patient remains disease-free at 6 months follow-up.

Conclusions

Robotic distal gastrosplenopancreatectomy represents a feasible and effective option for secondary cytoreduction in selected patients with upper-abdominal recurrence of HGSOC. Preoperative 3D planning enhances anatomical understanding and complements robotic capabilities. The combination of robotic precision, three-dimensional visualisation, and tremor filtration allows the surgeon to safely perform demanding dissections in narrow anatomical spaces, achieving optimal cytoreduction with reduced morbidity and faster recovery.

ID 164

ICG-GUIDED NERVE-SPARING PELVIC AND PARA-AORTIC LYMPHADENECTOMY FOR EARLY-STAGE OVARIAN CANCER STAGING WITH THE HUGOTM RAS PLATFORM

A. Rosati, D. Arrigo, R. Oliva, S. Mastrovito, E. Perrone, F. Fanfani, A. Fagotti
Department of Woman, Child and Public Health, Gynaecological Oncology Complex Unit, Catholic University of the Sacred Heart, Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy

Background

Comprehensive surgical staging is the cornerstone of management in early-stage epithelial ovarian cancer (EOC), with systematic pelvic and para-aortic lymphadenectomy representing a critical component for accurate FIGO classification and adjuvant treatment planning. The adoption of minimally invasive surgery for ovarian cancer staging has progressively increased, supported by evidence demonstrating comparable oncological safety alongside reduced morbidity, shorter hospital stay, and faster recovery.

Robotic-assisted platforms further extended the feasibility of complex retroperitoneal dissection through improved 3D-visualisation and instrument articulation. The HUGO™ RAS system (Medtronic) represents one of the most recent additions to the robotic surgical landscape, offering multi-quadrant accessibility and modular arm configuration. Indocyanine green (ICG) fluorescence imaging has emerged as a valuable intraoperative adjunct, enabling real-time delineation of lymphatic channels, vascular anatomy, and neural structures. In the context of lymphadenectomy, ICG-guided technique holds particular promise for nerve-sparing approaches,

potentially reducing postoperative dysfunctions while maintaining surgical radicality.

Methods

We report the case of a 45-year-old patient (BMI 27 kg/m²) who presented with bilateral adnexal masses suspicious for malignancy. Diagnostic laparoscopy with bilateral adnexectomy was performed; intraoperative frozen section raised the suspicion of a secondary metastatic tumour. Subsequent negative gastroscopy and colonoscopy excluded a non-gynaecological primary, and final histopathology confirmed ovarian grade 2 endometrioid adenocarcinoma. The patient was therefore scheduled for robotic radical staging surgery with the HUGO™ RAS platform.

Following four-arm robotic docking, ICG was administered via cervical injection to enable fluorescence-guided mapping of lymphatic drainage pathways. Systematic pelvic and para-aortic lymphadenectomy was then performed using an ICG-assisted nerve-sparing technique, with en-bloc nodal removal under continuous ICG guidance to identify and preserve vascular and neural structures throughout the dissection.

Results

Total operative time was 205 minutes; estimated blood loss was 150 mL. No intraoperative or postoperative complications were recorded, and the patient was discharged on postoperative day 3. ICG fluorescence provided real-time enhanced visualisation of lymphatic channels and nodal tissue boundaries, facilitating a more precise and anatomically complete nodal dissection while clearly delineating adjacent vascular and neural structures for selective preservation.

Conclusions

This case demonstrates that ICG-guided nerve-sparing pelvic and para-aortic lymphadenectomy is safe and feasible on the HUGO™ RAS platform in the context of early-stage ovarian cancer surgical staging. ICG fluorescence integration offers a meaningful technical advantage, enhancing intraoperative anatomical discrimination and potentially reducing neurological morbidity without compromising surgical radicality. Larger series and longer follow-up are warranted to confirm reproducibility and define the oncological and functional impact of this approach.

ID 165

BARRIERS TO SAME DAY DISCHARGE IN EARLY ROBOTIC GYNAECOLOGY - ARE PATHWAY FACTORS MORE IMPORTANT THAN CASE COMPLEXITY?

S. Gordon, S. Gurram, M. Allam, M. Gherghe
University Hospital Wishaw, Scotland, UK

Background/Aim

Same-day discharge (SDD) after minimally invasive hysterectomy is safe, feasible and cost-effective, with rates of discharge exceeding 75% after implementation of dedicated peri-operative pathways. Randomised controlled trials has shown SDD after laparoscopic hysterectomy to be non-inferior to next-day discharge for recovery and quality-of-life outcomes, while UK guidance supports expansion of day-case hysterectomy pathways. Predictors of unsuccessful SDD reported in the literature include higher ASA grade, greater blood loss, longer operating time, later finishing time and larger uterine size.

Methods

We performed a retrospective review of the first 8 months of robotic-assisted gynaecological hysterectomy in a University Hospital in NHS Lanarkshire, UK. All robotic hysterectomy cases were undertaken by two consultant surgeons during implementation of a new robotic programme. Both surgeons were experienced in complex pelvic gynaecological surgery and in SDD pathways for total laparoscopic hysterectomy. Cases were assessed for operative complexity, specimen size, body mass index (BMI), duration of surgery and discharge outcome. For patients not discharged on the same day, case-note review was undertaken to identify the barrierr to discharge, including patient-related, clinical and pathway factors.

Results

A total of 49 cases were reviewed. Same-day discharge was achieved in 82% of robotic hysterectomy cases, comparable to established laparoscopic pathway performance in our unit. Operative time and postoperative length of stay decreased with increasing experience on the robotic platform despite progression to more complex cases. Review of unsuccessful SDD cases suggested that pathway-related factors, including deviation from the usual enhanced recovery pathway and later completion time, were more influential barriers to discharge than surgical complexity alone. Additional contributing factors included medical co-morbidity and social circumstances.

Conclusions

In the early phase of robotic gynaecology implementation, same-day discharge was achievable and reproducible within an established minimally invasive pathway. Our local experience suggests that pathway factors may be more important than case complexity in determining discharge success. Optimisation of enhanced recovery processes, patient selection, pre-operative counselling and theatre flow may improve SDD rates further as robotic programme develops.

ID 166

ROBOTIC TOTAL HYSTERECTOMY + SLN WITH SINGLE-PORT DA VINCI SYSTEM

E. Primizia[1], S. Bruni[2] , V. Zanagnolo[1]

[1] Department of Gynaecology, European Institute of Oncology IRCCS, Milan, Italy
[2] Gynaecological Oncology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori di Milano, Milan, Italy

Background/Aim

Robotic-Assisted Single Port Total Hysterectomy, Bilateral Salpingo-Oophorectomy, and Sentinel Lymph Node Mapping: Step-by-Step Surgical Technique and Feasibility.

The aim of this video is to demonstrate the feasibility and surgical efficiency of the Robotic Single Port (SP) platform in performing a comprehensive staging procedure. The surgery includes total hysterectomy, bilateral salpingo-oophorectomy (BSO), and sentinel lymph node (SLN) biopsy through a single umbilical incision.

Methods

We utilised the Da Vinci SP® system through a 3 cm transumbilical incision. The procedure follows a standardised approach: Indocyanine Green (ICG) injection into the cervix for SLN mapping. Retroperitoneal dissection using the SP platform's unique articulated instruments to identify and excise the sentinel lymph nodes bilaterally.

Total hysterectomy and BSO with a focus on maintaining pneumoperitoneum and optimal triangulation despite the single-entry point. Vaginal cuff closure using a barbed suture.

Results

The articulated technology of the SP system allowed for excellent visualisation and maneuverability in the narrow pelvic space, overcoming the "clashing" typical of traditional laparo-endoscopic single-site surgery (LESS). No additional ports were required. The patient was discharged on postoperative day 1 with minimal pain scores and an optimal cosmetic result.

Conclusions

Robotic Single Port surgery is a safe and reproducible technique for complex gynaecological oncology procedures. It combines the precision of traditional robotics with the improved cosmetic outcomes of single-incision surgery, without compromising the oncological principles of SLN mapping and pelvic dissection.

ID 167

DOES SIZE MATTER? ROBOTIC HYSTERECTOMY FOR ALL WOMEN?

S. Gordon[1], M. Gherghe[1], I. Martin[2], I. Sokolova[2]
[1] University Hospital Wishaw, Department of Gynaecology, Scotland, UK
[2] University Hospital Crosshouse, Department of Gynaecology, Scotland, UK

Background/Aim

Current published literature does not demonstrate increased rates of SDD following robotic hysterectomy (RH), although single centre studies are showing benefits in reducing post-operative length of stay. The advantages of RH over laparoscopic hysterectomy (LH) are more evident as surgical complexity increases. With proven benefit in favour of RH for reductions in perioperative morbidity, estimated blood loss (EBL), post-operative complications, post-operative length of stay and readmission ratesas uterine size increases.

Early studies suggested that large uteri prohibited SDD hysterectomy. However, retrospective analysis does not identify uterine size as a significant predictive factor for unsuccessful SDD In LH, uterine weight has been shown to be an independent risk factor for complications, with associated correlation between uterine weight and increased operative duration. When considering the benefits of RH on large uteri, shorter operative duration appears to have a positive effect on the likelihood of SDD.

Aims

To evaluate surgical and post-operative outcomes in patients undergoing RH with uterine weight >250g to determine if uterine weight influences operative duration, EBL, and SDD rates. Secondary outcomes included assessment of correlation between uterine weight and postoperative outcomes and pain scores.

Methods

Prospective data was collected from forty patients who underwent planned SDD following RH at University Hospital Crosshouse, Scotland from July 2023 to August 2024. All patients had benign indications for hysterectomy, with uterine weight > 250g.

Demographic and perioperative data was analysed, including BMI, functional status, ASA classification, co-morbidities, EBL, operative duration, length of post-operative stay, complications and readmissions.

Results

Mean uterine weight of 775.78 ± 567.61g, (range: 251–2900g). There was no significant correlation between uterine weight and operative duration ($p > 0.05$), with a mean operative duration of 70.63 ± 38.25 minutes. Linear regression analysis demonstrated no significant relationship between uterine weight and EBL ($p > 0.05$).

In this initial cohort only five patients required in-patient admission due to variables unrelated to uterine size. There were no post-operative readmissions and no statistically significant association between uterine weight and postoperative pain scores (mean 0.5 ± 0.92).

Conclusions

Within this cohort, we have demonstrated that uterine size did not impact operative duration, EBL, SDD success or post-operative recovery following RH. Robotic surgery can overcome the limitations of LH when approaching large uteri and can improve access to same day discharge hysterectomies for women regardless of surgical complexity or uterine size.

ID 168

DECONSTRUCTING BLADDER ENDOMETRIOSIS: THE "BLADDER" SEVEN-STEP ANATOMICAL ROADMAP FOR PRECISION ROBOTIC EXCISION

Saima Farooq[1], Amer Raza[2]
[1] Fellow in Endometriosis and Robotics Cromwell Hospital, London, UK
[2] Consultant in Gynaecology and Robotics Cromwell Hospital, London, UK

Background

Bladder endometriosis is an uncommon yet technically demanding manifestation of deep infiltrating endometriosis, often associated with severe pelvic pain, urinary dysfunction, and significant impairment in quality of life. Surgical excision of large bladder nodules presents considerable challenges due to proximity to ureters, bladder mucosa, and surrounding pelvic structures. Achieving complete resection while preserving function requires meticulous anatomical understanding and a structured surgical strategy.

Methods

This video report outlines a reproducible, anatomy-driven surgical technique in a highly symptomatic patient with a 4 cm bladder endometriotic nodule confirmed on pre-operative MRI.

A combined gynaecological and urological approach was adopted. Pre-operative cystoscopy with bilateral ureteric stent placement was performed to delineate ureteric anatomy and assess mucosal involvement.

Robotic excision was undertaken using a structured seven-step "BLADDER" approach: Bladder mobilisation, Landmark identification, Assessment of disease extent, Delineation of surgical planes, Dissection via layered excision, Evaluation of bladder integrity, and Reconstruction. This stepwise framework emphasised early anatomical orientation, protection of ureteric orifices, and controlled excision of the lesion.

Results

The nodule was excised incrementally in layers to maintain orientation, minimise bladder wall trauma, and avoid unnecessary full-thickness cystotomy. Clear margins were achieved while preserving surrounding structures. Bladder repair was performed where indicated, with intraoperative confirmation of watertight closure. The patient had an uncomplicated recovery with marked postoperative symptom improvement.

Conclusions

The "BLADDER" approach provides a structured and reproducible framework for the robotic management of complex bladder endometriosis. By integrating anatomical precision with stepwise execution, this technique facilitates safe, complete excision while minimising morbidity. Such standardised approaches may enhance surgical training, reproducibility, and patient outcomes in advanced endometriosis surgery.

ID 169

GUIDED BY GREEN: MULTIMODAL INDOCYANINE FLUORESCENCE ENHANCING SAFETY IN SINGLE-PORT ROBOTIC GYNAECOLOGICAL SURGERY

Saima Farooq[1], Amer Raza[2]
[1] Fellow in Endometriosis and Robotics Cromwell Hospital, London, UK
[2] Consultant in Gynaecology and Robotics Cromwell Hospital, London, UK

Background

Indocyanine green (ICG) fluorescence imaging has become an increasingly valuable adjunct in minimally invasive surgery, enabling real-time visualisation of critical anatomical structures and tissue perfusion. In advanced gynaecological endoscopy - where procedural complexity is high and complications may carry significant morbidity - technologies that enhance intraoperative precision and safety are essential to improving surgical outcomes.

Methods

This video-based study demonstrates the multimodal application of ICG fluorescence imaging within single-port robotic gynaecological surgery. A curated series of operative clips highlights four principal applications. Firstly, ICG facilitates ureteric identification during complex retroperitoneal dissection in severe endometriosis, supporting safer surgical planes and reducing the risk of ureteric injury.

Secondly, ICG-guided myomectomy is illustrated, where intracavitary instillation delineates the endometrial cavity, enabling precise fibroid enucleation while preserving uterine integrity. Thirdly, ICG is utilised to assess bowel perfusion following segmental colorectal resection for deep infiltrating endometriosis, allowing real-time evaluation of vascularity and anastomotic viability. Finally, adjunctive dye testing is employed to confirm tissue perfusion and structural integrity where clinically indicated.

Results

Across all demonstrated applications, ICG fluorescence provides immediate and dynamic visual feedback, enhancing anatomical orientation, supporting tissue-preserving surgical techniques, and refining intraoperative decision-making in complex surgical settings.

Conclusions

The incorporation of indocyanine green fluorescence into single-port robotic gynaecological surgery represents a paradigm shift towards visually guided precision surgery. By providing real-time functional and anatomical insight, this approach enhances surgical confidence, refines dissection, and safeguards critical structures.

The multimodal use of ICG not only augments intraoperative decision-making but also supports a transition towards safer, technology-driven, patient-centred surgical practice in complex gynaecological procedures.

ID 170

ONE PORT, GIANT UTERUS, AND THE GEOMETRY IN BETWEEN: A SINGLE-PORT ROBOTIC HYSTERECTOMY APPROACH

Saima Farooq[1], Amer Raza[2]
[1] Fellow in Endometriosis and Robotics Cromwell Hospital, London, UK
[2] Consultant in Gynaecology and Robotics Cromwell Hospital, London, UK

Background

Robotic hysterectomy is well established in the management of both benign and malignant uterine pathology, particularly in cases involving significantly enlarged uteri. Multi-port robotic systems have expanded the scope of minimally invasive surgery through enhanced visualisation, improved ergonomics, and safer access to complex anatomical planes.

The emergence of single-port platforms introduces a distinct surgical perspective, where spatial geometry and instrument alignment become central to navigating challenging pelvic anatomy.

Methods

This video presents a single-port robotic hysterectomy performed for a markedly enlarged uterus weighing 1.4 kg. A structured, stepwise operative technique is demonstrated, including exposure, bladder mobilisation, identification and control of the uterine vessels, and progressive specimen mobilisation.

A defining feature of this approach is the simultaneous deployment of four articulating robotic instruments through a single access point, enabling a finely orchestrated interplay of traction and counter-traction, precise tissue dissection, and controlled energy delivery within a confined operative field. This coordinated instrument choreography illustrates how geometric alignment can be leveraged to maintain clarity and efficiency, even in technically demanding scenarios.

Results

The single-port platform provided a centralised, coaxial view of the operative field, facilitating intuitive instrument navigation and improved access to deep pelvic planes. Bladder dissection and vascular control were achieved in a controlled and anatomically consistent manner.

Despite the substantial uterine size, the procedure was completed efficiently without the need for additional ports. With increasing familiarity, the single-port approach may reduce the technical challenges traditionally associated with large uterine surgery.

Conclusions

This case highlights how single-port robotic hysterectomy can effectively address the technical demands of a giant uterus by utilising spatial geometry and coordinated instrumentation. In experienced hands, this approach enhances precision, streamlines complex dissection, and supports safe surgical outcomes, reinforcing the expanding role of single-port robotics in advanced gynaecological surgery.

ID 171

OPTIMISING DETECTION AND ROBOTIC MANAGEMENT OF VAGINAL ENDOMETRIOTIC NODULES: VALUE OF SYSTEMATIC INTRAOPERATIVE SPECULUM EXAMINATION BEYOND MRI

Saima Farooq[1], Amer Raza[2]
[1] Fellow in Endometriosis and Robotics Cromwell Hospital, London, UK
[2] Consultant in Gynaecology and Robotics Cromwell Hospital, London, UK

Background

Vaginal endometriotic nodules represent an under-recognised yet clinically significant manifestation of deep infiltrating endometriosis, frequently associated with severe pelvic pain and deep dyspareunia. These lesions are often challenging to detect preoperatively, even with advanced imaging, leading to incomplete excision and persistent symptoms. Accurate identification and meticulous surgical planning are therefore essential to optimise patient outcomes and reduce recurrence.

Methods

We present a consecutive series of ten patients undergoing surgical management for vaginal endometriotic nodules in 2025. All patients underwent comprehensive preoperative assessment, including detailed symptom profiling, pelvic examination, and pelvic MRI. Preoperative MRI identified vaginal nodules in 6/10 cases.

At the commencement of surgery, a systematic speculum and rectovaginal examination under anaesthesia was performed, identifying vaginal nodules in 9/10 patients, including lesions not detected on imaging. All nodules were completely excised using a robotic-assisted approach.

Results

Concurrent rectal involvement was identified in six patients; four were managed with rectal shaving, while two required discoid excision. There were no intraoperative or postoperative complications, and all patients were discharged within 24 hours. Follow-up at three and six months demonstrated significant clinical improvement.

At six months, 9/10 patients reported marked symptom relief, with median pain scores improving from 9/10 preoperatively to 3/10 postoperatively, alongside improvement in deep dyspareunia. All patients were referred for pelvic floor physiotherapy to address associated vaginismus and optimise functional recovery.

Conclusions

This series highlights the limitations of MRI in detecting vaginal

endometriotic disease and reinforces the critical value of systematic intraoperative assessment. Integrating symptom correlation - particularly dyspareunia - with imaging findings, alongside a high index of intraoperative suspicion, enables comprehensive detection of occult disease. A robotic surgical approach facilitates precise dissection and complete excision, ultimately improving symptom control, enhancing recovery, and supporting sustained long-term patient outcomes.

ID 172

THE FIRST COMPARATIVE COHORT STUDY IN EUROPE, DEMONSTRATING REDUCED POSTOPERATIVE PAIN WITH SINGLE-PORT VERSUS MULTI-PORT ROBOTIC GYNAECOLOGICAL SURGERY

Saima Farooq[1], Amer Raza[2]
[1] Fellow in Endometriosis and Robotics Cromwell Hospital, London, UK
[2] Consultant in Gynaecology and Robotics Cromwell Hospital, London, UK

Background

Single-port robotic surgery has emerged as a refined advancement in minimally invasive gynaecological techniques, designed to limit abdominal wall disruption while preserving operative precision. Postoperative pain remains a central factor influencing recovery trajectory, patient experience, and early functional outcomes. Despite growing adoption of robotic platforms, comparative data evaluating pain outcomes between single-port and conventional multi-port approaches in gynaecology, particularly within European settings, remain scarce.

Methods

A comparative cohort analysis was undertaken in patients undergoing robotic gynaecological procedures at a high-volume tertiary centre. Postoperative pain was quantified using a numerical rating scale (0–10) at predefined intervals: 4 hours, 8 hours, day 3, and day 7 post-surgery. Analyses were conducted for the entire cohort as well as procedure-specific subgroups, including endometriosis, myomectomy, and hysterectomy. Statistical evaluation incorporated adjustments for multiple comparisons using false discovery rate methodology.

Results

Patients undergoing single-port robotic surgery demonstrated consistently lower pain scores compared with those undergoing multi-port procedures across early and intermediate postoperative time points, including 4–8 hours and day 3, with statistical significance maintained following adjustment ($p<0.01$). By day 7, pain levels were comparable between groups.

Subgroup analysis revealed a uniform trend favouring the single-port approach. In endometriosis cases, a notable shift towards reduced pain severity was observed. Comparable benefits were identified in both myomectomy and hysterectomy groups. The analgesic advantage of the single-port technique was evident early and persisted through the initial recovery phase.

Conclusions

This study provides the first European evidence supporting the superiority of single-port robotic gynaecological surgery in reducing early postoperative pain. By minimising access-related tissue trauma without compromising surgical efficacy, the single-port approach represents a meaningful advancement in patient-centred minimally invasive surgery. These findings not only strengthen the evolving role of single-port robotics in complex gynaecological procedures but also establish a foundation for future high-quality prospective and randomised trials to validate and expand its clinical applicability.

ID 173

SINGLE-PORT ROBOTIC NOSE EXCISION FOR RECTOSIGMOID ENDOMETRIOSIS: A NOVEL TRANSANAL APPROACH

Saima Farooq[1], Amer Raza[2]
[1] Fellow in Endometriosis and Robotics Cromwell Hospital, London, UK
[2] Consultant in Gynaecology and Robotics Cromwell Hospital, London, UK

Background

Natural orifice specimen extraction (NOSE) has emerged as an advanced minimally invasive technique, enabling retrieval of colorectal specimens through natural openings such as the rectum or vagina, thereby minimising abdominal wall trauma and reducing postoperative morbidity compared to conventional extraction methods. Although NOSE has been previously described in both laparoscopic and robotic segmental resections for deep infiltrating endometriosis involving the bowel, comprehensive descriptions of true internal excisional approaches via natural orifice access remain scarce.

Methods

We describe a novel surgical approach — the Robotic NOSE excision technique — in which deep rectosigmoid endometriosis is managed entirely through natural orifice access using a single-port robotic platform. The technique involves meticulous mobilisation of the diseased bowel segment, followed by transanal intraluminal excision and specimen retrieval through the anal canal, thereby completely avoiding any abdominal extraction incision. The utilisation of single-port robotic technology enhances precision, dexterity, and visualisation within a confined operative field, facilitating safe and controlled dissection.

Results

This video demonstrates the stepwise execution of the Robotic NOSE technique across three cases of deep bowel endometriosis. Key procedural elements highlighted include patient positioning, strategies for transanal access, robotic instrument coordination, rectal wall closure techniques, and adherence to oncological and

functional surgical principles. In all cases, the procedure was successfully completed using a purely minimally invasive approach without the need for additional abdominal extraction incisions.

Conclusions

Preliminary outcomes indicate that this technique is both feasible and safe, with potential advantages including reduced postoperative pain, faster recovery, and improved cosmetic outcomes. To our knowledge, this represents the first reported case series of single-port robotic NOSE excision for bowel endometriosis, introducing a potential paradigm shift in the minimally invasive surgical management of complex colorectal endometriosis.

ID 174

WHEN SIZE CHALLENGES SURGERY: A ROBOTIC APPROACH TO GIANT FIBROID UTERUS

S. Gordon[1], M. Gherghe[1], I. Martin[2], I. Sokolova[2]
[1] University Hospital Wishaw, Department of Gynaecology, Scotland, UK
[2] University Hospital Crosshouse, Department of Gynaecology, Scotland, UK

Background

Systematic reviews and meta-analyses evaluating the benefits of robotic surgery in benign gynaecology have shown inconsistent results. However, there has been increasing adoption of robotic-assisted hysterectomy for surgically complex cases, particularly in patients with large, multi-fibroid uteri.Conventional laparoscopic hysterectomy becomes progressively more challenging as uterine size increases, largely due to the limitations of single-articulation instruments and ergonomic inefficiency in the pelviswhich increases the conversion rate to open hysterectomy, larger blood loss and prolonged operating time.

In contrast, technical advantages of robotic-assisted hysterectomy become more apparent with increasing case complexity. Retrospective studies suggest improved perioperative outcomes in robotic-assisted hysterectomy for large uteri when compared with conventional laparoscopic approaches.

Methods

This video abstract presents a case of robotic-assisted hysterectomy for a 2.717 kg multi-fibroid uterus in a 42 year-old patient with BMI 39 undergoing surgery for benign disease with heavy menstrual bleeding.

We are using the da Vinci Xi robotic system with a 3-arm approach. Instrument choreography included Forced bipolar, Vessel sealer and Monopolar scissors.

The video focuses on the operative flow and efficiency despite markedly enlarged uterine size. Key steps demonstrated include systematic development of pelvic spaces, direct ureter identification without use of ICG, opportunistic dissection to maximise exposure as anatomy evolves during surgery, and a structured surgical flow designed to facilitate safe pedicle control and progressive uterine devascularisation.

Results

The 3-arm robotic platform enabled effective traction and counter-traction, precise dissection in restricted pelvic spaces and secure vascular pedicle control despite the size of the uterus and distorted anatomy. Early development of pelvic spaces and direct visual identification of the ureters, without reliance on ICG, supported safe dissection throughout. Opportunistic dissection and a consistent operative sequence improved exposure and allowed timely progression through a technically challenging hysterectomy.

Conclusions

In the presence of large uterine fibroids and distorted anatomy, the robotic platform enhances exposure, dexterity, precision and ergonomics, helping to maintain a minimally invasive approach where standard laparoscopy may be limited. This video demonstrates a reproducible technique for robotic-assisted hysterectomy in a large fibroid uterus and supports the role of Robotic surgery in maintaining minimally invasive approach. Moreover, the three-arm approach improves cost effectiveness, cosmesis and post-operative pain related to abdominal incisions while still enabling safe and efficient surgery.

ID 175

NO SAFE ENTRY? A ROBOTIC STRATEGY FOR THE HOSTILE ABDOMEN

S. Gordon[1], M. Gherghe[1], I. Martin[2], I. Sokolova[2]
[1] University Hospital Wishaw, Department of Gynaecology, Scotland, UK
[2] University Hospital Crosshouse, Department of Gynaecology, Scotland, UK

Background

Iatrogenic abdomino-pelvic adhesions present a significant operative challenge during minimally invasive surgery. Patients with a history of prior gynaecological or general surgical procedures demonstrate an increased incidence of dense adhesions at the umbilicus, the conventional primary port site for robotic hysterectomy.

Across specialities, conventional laparoscopic surgery maintains slightly shorter operative durations, partly attributable to docking times, which can range from 4 to 29 minutes. However, publications are emerging with a focus on practical techniques to minimise this disruption.

The common practice approach to intra-abdominal adhesions frequently involves initial laparoscopic adhesiolysis prior to robotic docking. This hybrid approach not only adds additional procedural cost due to the use of sequential instruments which, in time, could threaten the economic viability of robotic surgery, but also significantly increases operating time and burden of additional theatre set up.

Methods

This video demonstrates a robotic-assisted technique for division of dense intra-abdominal adhesions in a patient with previous midline laparotomy and left ureteric re-implantation. The view at Palmer's point entry shows extensive omental and bowel adhesions to the anterior abdominal wall, extending to the level of the liver . The video focuses on surgical flow, multiple docking, use of advanced energy device and opportunistic dissection strategy to allow safe dissection of adhesions, adequate visualisation of pelvic and abdominal organs.

The robotic platform used was the da Vinci Xi system. Docking and targeting were performed twice during the procedure in response to operative needs.

Results

In the first phase, a single robotic instrument, the Vessel sealer, was used for controlled adhesiolysis while working space remained restricted. After further release of adhesions and improved access, the robot was re-docked and the operation proceeded as a standard three-arm robotic procedure.

The pelvic dissection was guided by tissue planes that could be safely developed thereby improving flow of the procedure. The right ureter was identified with the aid of intra-ureteric indocyanine green. The re-implanted ureter was not visualised because of dense adhesions and fibrosis. The video highlights how progressive adhesiolysis, adaptation of port strategy, and stepwise placement of robotic instrumentation can maintain flow of procedure and achieve safe Robotic adhesiolysis.

Conclusions

Modified docking strategy, single-instrument robotic dissection, and subsequent transition to a three-arm approach, allowed safe progression and efficient use of the robotic platform. This modified strategy with multiple docking technique may be useful in selected cases where dense adhesions would otherwise disrupt standard robotic setup and operative flow.

ID 176

TRANSFORMING GYNAECOLOGICAL CANCER SURGERY: A UK CENTRE'S EXPERIENCE WITH VERSIUS IMPLEMENTATION

P. I. Stanciu, L. Daleno, L. Ferousis, A. Mitra, M. Padwick
West Hertfordshire Teaching Hospitals NHS Trust, UK

Background

The introduction of robotic-assisted surgery (RAS) has overcome many of the technical limitations of laparoscopic surgery. In the current study we report on the implementation of the Versius system (CMR Surgical, UK), a modular, portable RAS platform for soft tissue surgery, at the West Hertfordshire Cancer Centre.

Methods

A retrospective analysis was conducted of over 700 consecutive hysterectomies performed for gynaecological malignancies between January 2021 and August 2025. Our analysis included 139 robotic procedures undertaken by four experienced surgeons following the introduction of Versius RAS in our department in February 2023. Perioperative outcomes included operative time, estimated blood loss, length of stay, conversion to laparoscopy or laparotomy, and complications. Robotic learning curves for two surgeons with sufficient case volume were assessed in a standardized subgroup.

Case complexity - based on BMI, disease stage, nulliparity, and prior laparotomies - across open, laparoscopic, and Versius procedures during the implementation period was compared with a pre-implementation cohort to explore the system impact of introducing Versius.

Results

In the Versius group, mean age and BMI were 65.52 years and 29.63, respectively. The majority of patients were diagnosed with endometrial cancer. Mean operative time was 178 minutes, mean estimated blood loss was 76 mL, and mean length of stay was 1.86 days. Two conversions to laparotomy occurred early in the learning curve, with no major complications were reported.

In the post-implementation period, more than half of all surgeries were performed via a minimally invasive approach (robotic: 137/417 [32.9%]; laparoscopy: 76/417 [18.2%]), compared with 112/301 (37.2%) cases pre-implementation. The introduction of Versius was also associated with an increase proportion of high complexity cases performed using minimally invasive techniques.

Conclusions

Our study demonstrates that the implementation of the Versius robotic system in a gynaecological cancer centre is safe and effective. Importantly, its adoption is associated with increased utilisation of minimally invasive surgery, even in higher complexity cases, extending access to the benefits of minimally invasive approaches for more patients.

ID 177

ROBOTIC ASSISTED SECONDARY CYTOREDUCTION IN CASE OF CARCINOMA OVARY

Rohit Ranade[1], Shusruth Shetty[2], Urvangi Thacker[3], Shruthi Dhevi[4], Aditya Gan[5]
[1] Senior Consultant and Clinical Lead in Dept of Gynaecological Oncology
[2] Consultant in Department of GI Surgery
[3] Fellow in Robotic Gynaecological Oncology and Gynaecology
[4] Consultant in Dept. of Gynaecological Oncology
[5] Fellow in Dept of Gynaecological Oncology, Narayana Health City, Bengaluru, Karnataka, India

Background

High-grade serous carcinoma (HGSC) of the ovary is the most

aggressive epithelial ovarian cancer, often diagnosed at advanced stages. Despite optimal cytoreduction and platinum-based chemotherapy, recurrence is observed in nearly 70% of patients.

Secondary cytoreductive surgery (SCS) improves outcomes in selected patients with platinum-sensitive relapse, particularly when complete cytoreduction is achievable. Minimally invasive approaches, especially robotic-assisted surgery, are increasingly utilised owing to advantages in precision, visualisation and recovery.

Objective

The anatomical complexity of SCS, due to adhesions and recurrent disease distribution, can be addressed with the enhanced dexterity and three-dimensional vision provided by robotic platforms, potentially improving surgical outcomes with reduced morbidity.

Methods

We report the case of a 52-year-old postmenopausal woman with chronic liver disease and hypertension, previously treated with laparoscopic hysterectomy and bilateral salpingo-oophorectomy for uterine pathology elsewhere, accidentally post operatively diagnosed with HGSC of ovary by histopathology, followed by six cycles of paclitaxel-carboplatin chemotherapy. Interval cytoreductive surgery with HIPEC was performed at our centre in August 2023 for residual disease.

On follow up, surveillance imaging revealed a pelvic cystic lesion suspicious for recurrence after disease free interval of 22 months. Initial image guided aspiration of fluid was negative for malignancy but subsequent MRI confirmed solid enhancing components at the interval of a month hence, she was planned for robotic-assisted SCS.

Intraoperatively, following adhesiolysis, a vascular mass infiltrating the rectum was identified. The gastrointestinal team performed a robotic-assisted lower anterior resection with transverse colostomy. Complete excision was achieved, and the patient had an enhanced postoperative recovery.

Results

With the aid of advanced robotic technology, a complex case like carcinoma ovary with local recurrence involving multiple previous surgeries and dense adhesions, it was managed successfully without inadvertent injuries and large abdominal incision. The patient experienced an enhanced postoperative recovery.

Conclusions

Robotic-assisted surgery is a feasible and effective option for secondary cytoreduction in localised recurrent ovarian carcinoma, enabling complete resection with enhanced postoperative recovery in carefully selected patients.

ID 178

AI-ENHANCED MINIMALLY INVASIVE PELVIC SURGERY: A SYSTEMATIC REVIEW AND IMPLICATIONS FOR GYNAECOLOGY

M. Dokmeci[1,2,3,4], A. Nabiyeva[1], L. Mennillo[4,5], F. Tesfai[1,2,3], E. Mazomenos[4,5], D Chandrasekaran[1], N Francis[3,4,6,7]

[1] Department of Gynaecological Oncology, UCLH, London, UK
[2] Institute for Women's Health, UCL, London, UK
[3] The Griffin Institute, Harrow, UK
[4] Hawkes Institute, UCL, London, UK
[5] Department of Medical Physics and Biomedical Engineering, UCL, London, UK
[6] Department of Colorectal Surgery, Somerset NHS Foundation Trust, Somerset, UK
[7] Division of Surgery and Interventional Science, UCL, London, UK

Background/Aim

The intraoperative application of Artificial Intelligence (AI) is evolving rapidly within pelvic minimally invasive surgery (MIS), including Colorectal Surgery, Urology and Gynaecology. This review aims to synthesise the evidence on intraoperative AI-tools in pelvic MIS to evaluate their clinical purpose and technical performance and determine where Gynaecology stands relative to other pelvic surgical specialties.

Methods

This systematic review was conducted in accordance with PRISMA 2020 guidelines. A search was performed on Medline, EMBASE, IEEE Xplore, Web of Science, MedRxiv and ArXiv. Studies were screened, full texts reviewed, and data extracted by two independent reviewers. Studies reporting on intraoperative AI-tools utilising human MIS pelvic surgical video or image data as input, aiming to support, guide, assess, or analyse the surgical procedure with online (real-time) or offline functions were included. Studies where outcomes were not specific to pelvic surgery were excluded. Data were extracted on surgical context, dataset and annotation characteristics, AI model characteristics, performance and validation strategies, and the impact of AI-tools on surgical performance, training, and patient outcomes.

Results

A total of 1,277 studies were identified, of which 69 met inclusion criteria. Our preliminary results show most studies focused on a single surgical specialty (n=64, 93%), while five(7%) reported on multiple specialties. Among single-specialty studies, Colorectal Surgery was the most frequently represented(n=28, 41%), followed by Urology (n=26, 38%) and Gynaecology (n=15, 22%). Of all included studies, 40(58%) focused on malignant pathology, seven (10%) on benign, nine(13%) on mixed pathologies, and 13(19%) did not specify any indications.

Within the 16 gynaecological studies, the majority focused on benign pathologies(n=6, 40%) or did not report any indication(n=7, 47%), with two reporting mixed pathologies(13%). Full analysis of dataset and annotation characteristics, AI model characteristics including task category and validation strategy, and performance metrics is ongoing. The impact of intraoperative AI tools on surgical performance,

training outcomes (e.g. skill acquisition, retention and time to competency) and clinical outcomes (eg. estimated blood loss, length of surgery, conversion rate, complications and recovery) will be reported in the final analysis.

Conclusions

Our review highlights the rapid development of intraoperative AI tools for pelvic MIS even though the field remains at an early stage. However, Gynaecology remains notably underrepresented within this landscape relative to colorectal surgery and urology, and concerted efforts must be made to ensure that patients with both benign and malignant gynaecological conditions are not left behind as this field continues to mature.

ID 179

PELVIC SENTINEL LYMPH NODE IN ENDOMETRIAL CARCINOMA – HOW TO OPTIMIZE LYMPHATIC MAPPING WITH ICG?

R. Torres, M. Cal, A. Vitorino, L. Vieira Pinto, H. Nabais
Fundação Champalimaud, Lisbon, Portugal

Background

Endometrial carcinoma is the most common gynaecological cancer in Europe. In early stages, surgical staging consists of total hysterectomy with bilateral salpingo-oophorectomy (THBSO) and lymph node assessment. Sentinel lymph node biopsy (SLNB) allows reduction of the morbidity associated with systematic lymphadenectomy while maintaining the prognostic information regarding lymph node involvement.

When lymph node mapping fails, reinjection of the tracer, selective excision of suspicious nodes, or ipsilateral systematic pelvic lymphadenectomy should be performed.

Methods

The authors present the video of a 46-year-old patient, with no relevant medical history, admitted for robot-assisted THBSO + SLNB due to endometrioid endometrial carcinoma, grade 2, MMRp, p53wt.

The video demonstrates the effectiveness of tracer reinjection after failure of right pelvic lymphatic mapping. Histological diagnosis confirmed endometrioid endometrial carcinoma, grade 2, confined to the inner half of the myometrium, without lymphovascular invasion and without lymph node involvement – pT1aN0.

Conclusions

In some cases, intraoperative reinjection of the tracer enables proper identification of the sentinel lymph node.

SERGS

19th Annual SERGS Meeting

May 27th-29th, 2027 / Paris, France



See You in Paris!

https://conference.sergs.org

SERGS EDUCATIONAL NETWORK SERGS (SEN)

Society of European Robotic Gynaecological Surgery

www.sergs.org

© 2026 SERGS. All rights reserved.