

BEYOND GYNECOLOGIC SURGERY

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CONGRESS & EXHIBITION

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ABSTRACTS BOOK



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**PLENARY
AND
PARALLEL
SESSIONS**

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Transabdominal Laparoscopy or Transvaginal Natural Orifice Transluminal Endoscopic Surgery: HALON trial: a double blind randomized controlled trial

Objective:

To compare transvaginal Natural Orifice Transluminal Endoscopic Surgery (vNOTES) Hysterectomy and Total Laparoscopic Hysterectomy (TLH) for the successful removal of the uterus for benign gynecological pathology.

Design:

Randomized controlled, single center, double blind, parallel-group, non-inferiority, efficacy study. ClinicalTrials.gov: NCT02631837

Setting: Gynecology department of non-university teaching hospital in Belgium.

Patients: We studied women with a benign indication for hysterectomy aged 18-70. Women with a history of rectal surgery, rectovaginal endometriosis, malignancy, PID, active lower genital tract infection, virgo or pregnancy were not eligible.

Interventions: After written informed consent, women were randomly allocated to vNOTES Hysterectomy or TLH by using a computer generated randomization list. All procedures were performed by a surgeon equally skilled in performing both techniques, who was not blinded to the treatment allocation. Participants, nursing staff and outcome assessors were blinded by sham incisions. Pre- and postoperative treatment was provided by staff blinded for the allocated intervention using a standardized protocol, identical for both techniques.

Primary outcome was successful removal of uterus with the intended approach without conversion to another approach. Secondary outcomes were proportion of women discharged on the same day, based on their own preference, postoperative pain scores between day 1-7 and total use of analgesics, postoperative infection, per- or postoperative complications according to Clavien-Dindo classification; hospital readmissions, surgery duration, dyspareunia, sexual wellbeing and direct costs up to 6 weeks.

Main Results: All 70 patients were successfully operated with the intended approach (35 vNOTES; 35 TLH) without conversion to another approach. Secondary outcome measures demonstrated the following benefits of vNOTES over TLH: Shorter surgery duration (41vs75 min., $P<0.001$); more women left hospital within 12 hours ($P=0.007$); shorter hospital stay ($P=0.004$); less postoperative complications ($P=0.009$); less analgesics used ($P=0.006$); lower pain scores ($P=0.003$).

Conclusion: vNOTES and TLH are equally efficacious for benign hysterectomy. vNOTES decreases operating time and hospitalization, allows more women to leave the hospital on the day of surgery, and reduces postoperative complications and pain.

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Is my smartphone screen the future of endoscopic surgery: iHysterectomy Frugal by iPhone

Technological innovations enable us to reduce the invasiveness of surgery. Since the 1990's endoscopic hysterectomies have replaced abdominal hysterectomies. More recently surgical robots have been introduced in our surgical practices; at the same time we are replacing laparoscopic hysterectomies by even less invasive vNOTES hysterectomies.

Due to the high cost of these technological innovations, this reduction in invasiveness of surgery is only available for first world women. In low resource settings abdominal hysterectomies remain the standard.

We present a very low cost endoscopic hysterectomy technique, combining the Poor Man's NOTES technique and an iPhone instead of laparoscopic tower. This iHysterectomy technique enables surgeons to perform a minimally invasive hysterectomy in a low resource setting without the need to invest in a laparoscopic tower

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Basics of 3D computer vision

We live in a world where digital visual data are ubiquitous. These data are very diverse in imaging modality and contents, ranging from one's holiday pictures to medical radiological images. As humans, we naturally use visual data to infer information. For instance, we are extremely good at recognizing people and places from conventional images or understanding a preoperative CT scan. Over the last few decades, a fundamental scientific question has emerged: can we transfer the sense of vision to a computer? In other words, can we program a computer to see by understanding visual data? This question lies at the heart of computer vision.

Computer vision is a scientific discipline which studies the automated interpretation of digital visual data. It is primarily a branch of computer science but is also strongly interdisciplinary, as it uses physics, geometry, optimization and artificial intelligence, to name but a few. Computer vision achieves results by modeling the visual cues and understanding their relationship to the target task or by learning from data.

Broadly speaking, the typical tasks in computer vision fall in the categories of scene description and 3D perception. The former concerns object detection and recognition: who was in this picture? where was it taken from? which organs are shown in this CT? and so on. The latter concerns 3D localization and measurements: what was the 3D shape of that object? how much did the camera move in this video? how big was this lesion as seen in this endoscopy image? and so on. As humans, we are typically doing very well in scene description but much worse in 3D perception. For instance, can you tell quantitatively how big a tumor is just by looking at your laparoscopy screen? Under some circumstances, a computer can, and will do it accurately. Interestingly, there is a number of tasks at which the computer may nowadays outperform the humans.

In this presentation, I will review the original and recent approaches to computer vision and focus on describing the model based approach to some relevant tasks in 3D perception. I will show how one can make accurate quantitative 3D measurements from images and illustrate this by examples in laparoscopy and colonoscopy.

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Data archiving : what do we need ?

Imaging plays an increasing role in gynecologic surgery for surgical planning, guidance and therapy evaluation. We will describe how data transfer can be used to improve diagnosis and planning, for example by fusing ultrasound images with other modalities such as MRI. We will also describe the method and potential advantages of having an instantaneous access to images during the surgery. Finally, we will discuss the best strategies for data transfer for tele-radiology or tele-expertise and research.

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Using touch surgery to improve laparoscopic practice in low and middle-income countries (LMICS).

Surgical conditions account for about 30% of the global burden of disease (GBD) and it is estimated that 11% of them can be treated with surgery¹. In 2010, around 16.9 million deaths (32.9% of all deaths worldwide) were lost from conditions needing surgical care².

More than 4.8 billion people (67% of the world's population) do not have access to surgery expressed in terms of capacity, safety, timeliness, and affordability and greater than 90% of this population is located LMIC (South Asia and central, eastern, and western sub-Saharan Africa)^{3,4}

There is still an increasing surgical need in LMIC and many conditions can be treated with laparotomies either as emergency or elective. Laparoscopic surgery offers the benefit over open surgery as it has less morbidity and mortality, fewer SSI, less postoperative pain, shorter length of hospital stay and early return to work. This is particularly advantageous in LMIC as days lost in hospital will be further translated into lack of food and poverty aggravation.^{4,5}

Major barriers to laparoscopic surgery in LMIC are shortage of surgical workforce, infrastructure and lack of specialized trainings in this field. Laparoscopy itself was found to be a good teaching tool for anatomy and can enhance open surgical proficiency in LMICs⁴. It was proven that with good leadership and partnership with experts in the field, laparoscopic surgery can be done in LMIC with increased number of complex operations despite limited resources and staffing⁶.

Situation in Rwanda and problem statement.

Rwanda is one of the LMIC situated in the heart of Africa. Currently there is only one medical school which is staffing the whole country. There is no formal training in laparoscopic surgery at the University of Rwanda though some laparoscopic procedures are being performed by few surgeons who got training abroad.

Lack of trainers in laparoscopic surgery is among the major barrier in LMIC. However with increasing technology, smartphone applications have been found to be an adjunct of surgery training in these countries.

Several studies have found that touch surgery can be a good cognitive task stimulation and can rehearsal the knowledge and operative skills for residents before getting into operating room. It was also found to be a good tool in global surgery as it facilitates dissemination of surgical techniques and approaches².

A study done in Rwanda showed that touch surgery is a good tool improve technical skills and knowledge for surgical procedure, but may have limited role in theoretical knowledge⁷. This study aims to determine the validity of tough surgery in laparoscopic practice in LMIC

Research question:

Is touch surgery an adjunct for laparoscopic training and practice in LMICS?

Hypothesis:

Touch surgery is an important Smartphone tool, less expensive and cost effective to improve laparoscopic training and practice in LMICS.

Objectives:

- To determine to role of touch surgery in laparoscopic practice in LMICS
- To determine the efficacy of touch surgery in laparoscopic practice in LMICS

Methods:

Study design:

A Randomized control trial will be conducted among surgery residents at University of Rwanda. As there was no prior training in laparoscopic surgery, residents randomly be allocated in 2 groups. There will be taught laparoscopic cholecystectomy. Simple randomization process will be used by picking in the envelope containing either textbook training (TT) or touch surgery (TS). Then after they will perform laparoscopic cholocystectomy under supervision by a consultant in the field.

Pretest will be given to all to relate their laparoscopic knowledge and confidence before teaching sessions and the same posttest will be given after training to rate their benefits.

Sample size

Residents in general surgery will be recruited in this study. We expect to have 20 residents (10 in textbook training and 10 in touch surgery)

Data will be collected and analyzed using SPSS and student t-test will be used to test the hypothesis

Ethics:

Ethical approval will be given by CMHS/UR/IRB. There will be minimal risk on data confidentiality which will be decreased by using a password protected computer.

Participants will not be paid for their participation, however at the results will be shared to

the UR to advocate for laparoscopic training. Participants will be required a consent prior to their participation.

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Mini-invasive laparoscopic surgery in gynecologic oncology with real-time vision at the cellular level: now or tomorrow?

The arrival of optical biopsy, based on the principle of optical coherence tomography which has long been used in ophthalmology, opens up new prospects for screening and *in vivo* diagnosis. It uses a flexible confocal miniprobe capable of providing very high resolution images of the morphology of the tissue studied at cellular and extra cellular level *in vivo*. When associated with intravenous injection of Fluorescein, it can distinguish between tumor and healthy tissues in real-time. Currently the technique has been validated for detection of endobrachy esophagus, or Barrett's esophage. This new technological tool is being validated at present to distinguish between cancerous and precancerous lesions of non-tumorous cells in other organs such as lung, bladder or pancreas.

We aimed to assess the feasibility and reliability of optical biopsy (probe-based confocal laser endomicroscopy) in pelvic gynecologic oncology.

This technique has many advantages:

- ability to obtain microscopic real-time analysis of tissues when excision or radio-guidance is not easy (one of the most relevant example would be ovarian cancer)
- possibility of screening gynecological organs for occult carcinoma
- avoiding the need for destructive and invasive biopsy and the possible morbidity (bleeding, pain)
- accurate targeting of the most pathological areas to carry out conventional and invasive biopsy
- ability to obtain reliable results in real-time and speed up the management of gynecological cancer.

In this pilot study, we've demonstrated that the images obtained by optical biopsy correlate well with standard histopathological results.

If you want to see the breakthrough in the laparoscopy of the 21st century where surgeon become pathologists during the surgical procedure and when treatment decision can be made in a minimally invasive and instantaneous manner, if you want to see the reality in

gynecological optical biopsy of precancerous tubal lesions, endometrial cancers or lymph nodes metastasis, come to this presentation and watch not the future but what surgeons can perform today.

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Virtual reality simulators : the future

Virtual Reality (VR) laparoscopic simulators consist of mock instruments connected to a desktop computer. These simulators are commercialised since approximately 15 years. First versions proposed training on basic psychomotor skills. Due to technology improvement, programs that reproduce entire procedures are now available. In a context of increasing needs for training models outside the OR, the potential of VR simulators is to be considered. Strengths of this model include the opportunity to implement a large range of educational interventions that cannot occur in the constraint OR environment and instantaneous measures of performance. There are some limitations that will be presented. New developments, such as immersive VR could bring these educational tools to the next level and make them all but an option within the future surgical training system.

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Assessment of surgical skills: OSATS vs Checklist scoring system

Over the last decade, surgical education has shifted from traditional time-dependent learning to competency-based learning. Intraoperative surgical skill measurements have become critical in the processes of both formative assessments that give trainees ongoing evaluation and feedback, and summative assessments that can distinguish between those who are competent and those who are not.

There are different categories of rating tools that monitor intra-operative skills including checklists, generic rating scales and procedure-specific rating scales. It is clear that rating tools differ among one another and do not measure equivalent constructs. Operative skill measurement must be aligned with the outcome data of interest, eg intraoperative errors, overall surgical skills or ability to perform a specific procedure. In this presentation, main measurement tools will be presented along with the evidence supporting their use for surgical assessment, in particular in gynecology. Emphasis will be given to differences between generic rating tools and checklists.

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Black Box recording of surgery data experience and perspective after one year.

Recent reports have shown that the incidence of medical errors is still too high and that most errors are in fact preventable and unnoticed by the operating room (OR) team. Furthermore, not the technical but non-technical skills, such as communication and teamwork have been recognised as the main root cause of adverse outcomes. The use of a medical data recorder, also “Black Box” is increasing and has great potential to improve team performance and subsequently surgical safety. Accordingly, team debriefing provides the OR team the opportunity to look back upon their entire performance, discuss adverse events in a safe environment and learn from latent threats. Unfortunately, a true team debriefing culture after performing surgery is currently lacking. Besides, concerns on privacy, data ownership and litigation exist and proper consensus on optimal use and implementation is lacking as well.

We have now successfully implemented the OR Black Box[®], developed by prof. T. Grantcharov (Toronto, Canada) in our academic medical centre. In this presentation recommendations on how to implement a medical data recorder in your medical center, by ensuring conformance with applicable legal and regulatory requirements, will be discussed. Furthermore, the results of our pilot study will be presented, in which we offered the OR teams structured and standardized postoperative team debriefing sessions supported by the generated video-assisted performance reports.

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Could technological progresses reduce the cost of minimally invasive surgery?

Approximately 2 billion people around the world still have no access to basic surgical care. A large part of this population lives in Africa and South Asia (Fig. 1). *The Lancet*, WHO, and the World Bank recently showed that many essential surgical interventions are not only very cost-effective in resource-poor countries, but will bring economic growth. However, due to lack of equipment, instruments and infrastructure, low-resource settings face many challenges that require innovation [2-6] (Fig. 2).



Fig. 1: Proportion of the population without access to surgery. From [1].

Minimally invasive surgical techniques could bring many advantages for patients, especially in low-resource settings, because of e.g. a reduced risk of infection and shorter hospital stays [7]. Unfortunately, the currently used devices are expensive and difficult to clean, and require a sterile operating-room environment.

We are developing an innovative **SMART** surgical equipment system, where **SMART** stands for **S**afe, **M**inimal dimensions, **A**ffordable, **R**eliable and **T**ransparent (=easy to use). The system will allow minimally invasive surgery without the need for a sterile operating room, even in low-resource settings.

At TU Delft we developed new methods of MIS-instrument-steering that do not rely on costly and complex actuation mechanisms [8]. This allows the surgical staff to simply reuse the instruments by detaching and cleaning them, while still having the benefits of performing surgery with the state-of-the-art steerable MIS instruments. We are working on affordable electro-surgical devices and laparoscopic camera systems.

In parallel we developed methods to shield all critical components of the MIS instruments during the procedure from the environment to prevent (cross) contamination [9]. Due to this shielding less CO₂ gas is needed to inflate the abdomen to create working space. Moreover, the surgeon is protected from potentially infected particles in the gas that normally leak out of the trocar. An innovative valve/connector system is required to make instrument change possible. This shielding technologies can be very well integrated in a new and safe system for performing MIS in low resource setting.

Hence yes, we think that technological progress can reduce the cost of minimally invasive surgery. We expect that innovative systems like the **SMART** surgical system may change the way surgery can be performed in low-resource settings, making minimally invasive surgery accessible for patients all over the world.

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Fig. 2. An OR in a low resource setting

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“Solving difficulties in myoma evacuation: a comparison of multiple containing systems”

Objective: In gynecological minimal-access surgeries for the evacuation of larger and firm masses like that of myoma require a process known as morcellation wherein the tissue can be reduced mechanically with an instrument to facilitate its evacuation through the existing minimal-access surgical incisions., This fulfils the meaning to extraction in line with the purpose of surgery . We aim to compare the use of contained closed bags and open endobags during presumed benign minimal-access surgeries for safe specimen retrieval by morcellation.

Introduction: Use of bags for specimen retrieval in minimal-access surgeries has been practice since quite long and new advancements have been made in terms of shape, size, texture and maximum access for the need of safe extraction of specimen and better visibility and to minimise the risk of benign and malignant tissue dispersal or spillage of the contents of the specimen. The decision of type of the bag used for specimen retrieval depends upon the size and type of the specimen to be retrieved.

In the recent wake of controversies involved in morcellation, we have been involved in research to estimate the real scare of the hysteria from the fear of morcellation. We now though have data that the risk of malignant tissue dispersal involved with morcellation is negligibly low than the possibility even in laparotomy and the risks inherent with it, in lieu we also did understand the possibility of benign tissue dispersal.

Different specimen retrieval bags have different opening technique. Some bags are self-retaining (after introduction into the abdomen), while others require manual opening by two graspers holding the bag edges. The self-retaining bags are easier to use, but often more cumbersome to insert into the abdomen than the bags with manual opening.

Study design: A retrospective study was conducted on patients who came for laparoscopic surgeries of presumably benign nature Leiomyomas between the 2012 and 2017. Different types of bags were used randomly depending upon the size and type of the specimen and to prevent the risk of benign and malignant tissue dispersal and/or spillage of the contents of the specimen. Tailor-made bags (surgical gloves) were also used for contained morcellation of some specimens. There are limited manufacturers of morcellation containment systems, therefore having lesser options available in closed endobags to compare.

Main results:

Open bags were initially found to be easier in application, however the maintenance of stability of open bags and tailor-made bags (surgical gloves) had disadvantages in terms of precision in successive surgeries. Closed bags however required more training and the time

for insertion and tissue conception was found to be decreased after 20 procedures and the precision of tissue handling was impeccable in time and therefore reducing operating times.

Conclusion: Even in presumably benign minimal-access surgeries, closed bag specimen extraction was found to be the best method of choice irrespective of the time and cost difference involved when compared to the other bags and techniques. The incidence of Malignancy in such presumed benign minimal-access surgeries was relatively high, to ignore the fact and compromise on safety in extraction techniques, thereby also absolutely eliminating the risk of benign tissue dispersal.

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Endoscopic Luminescent Imaging for Oncologic Surgery: the ELIOS project

Fluorescence Imaging Guided Surgery (FIGS) is an optical navigation modality that enables the visualization of unapparent structures at the naked eye, and the evaluation of metabolic activities, such as organ perfusion. Fluorescence is obtained through injection of a fluorescent dye, which can emit a fluorescent signal after being excited by Near-Infrared light sources.

ELIOS (Endoscopic Luminescent Imaging for Oncologic Surgery) is a project funded by the French Foundation ARC (Association for Cancer Research) and led by the IHU-Strasbourg, Institute of Image-Guided Surgery. The global aims of the ELIOS project are 1) a rapid and widespread implementation in the clinical setting of readily available innovations in FIGS, requiring minimal optimization and 2) some prospective technical developments to fill the current gaps identified, such as the development of innovative devices enabling FIGS (flexible endoscopic platforms, binocular goggle augmented imaging, etc.). The focus of the ELIOS project is on optimizing radical removal and reducing complications by means of FIGS applied to cancers of the gastrointestinal (GI) tract. Innovations are expected at various levels: 1) new smart fluorophores, 2) innovative hardware, and 3) optimization of current devices performance through software-based image analysis. Additionally, an extensive activity on education and dissemination around FIGS is being carried out, with the aim to increase the widespread adoption and to standardize the procedures with the creation of patient registry and the organization of consensus conferences.

The structure of the ELIOS project and some of the ongoing and future preclinical and clinical trials will be outlined in the lecture with a special emphasis also on the potential applications to gynecology surgery.

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Could we prevent bad surgeons to work?

Being a surgeon is a lifelong journey and most surgeons continue to learn until the day they retire. The rapid evolution of technology and knowledge requires the surgeon to continuously evolve in the new environment. The vast majority of surgeons will innately do this. However, there are some surgeons who do not evolve or improve and ultimately, may cause undo harm to patients. We urgently need objective criteria to weed out the bad seeds so that patients can be assured that if a surgeon has operative privileges, he or she meets the minimum standards for surgical competency and safety. It is after all a privilege, and not a right, to operate on life human beings. This lecture will explore this topic and methods we can employ to collectively raise the bar in surgical excellence.

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SimLife a new model of simulation using a pulsated revascularized and reventilated cadaver for surgical education.

Introduction: Alike becoming a pilot requires competences, acquisition of technical skills is essential to become a surgeon. Halsted's theory on surgical education "See one, do one, and teach one" is not currently compatible with the reality of socio-economic constraints of the operating room, the patient's safety demand and the reduction of residents' work hours.

Materiel and methods: In all countries, this brings mandatory to simulation education for surgery resident's training. Many models are available: video trainers or pelvi-trainers, computed simulator, animal models or human cadaver. . .

Human cadaveric dissection has long been used to teach surgical anatomy.

Results: Surgery on human cadaveric model brings greatest accuracy to the haptic characteristics of surgical procedures. Learning in an appropriate and realistic simulation context increases the level of acquisition of the residents' skills and reduces stress and anxiety when performing real procedures.

Conclusion: We present a technique of perfusion and ventilation of a fresh human cadaver that restores pulsatile circulation and respiratory movements of the model.

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Teaching Non-Technical Skills (NOTSS) - Situation Awareness and Decision Making

Technical ability at the operating table is a prerequisite for all surgeons: However, this by itself is insufficient to secure an optimal outcome. Non-technical skills, such as intraoperative decision-making, teamwork, and leadership are key to ensuring the best performance from the surgeon and the operative team.

Good non-technical skills are essential for enhancing the prospect of safe surgery and securing the best results (irrespective of whether the surgery is elective and routine or is being carried out during high acuity and urgent situations). The empirically derived NOTSS (Non-Technical Skills for Surgeons) framework provides the core skill set for intraoperative surgery.

This first presentation (of two) describes the **situation awareness and decision making** categories of the NOTSS system and explains how they can be trained (<https://www.rcsed.ac.uk/professional-support-development-resources/learning-resources/non-technical-skills-for-surgeons-notss>). The methods used to transport the taxonomy from classroom to operating room will be described.

This second presentation will cover the 3 following areas:-

- description of the NOTSS framework
- an outline of the elements contained within the **situation awareness and decision making** categories and their relevance to operative surgery
- presentation of the techniques deployed to **teach** non-technical skills

Situational	Decision-making	Communication and	Leadership
Gathering information	Considering options Selecting and	Exchanging information	Setting and maintaining

Table: NOTSS V.1.2

Suggested reading on NOTSS

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Jain Point: a new safe portal for laparoscopic entry cases.

Laparoscopic entry in situations like previous surgery has always been a challenge. Adhesions at the umbilical site and the midline of abdomen and rarely upper abdomen due to gall bladder surgery and midline vertical incisions as in intestinal surgeries make entry through the umbilicus hazardous. Bowel and omentum surgery or both are found adherent in Intra abdominal adhesion 78% cases and Umbilical adhesion 64.7% cases. This poses a serious threat of bowel injury in the first blind trocar entry. To avoid the midline and upper abdominal adhesions we devised the Jain Point. It is a point which is left paraumbilical in position. It is exactly on a vertical line drawn from a point 2.5cm medial to the ASIS (anterior superior Iliac Spine). We can mark the Jain Point by drawing a horizontal line from the umbilicus and then drawing a vertical line starting 2.5cm medial to the anterior superior Iliac Spine (ASIS). This point avoids the major vessels, **hollow viscus** and bowel. It becomes the main working port in course of the surgery.

Material and method

5576 cases done from 2011-2017 and with previous surgery cases 1482. Patients with multiple previous surgeries were counted only once to avoid inflation of data. We had patients' up to previous five surgeries. Variety of incision like Pfannenstiel, midline, vertical, right paramedian and other incision of general surgery like for appendix, gall bladder, intestinal obstruction, previous mesh hernia repair and colostomy pull through were noted. Laparoscopy 690 and Laparotomy 792 in previous surgeries.

Discussion:

Jain Point entry is based on simple logic that the liver, gall bladder, Appendix, Caecum, loops of small intestine are all located on the right side of abdomen. Appendix and Caecum are usual sites of adhesions in previous episodes of appendicitis, **Raoul Palmer** published his series of more 250 patients in 1931, and since then it has been upheld the most important method of first entry site in previous surgery cases. Hassan technique and 9th inter costal space entry were described which did not become popular with gynecologist.

We thought differently and introduced Jain Point which is left paraumbilical in position, with the aim of avoiding abdominal and umbilical adhesions.

Fig 1:

Fig 2:- A, B, and C

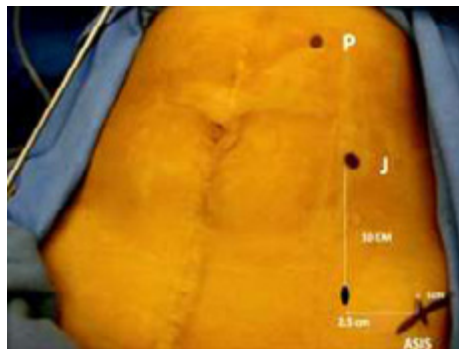
Technique: veress needle is inserted almost perpendicular to the -patient's abdominal wall without lifting up the abdomen. Entry during the veress needle 3 distinct pops are felt. After

creating pneumoperitoneum 5mm Trocar of pyramidal tip is inserted perpendicularly. When we hear the escape of gas a 5mm zero degree telescope is introduced and a 360 degree check of adhesions and rest of abdomen is carried out. The 10mm telescope entry is optimized under the 5mm telescope view. Usual finding is of adhesions of Bowel and omentum at the umbilicus. **Appendicular** and **omentum** adhesions are noted on the right side. Left side abdomen is found free of adhesions. We have tried Jain Point entry in most severe cases with worst multiple abdominal scars with colon full through, previous colostomy cases and mesh hernia repair and Intestinal obstruction cases with big midline vertical scar extending from xiphisternum to pubic symphysis. We could make a safe entry as left side was free of adhesions. Why we thought of going laterally was simple logic. Jain Point being more lateral better avoids midline vertical scar and paramedian incision.

Compared to vertebral positions of other abdominal organs, Jain Point is at L4 vertebral, where stomach and spleen are at level T10- L1, so they are safely avoided even if stomach is bloated or spleen is enlarged by Jain Point blind entry. In these situations of splenomegaly and bloated stomach due to faulty placement of NGT, no injury to stomach was noted so we find that left side of abdomen is consistently free of adhesions as the sigmoid adheres naturally to the pelvic brim and rest of the abdomen till spleen is free for port entry. This revelation/observation made us, use Jain Point in all types of difficult cases.

So, the conclusion is! Jain Point is a safe method of Laparoscopic entry in all type of difficult cases as well as previous surgery cases as it avoids bowel and omental adhesions and is free of risk of vascular complications. It will be the used method of entry in previous surgery cases in times to come as it over comes all contraindications of Palmer's Point and has definite merit of becoming a safe first port of entry. And also, as the first blind entry point for novice endoscopic surgeons as it avoids major vessel injury risk altogether.

Fig 1



Palmer's point (P), Jain point (J), and anterior superior iliac spine. Patient has midline vertical scar extending from Xiphisternum to just above pubic symphysis. Palmer's point is in midclavicular line, 3 cm below subcostal margin. Jain point lies in the left paraumbilical region, in a straight line drawn vertically upward from a point 2.5 cm medial and 1 cm above anterior superior iliac spine.

Fig 2a:-Bad abdominal scar from multiple previous surgeries



Fig 2b:-Bowel adhesions at umbilicus

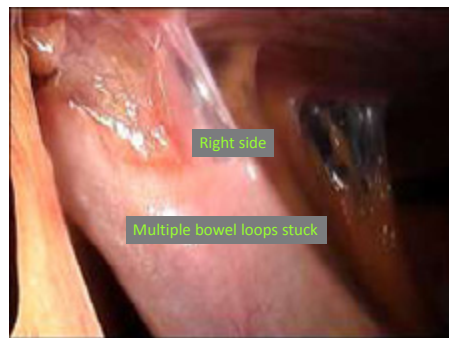
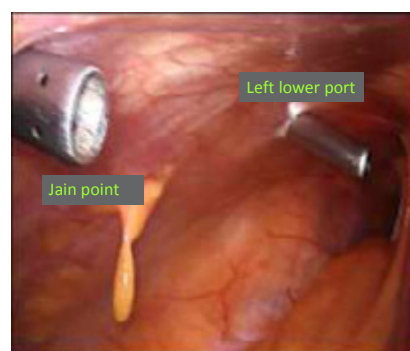
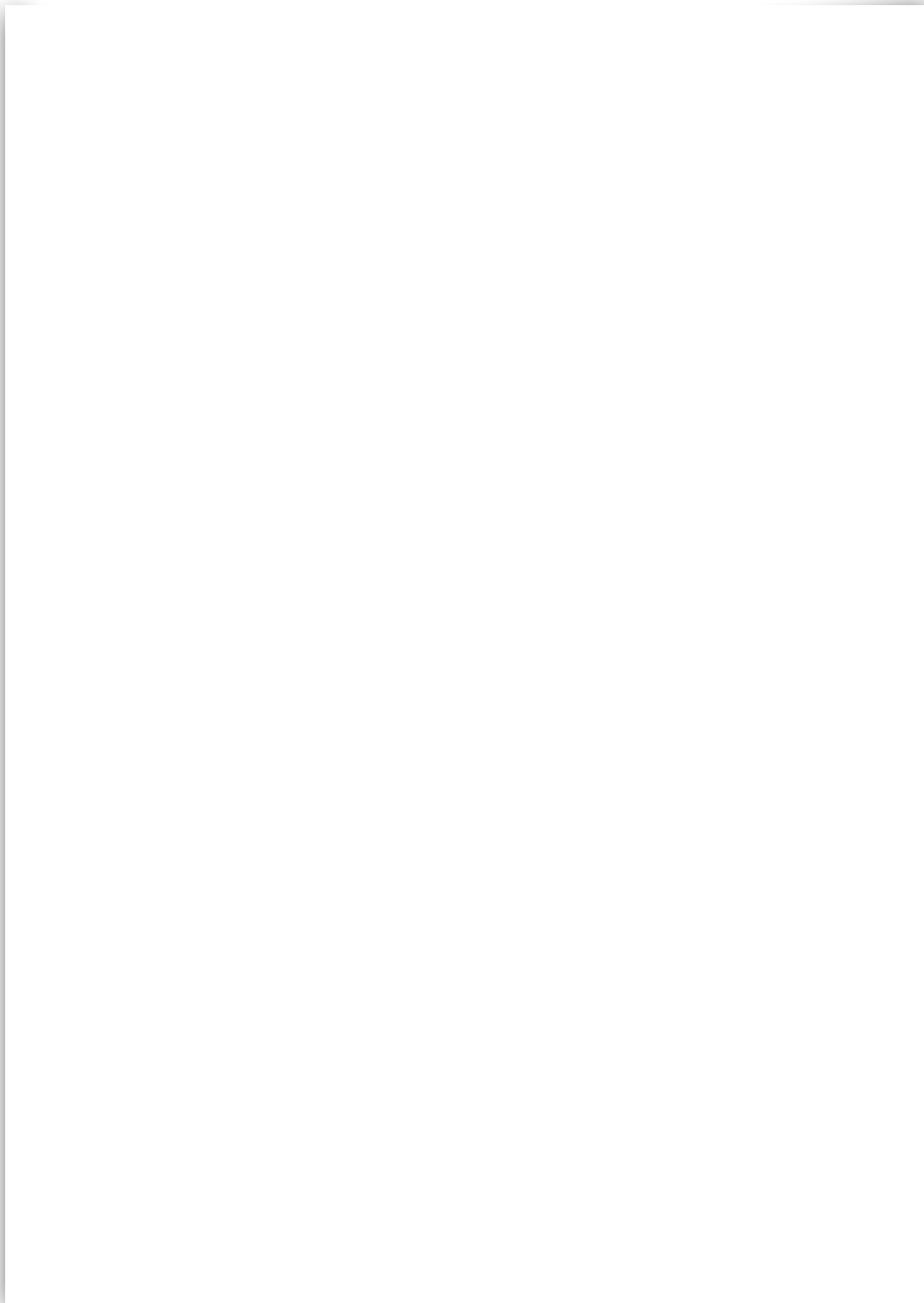


Fig 2 c:-Left side abdomen with Jain point port free of adhesions





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Wearable technology in an international telementoring setting during surgery: a feasibility study

To date, consumer wearables are a much adopted and matured form of incorporating technology in everyday life to gain more insight (among other purposes) in one's activity pattern, blood pressure and other bio-signals.

It is challenging, but also with multiple potential benefits, to further explore how healthcare as an industry can benefit from wearable tech and use this type of technology where it fits in this challenging workplace.

Therefore we would like to present you a successful case of the use of wearable technology in an international telementoring setting during surgery. In our case, the operating surgeon could consult a remote supervising surgeon through an audio, video and desktop sharing system during a live procedure. In addition, the operating surgeon was equipped with wearable sensors for hands-free and sterile control of the Picture Archiving and Communication System (PACS) as embedded in the Electronic Patient Record (EPR).

This proof of principle was reason to further explore the feasibility of using wearable technology in the operating room, the first spin-off study is recently started within the AMC. In this presentation opportunities and pitfalls for the use of wearable technology in the OR will be explored with the audience and furthermore options for future research will be presented.

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Ultrasound can go beyond obstetrical images

After early neurosurgical applications back in the 50's and significant progresses in imaging, therapeutic ultrasound have known a growing interest. Both extracorporeal shockwave lithotripsy for disrupting kidney stones and high intensity focused ultrasound for treating prostate cancer are now conventional weapons of the therapeutic arsenal.

Ultrasound propagates deep into tissues and, just like the light with magnifying lens, it can be focused for treating deep targets while preserving intervening layers. It is noninvasive and not dose limited. Equally interesting, different bioeffects can be achieved in biological tissues by adjusting the exposure conditions. Very high-pressure pulses can be repeated for blending tissues through acoustic cavitation while continuous sonication at lower pressure can result in heating up to coagulation necrosis. Ultrasound have also been used as a method for delivering drugs or inducing an immune response locally. The goal of the presentation is to perform a review of the current and emerging applications of ultrasound to therapy in gynecology.

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Beyond surgical perception: Multispectral image analysis for live perfusion and oxygenation monitoring

Conventional laparoscopes are limited by “imitating” the human eye. Multispectral cameras remove this arbitrary restriction of recording only red, green and blue colours and capture many specific bands of light. This talk will show how to use this camera technique as well as related biophotonics techniques in combination with novel image analysis methods for improving surgical vision in endoscopic surgery. It will cover fundamentals of computer science essential for the understanding of the approaches and showcase several different clinical applications including ischemia monitoring in kidney surgery and detection of metastatic lymph nodes in prostate surgery.

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Briefing Debriefing experience derived from a military teaching method

Surgeons and pilots have a lot in common: Similar qualities like Dexterity, the capability to integrate large amount of information and apply vast knowledge in the form of quick, bold, but not careless action, Similar environment: high tech, high risk, zero tolerance to errors.

BUT, as opposed to pilots, once we complete our formal training, there is no system in place to encourage or enforce you to continue learning and improving.

the Israeli Air force though small, is universally recognized to be among the world's most powerful aerial fighting forces. the major asset of the IAF are its pilots, who rank among the most elite in the world.

But what makes those pilots so good?

The Israeli pilots improve constantly. This "debriefing process" is the key for the pilot's continuous improvement. This process represents a culture of excellence.

In my lecture I will explain the basic methodology of the debriefing process, the adaptations made in order to adjust the process to surgery, and the pitfalls and challenges in the implementation of debriefing in surgical culture

Pr. Serge Mordon^a, Dr. Henri Azaïs^{a, b}

Fluorescence for diagnosis to fluorescence guided surgery and finally to photodynamic therapy in gynecologic oncology. Will an old dream become true?

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Fluorophores (ICG, fluorescein sodium, Methylene Blue or 5-ALA) alone or targeted drug designed to reach specific receptors are evaluated for many years for photodiagnosis in gynecology¹⁻⁴. These fluorescent tracers are used in combination with dedicated multispectral fluorescence camera systems allowing differentiation between healthy and diseased tissue. Numerous clinical systems are now commercialized⁵.

More recently, fluorescence-guided surgery⁶ has been proposed as a relevant way to reduce surgical morbidity and maximize cytoreductive surgery approach especially in ovarian cancer⁷ or for robotically assisted fluorescence-guided lymph node surgery⁸. Since some of these fluorescent tracers are also photosensitizers, photodynamic therapy (PDT) has been already evaluated. However, due to its narrow therapeutic window, serious side effects were reported in intraperitoneal indications⁹. Recent improvements in tumour-selectivity and light delivery systems are very promising¹⁰. Consequently, PDT could be proposed as a new therapeutic strategy alone or as an add-on to surgery and chemotherapy¹¹.

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Beyond Mesh: Bioengineering Novel Stem cell Based Surgical Constructs for Pelvic organ Prolapse

Until recently, polypropylene meshes were often used as a surgical treatment option for Pelvic Organ Prolapse (POP). However, they have been associated with serious complications such as inflammation, pain, exposure and erosion. As a result, transvaginal meshes were banned in Australia and New Zealand in 2017. At present, there is no optimal therapy for treatment of chronic POP leaving millions of women in despair. Polypropylene meshes bear no resemblance to the native vaginal tissue and may be a critical underlying cause of its failure in the long term. Such non-biomimetic materials are perceived as a foreign object that evokes a chronic inflammatory and immune response. This prevents integration and healing at the site of implantation. In order to overcome the impediment posed by the tissue microenvironment, it is desirable to design biomaterials that mimics some mechanical and biochemical properties of the extracellular matrix (ECM) of native tissues. In nature, cell behaviour and tissue structural development is supported by the nanoscale arrangement of the ECM architecture comprising of structural (primarily collagen) and functional proteins (e.g. collagen, proteoglycans) that holds the cells together through a myriad of external chemical and physical stimuli at the molecular level. Our team has developed several novel biocompatible biomaterials that show better tissue integration than polypropylene meshes. These materials can be administered through either vaginal surgery or through an injection. Furthermore, our team discovered a population of Mesenchymal Stem Cells in the endometrium (eMSCs) and identified a single marker to purify these rare perivascular cells. In a phase IV clinical trial, our team has also showed that eMSCs can even be collected with ease from post-menopausal women. Our team has developed culture expansion methods that maintain eMSC in an undifferentiated state for clinical use. This presentation outlines the development of novel surgical constructs for the repair of the vaginal wall by merging parallel technologies of stem cell science, nanotechnology and 3D bioprinting in various preclinical models such as mice, rats and sheep. Our research delves deeply into the mechanisms of tissue integration and foreign body response using novel techniques of electron microscopy, atomic force microscopy, confocal microscopy and advanced medical genomics. This presentation will also feature our pre-clinical and clinical research into the development of a novel pressure sensor device, which resembles an ultrasound probe but uses patented fiber optic technology to identify regions of vaginal wall weakness in real-time. Overall, this presentation will outline our ongoing research not just into making new meshes but also methods to diagnose and even repair vaginal damage soon after childbirth. Our research

provides alternative surgical constructs which may eventually address a significant unmet gynaecological need.

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The future of haptic feedback on robotic procedures

When touching an object, we can discern each item's physical properties from the rich set of haptic stimuli we experience. They include tactile/cutaneous sensations arising in our skin and kinesthetic sensations originating in our muscles and joints. Although the sense of touch and, in general, the physical interaction with the surrounding environment is at the core of our human experience, very few machine interfaces provide the user with high-fidelity touch haptic feedback, including the robots used in medical procedures -- but why?

This omission is related to many different factors, including the negative effect that haptic feedback has on the stability and safety of these systems. In this respect, cutaneous/tactile feedback has recently received great attention; delivering ungrounded touch cues to the operator's skin conveys rich information and does not affect the safety of robotic systems.

In my work, I address the challenge of providing effective tactile haptic feedback in robot-assisted medical procedures, with the objective of achieving the highest degree of telepresence while guaranteeing the safety of the considered systems. As two examples, I will talk about (i) an innovative tactile-only system to provide haptic feedback in a da Vinci Surgical System and (ii) a robot-assisted flexible needle steering system with vibrotactile haptic guidance.

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Registration of the surgical workflow

The modern operating room relies on high-tech digital equipment that exchange, generate or display signals containing key information about the surgical process. Currently, these signals are being used uniquely for the immediate performance of the surgery. In this talk, I will present the concept of a Surgical Control Tower that makes use of such surgical signals to capture, detect, recognize and analyze the clinical workflow taking place in the operating room. I will first describe the clinical motivation underlying the development of such a Surgical Control Tower and then present research performed in my lab in partnership with IHU Strasbourg and IRCAD to exploit the large amount of multimodal data that is generated in the operating room. I will illustrate our research on two applications: radiation safety monitoring during X-ray guided minimally-invasive procedures and real-time activity analysis during laparoscopic surgery. I will present both qualitative and quantitative results on challenging datasets recorded during live surgeries using a multi-camera system installed in several operating rooms on the Strasbourg medical campus. I will conclude by presenting how this research and more generally the rapid progress in Artificial Intelligence can impact the workflow in the OR of the future.

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How I manage my YouTube Channel...

Modern operative rooms enable full recording of surgical procedures, particularly when they are performed laparoscopically. Video documents related to surgical procedures are of major interest for patients, because they may be inserted in patient's medical charts, and then watched several years later by surgeons or physicians involved in patients' care. Surgical videos are also useful to surgeons themselves, because they allow surgeons' self-evaluation. They may also be used in teaching sessions or e-learning, and help students, residents and physicians to improve their knowledge worldwide.

YouTube is an American video-sharing website created February 2005, and bought by Google in November 2006. YouTube allows users to upload, view, rate, share, add to favorites, report, comment on videos, and subscribe to other users. The interface of the YouTube website is available in 76 language versions. There are more than 400 hours of content uploaded to YouTube each minute, and one billion hours of content are watched on YouTube every day.

Surgeons may build their own YouTube channels where they may upload surgical videos destined to all users, or to only patients concerned by the surgery. When uploaded « publicly », the videos may be watched by all YouTube users, indifferently whether they are physicians, patients or simply curious people. Conversely, the "private" uploading reduces the access to only selected users, which may be patients concerned by the surgery or colleagues interested in a specific surgical field. Thanks to YouTube channels, medical knowledge may be shared for free, however care should be taken not to violate patients' anonymity and copyrights rules. Videos may present full surgical procedures (such as live surgeries including comments), technical tips, surgical tutorials (such as "total hysterectomy in 10 steps"), conferences in various meetings, or any other information destined to channel's followers. However, followers should be aware that sharing knowledge for free using YouTube presents one major limit: the lack of peer-review process and preliminary evaluation of information accuracy by colleagues experienced in surgical procedures presented in the movies. Although managing his own surgical YouTube channel is an exciting practice, which may improve knowledge worldwide for free, it obviously requires owner's wisdom, scientific rigor and honesty.

YouTube Recherche

Horace Roman

Actuel

Pour les abonnés

Video 3 regerter arcele

Concombre surgers avec endometrial reaction in deep endometriosis following the restora a randomized trial

Horace Roman, Horace Roman, Horace Roman, Horace Roman, Horace Roman

Regarder cette video enregistree le 12/05/2023

Rechercher

85 abonnés

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Actuel

Conseils

Recommander

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Quality Definition in Interventional radiology

Simulation-based training methods have been widely adopted in hazardous professions such as aviation, nuclear power, and the military. Their use in medicine has been accelerating lately, fueled by the public's concerns over medical errors as well as Education and Accreditation requirements for outcome-based and proficiency-based assessment methods. This article reviews the rationale for simulator-based training, types of simulators, their historical development and validity testing, and some results to date in Interventional Radiology procedures. A number of companies have developed endovascular simulators for interventional radiologic procedures; although they cannot as yet replicate the experience of performing cases in real patients, they promise to play an increasingly important role in procedural training in the future.

This paper will explore, also, the role of e-learning in radiology, highlight a number of useful web-based applications in this area, and explain how the current and future technological advances might best be incorporated into radiological training. The potential role of simulation in assessment and credentialing will be also discussed. Today's health workforce has a professional responsibility to maintain competency in practice through achieving a minimum number of hours of continuing professional development. The Radiological Society of North America (RSNA), the Society of Interventional Radiology (SIR), and the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) have all established individual task forces and have joined together to set strategy and issue recommendations for simulation training.

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The Editor of a scientific journal point of view: What is a good video? What is a good short movie?

Before I became a surgeon I was raised in the world of movies, cinema, television. The history of the cinema was my first tool to understand and to judge a film. Putting together with the history of movies in medicine, it's not difficult to arrive to a certain level of good judgement concerning surgical videos.

When you look at the movies of Dr. Eugène-Louis Doyen, again it's not difficult to understand the principles of surgical videos. In 1898 Dr. Doyen created the first requirement for surgical movies. Even before David Wark Griffith created the basics for modern cinema in 1915.

Those two things made me realized the fundamentals of a judgement concerning surgical videos. Technical aspects? Sure. Easy for me to judge. The rest is the complexity of each video "*per se*" when a surgical video does not look like a good short movie is because it is not good. On this point, we arrive to the "plot" issue. Much more difficult to judge concerning surgery what should be published or not?

With the new politics for publication, medical journals are avoiding more and more case reports. Those cases reports will turn in a lot of times, on video reports. Some are eligible for publications. But most of them are not.

Besides that it's difficult to create a video score. The score itself is included on the quality of the video. Telling a short story and or the beginning of a long story.

A true innovative surgery. A standardization of a technique. On the other hand reproducibility is not a solid criterion for acceptance.

Those are the issues that we are preparing for discussion on Clermont Ferrand.

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Augmented Surgery: From image to Computer assisted Surgery

A new surgery area is rising: the Augmented Surgery. Indeed, over the last years, several new computer-assisted surgery technologies have been developed in order to improve surgeon ability and increase safety. These technologies augment surgeon vision, surgeon gesture and surgeon decision, introducing the Augmented Surgery concept. In fact, this Augmented Surgery relies on two essential technological foundations: patient modelling and Artificial Intelligence (AI).

It is well-known that Artificial Intelligence needs data collection used as an educative database to the AI system, but it is less known that these data must be structured and standardized to be the most efficiently analysed. Due to this limit, most currently stored data cannot be used to educate the Artificial Intelligence system. Indeed, to be efficient, an AI must know when it realizes a correct process. This efficiency evaluation is based on comparison between the result of the AI process and a gold standard provided in the educative database. Structured data are much easier to compare than unstructured ones. Moreover, it is difficult to define a gold standard without standard. There are also several levels of Structure and standard. For instance, a CT-scan can be considered as structured (always the same size with a minimal and maximal grey level value) and standardized (DICOM format, same injection time), but in reality this structure and standard bring only very low levels of information in comparison to the objective of organs and pathology recognition. To overcome such limits, we have developed the Visible Patient concept. It is based on a double checked standardized delineation online process providing the 3D geometrical model and name of organs from ontological rules. This 3D modelling can be used as an educative AI database, but also to plan the surgical procedure in the most efficient way thanks to user-friendly Virtual Surgical Planning software working on smartphone, tablet or personal computer. Virtual preoperative simulation allows for the definition of the most efficient therapy to be applied thanks to a perfect localisation of the pathology and surrounding vascularisation. This information can also be stored in a structured way in an efficient educative AI database that will allow in the future for an automatic definition of the best planning to propose. But to reach such an objective, it will be mandatory to check and store intra- and postoperatively the real efficiency of the surgical planning. AI will thus need intraoperative tracking of the surgical gesture that could be optimized thanks to the development of Augmented Reality (AR) techniques. In fact, the AR technique consists in superimposing the surgical planning onto the surgical view. Such a fusion between real vision and virtual model provides a kind of virtual transparency of the patient. To be efficient it needs tracking of organs and surgeon movement. Such tracking is useful to compensate in real-time the organ movements and deformations by applying the

same transformation onto the virtual model of organs. It can also be useful to track the surgical procedure steps and to control the efficiency of the surgery as illustrated by our CONDOR project aiming to develop a control tower and its associated black box. All these developments illustrate the next generation of the Augmented Surgery procedure using Image processing as a base of Artificial Intelligence.



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Assessing non-technical skills (NOTSS) for intraoperative leadership and teamwork

Technical ability at the operating table is a prerequisite for all surgeons: However, this by itself is insufficient to secure an optimal outcome. Non-technical skills, such as intraoperative decision-making, teamwork, and leadership are key to ensuring the best performance from the surgeon and the operative team.

Good non-technical skills are essential for enhancing the prospect of safe surgery and securing the best results (irrespective of whether the surgery is elective and routine or is being carried out during high acuity and urgent situations). The empirically derived NOTSS (Non-Technical Skills for Surgeons) framework provides the core skill set for intraoperative surgery.

This second presentation (of two) describes the **teamwork and leadership** categories of the NOTSS system (<https://www.rcsed.ac.uk/professional-support-development-resources/learning-resources/non-technical-skills-for-surgeons-notss>) . The methods used to transport the taxonomy from classroom to operating room will be described and the use of the skill set in relation to reliability of observation and assessment will be discussed.

This second presentation will cover the 3 following areas:-

- description of the NOTSS framework
- an outline of the elements contained within the **teamwork and leadership** categories and their relevance to operative surgery
- presentation of the techniques deployed to assess non-technical skills

Situational	Decision-making	Communication and	Leadership
Gathering information	Considering options Selecting and	Exchanging information	Setting and maintaining

Table: NOTSS V.1.2

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POSTERS

SAFETY AND EFFICACY OF A NOVEL CLOSED TECHNIQUE OF ACCESS TO THE PERITONEAL CAVITY : THE DE CICCO STEPWISE TECHNIQUE

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Background Laparoscopy is a common procedure in gynecological surgery. Complications associated with laparoscopy are often related to the initial entry into the abdomen. Life-threatening complications include injury to the bowel, bladder and major abdominal vessels. There is no clear consensus as to the optimal method of entry between the Closed, Open and Direct technique. The Closed technique with blind Veress needle insertion is practiced by the majority (85%) of gynecologists. Two key steps of successful laparoscopy are correct Veress needle placement and avoidance of injury with the primary trocar. The objective of this study is to describe a novel simple stepwise technique to minimize major intraabdominal injuries during closed laparoscopic access.

Methods . The steps of the novel technique include: 1) eversion of umbilicus with a Kocher forcep, 2) placement of an Allis clamp at the base of the everted umbilicus 3) vertical incision of the umbilicus in the midline with a No. 12 scalpel blade, 4) grasping the edges of the two leaves of the incised umbilicus with a Kocher forceps on each side 5) placement of a stitch with PDS 0 on each side of the edges of the intraumbilical incision, to include approximately one cm of the abdominal wall on each side 6) lifting up the abdominal wall utilizing both the Kocher forceps and the sutures (the placement of the suture avoids accidental laceration of the umbilicus by the simple traction with the Kocher forceps and increases the traction on the abdominal wall) 7) insertion of the Veress needle slowly, step by step through the fat, fascia and peritoneum adherent to the fascia, perpendicularly, with a 20 cc syringe without the plunger containing saline solution. When the tip of the Veress needle is inside the abdominal cavity, the saline solution will start flowing into the abdominal cavity due to the negative pressure inside 8) insufflate to 20 mmHg pressure 9) removal of the needle and of the Kocher forceps 10) an optical trocar system is placed into the incision and slowly introduced perpendicularly into the abdominal cavity under vision with the 0° scope placed into the trocar, while pulling on the suture on each side, to maintain the abdominal wall lifted up.

To validate this technique, at first an experimental study was performed on five cadavers at the Centre Du Don Des Corps De L'Université Paris Descartes - Paris , subsequently we evaluated forty patients who underwent laparoscopy. The study was performed in two steps: first the anterior abdominal wall was lifted using manual elevation, next the anterior abdominal wall was lifted using the suture as described above. The distances obtained between the parietal peritoneum and underlying viscera by lifting the abdominal wall with the two techniques were measured with a calibrated probe inserted through the intraumbilical port while observing with a 5-mm laparoscope from the suprapubic port, with 0 mmHg intraabdominal pressure.

Results: The distance between the parietal peritoneum and the underlying viscera when the abdominal wall was lifted manually was 6 +/-1.39 cm, and when lifted by the suture 12 +/-1.11 cm. There was a statistically significant difference between the two groups. There was no relationship of the distance with BMI.

Conclusion: The use of this new technique provides significantly greater distance for trocar entry in laparoscopic surgery. Entry was successful in all cases, even when performed by residents in training. With this novel technique, we have encountered no major injuries to bowel or vessels in over 4000 laparoscopic entries.

INTRODUCTION OF THE INITIAL TROCART IN THE LEFT HYPOCHONDER IN GYNECOLOGICAL SURGERY ABOUT 378 CASES.

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I-Introduction:

The installation phase of laparoscopy remains a critical step, despite the considerable evolution of laparoscopic surgery in recent decades. In fact, 30% of all the complications of laparoscopic surgery are due to the installation phase. Most lesions are attributable to insertion of the umbilical trocar. These complications are responsible for a high morbidity and mortality .

Currently, several techniques, approaches and instruments have been developed to minimize the damage associated with the entry into the abdomen. The classical umbilical approach has become unsuitable for some new indications for laparoscopy. Two methods of laparoscopic entry are mainly used for this purpose: open laparoscopy and our method of introducing the initial trocar into the left hypochondrium (HCG).

The aim of this work is to try, through a study of 378 cases where the initial trocarat was inserted in the HCG, to answer the following questions:

- Evaluate the feasibility and risks of this technique
- Determine the different indications of the HCG technique.

II- Patients and Methods:

This is a descriptive retrospective study about 378 patients who underwent laparoscopy with the introduction of the initial 10 mm trocar at the HCG. The patients included in this study were collected in the Gynecology and Obstetrics Department of CHU Farhat Hached of Sousse, during the period from 1January , 1999 to April 30, 2015 for a period of 16 years and 4 months.

III-Results:

We collected 6138 diagnostic and therapeutic laparoscopies over a period of 16years and 4 months from January 1999 to April 2015. The HCG technique involved 378 patients (6.15% of the total number of laparoscopies). The average age of the patients was 34.5 years [12 years to 82 years].

Of the 378 patients, 170 had a scarred abdomen:

The indications for laparoscopy in our study were very varied

- Exploration pelvic masses. This was present in 239 cases (63.22% of all indications).
- Exploration of an ovarian tumor in 220 cases (58.2% of all indications).
- ovarian mass exploration in 19 cases (5% of all indications).
- Infertility was an indication of laparoscopy in 49 patients (13%).
- Exploration of ascites in 28 patients (7.4%) of our series.
- Suspected ectopic pregnancy (UG) in 26 cases (6.9% of all indications).
- Coeli-assisted hysterectomy in 11 cases (2.9% of all indications).
- High genital infection 6 patients in this study (1.58% of all indications).
- Ovarian cancer second look: 8 patients (2.11% of all indications).
- Rare indications (surgical castration, ovarian transposition, exploration of gelatinous disease of the peritoneum, repairing a uterine perforation, ovarian transposition, tubal ligation, lumph node biopsy, a cure of prolapse, ovariectomy with lymph node dissection): 2.93% of all the patients.

Two main situations motivated the choice of the HCG route:

- An abdomen with strong suspicion of adhesions in the umbilical and peri-umbilical zone whether or not the abdomen is scarred.
- A pelvic-abdominal formation beyond the umbilicus.

The technique of introduction of the initial trocar at the HCG was possible and feasible in all cases of our series. The Manhes safety cone test performed at the HCG was negative in all cases. There was any case of laparo-conversion.

In our study, the HCG was free from adhesions for all our patients.

During this study, no case of vascular or digestive wounds secondary to this technique was reported.
Only one case of spontaneous skin hematoma was observed.
There was no incisional hernia.

The mean duration of hospitalization was 1.28 days with [0.5 to 5 days]. The hospital stay did not exceed one day in 81% of cases.

IV-Conclusion:

The left hypochondrial route seems an interesting alternative whenever there is an increased risk of digestive, visceral or vascular complications.

With the respect of contraindications of this technique (hepatomegaly, splenomegaly, a history of surgery at the HCG), we did not have vascular and / or digestive complications.

I

Interest of cervical preparation by misoprostol before diagnostic hysteroscopy

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I-Introduction:

The aim of our study is to evaluate the benefits of cervical preparation with 200 µg of misoprostol administered 2 hours before a diagnostic hysteroscopy.

II-Materials and methods:

It is a randomized study, about 54 patients who were randomized into two groups: a G1 group about 27 patients who received 200g of sublingual Misoprostol 2 hours before diagnostic hysteroscopy, and a G2 control group about 27 patients without cervical preparation. The parameters analyzed were: the rate of patients requiring dilation with the Hégar candle to introduce the hysteroscope, and the complications of hysteroscopy.

III-results:

In group G1, eight patients required cervical dilatation versus 17 patients in group 2. No difference between the two groups regarding the rate of complications. Although there was less use of candle dilation in the misoprostol group, the differences were not significant between the two groups.

IV-Conclusion:

Misoprostol has a proven effect on cervical dilation during pregnancy, and this effect has been used for several years in obstetrics. However the effect of misoprostol in cervical ripening before diagnostic hysteroscopy is still under study and the literature data is still controversial. Its interest is currently limited if one has a small diameter hysteroscope.

Systematic hysteroscopy before IVF

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I-Introduction:

The aim of our work is to evaluate the interest of systematic diagnostic hysteroscopy before any procedure of medical assistance to procreation.

II-Materials and methods:

This is a retrospective study of 46 patients during a six-month period.

The hysteroscopic examination was performed systematically before the 1st stimulation cycle.

In case of abnormalities, an adequate medical or surgical treatment has been proposed.

III-Results:

45% of hysteroscopies are pathological, including mainly endometritis, fibroids, polyps or dystrophic mucosa.

Women over 38 years of age had no more intra-cavitary abnormalities than younger women.

The pregnancy rate was identical in both treated abdominal cavities than in the cases of normal cavities (30 and 28% respectively).

IV-Discussion:

According to a multicenter randomized study published by Fatemi et al. from the University of Brussels, the endo-uterine abnormalities range vary from 20 to 40%.

The treatment when performed increases the pregnancy rate by 5% in IVF ttt, 184 additional hysteroscopy / 1 pregnancy .

The cost-effectiveness ratio is therefore not in favor of achieving the principle of hysteroscopy before IVF.

V-Conclusion:

Systematic hysteroscopy before IVF allows the diagnosis of unsuspected abnormalities and improves the pregnancy rate, but the efficacy / cost ratio is not in favor of its systematic realization.
Interest of hysterosonography.

LAPAROSCOPIC MANAGEMENT OF VASCULAR INJURIES DURING PELVIC AND PARAAORTAL LYMPH NODE DISSECTION

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Objectives: Major vessels injury during laparoscopic surgery is rare but very dramatic complication. Almost always it required conversion to laparotomy for completion of hemostasis. We represent our experience in performing laparoscopic hemostasis after vascular injuries during pelvic (PLND) and paraaortal (PALND) lymph node dissection.

Methods: In 2010-2017 we performed 267 PLND and 396 PALND. Among them 581 single-region dissection: 226 PLND and 355 PALND, while 41 - both regions. **Indications:** cervical – 130(20,9%), endometrial – 122(19,6%), ovarian – 15(2,4%), colorectal – 343(55,1%), other malignancies – 12(1,9%). We obtained 7 major vascular injuries (1,1%): 2 – aorta, 2 - vena cava inferior, 2 – v.iliaca, 1 – a.iliaca. Almost all vascular injuries occurred in patients with history of chemoradiotherapy. In all cases we performed laparoscopic hemostasis. To achieve hemostasis we used next steps: 1) pressure of vascular wound; 2) circular dissection of vessel and applying of vascular clamps for injuries longer than 3mm; 3) suturing the vascular damage (prolene 5/0).

Results: Size of vascular damage: up to 3mm in 5, 5 and 8mm in 2 cases of vena cava injury. Average time from injury to completion of hemostasis - 17min (9-34). The estimated blood loss – 170ml (45-700). There was no need for transfusion. Median hospital stay in case of vascular injury was 4,7 days versus main group (4,5). No thrombotic complications and death occurred.

Conclusions: Vascular injury of major vessels during lymphadenectomy is rare but very serious complication that can be successfully treated laparoscopically by experienced surgeon.

Key words: lymphodissection, vascular injury, laparoscopic hemostasis

THE ROLE OF LAPAROSCOPY IN THE PROPAEDEUTICS OF GYNECOLOGICAL DIAGNOSIS

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Abstract

Study Objective: To assess agreement between pre- and post-laparoscopy gynecological diagnosis in order to demonstrate the rationality of this minimally invasive technique use in gynecological propaedeutics.

Design: Retrospective chart review study conducted between March 2010 and October 2016 based on a convenience sample.

Design Classification: (Canadian Task Force classification II-2).

Setting: Tertiary public hospital. University teaching center.

Patients: 315 patients undergoing surgical laparoscopy at the Center of Gynecologic Endoscopy and Family Planning of Botucatu Medical School/UNESP, Brazil.

Interventions: Pre- and postoperative diagnoses were compared by the diagnosis agreement test considering the proportions of events.

Measurements and Main Results: Laparoscopy contributed to diagnosis in 59.6% of infertility cases ($P>0.05$), in 93.7% of chronic pelvic pain of undetermined origin ($P<0.01$) and conclusively elucidated the diagnosis of acute abdomen and the ruling out of tubo-ovarian abscess ($P<0.05$). Laparoscopy also increased the diagnosis of pelvic-abdominal adhesions in 76.7% ($P>0.05$).

Conclusion: The use of laparoscopy considerably contributed to diagnostic elucidation, especially in cases of undetermined chronic pelvic pain.

Key-words: diagnostic techniques, surgical; education, medical, graduate; endometriosis; infertility, female; laparoscopy; pelvic pain

Supplementary Material

Over the past years, laparoscopy has become a powerful propedeutic as well as therapeutic tool of modern gynecological practice. It can reduce the number of inappropriate procedures and unnecessary treatments with very low complication rates⁽¹⁻⁵⁾. In conjunction with other propedeutic procedures, laparoscopy may change the diagnostic conclusion in many gynecological cases with increased efficiency in the diagnosis of conditions undetected during previous clinical and ultrasound examinations^(1-3, 5-8).

Nonetheless, in many countries, medical residency programs in gynecology aiming at providing basic introductory training in laparoscopy, be it for surgical therapeutic or even purely diagnostic procedures, do not integrate as part of the curriculum. In countries where those programs were implemented there is no standardized training adopted leading to a very heterogeneous formation of future professionals⁽⁹⁻¹¹⁾. The main obstacles reported for implementing a laparoscopic training curriculum are lack of planning and structure within institutions, cost constraints, shortage of skilled professionals available for teaching and guide residents and limited residents' working hours^(9,10,12-15).

It is estimated that 73% of programs lead off laparoscopic skills in North America but only 29% of residencies provide a structured surgical curriculum and only 55% of residency programs had facilities for training in laparoscopy in the United States^(11,16,17). Moreover, a recent study on accredited North American Obstetrics and Gynecology residency programs revealed that more than 40% were dissatisfied with their current laparoscopy training⁽¹⁸⁾. As a matter of fact, despite residency programs are trying to incorporate simulation into the resident training

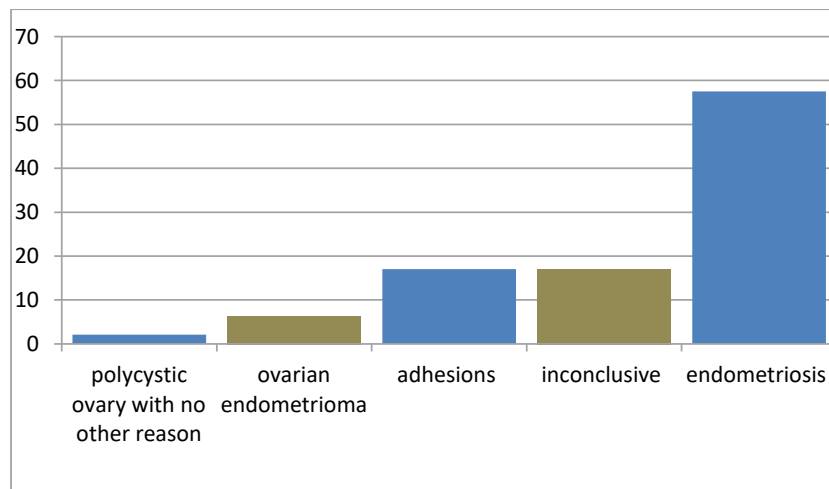
curriculum to supplement the hands-on experience gained in the operating room, this simulation laboratories continue to be under utilized by surgical trainees⁽¹⁴⁾. In most countries, including Latin America, there is not even teaching models for laparoscopic skills or validated tools for its evaluation⁽¹⁷⁾.

Laparoscopy now occupies a place of fundamental importance within the propedeutic and therapeutic arsenal of modern gynecology, increasing its range of indications⁽⁵⁾. Therefore, this study aimed to assess patients underwent laparoscopy to evaluate the consistency of agreement between pre- and post-laparoscopy gynecological diagnosis in order to demonstrate the rationality of laparoscopy use in gynecological propaedeutics, and thus expand the discussion about the basis of the training of future gynecologists.

Infertility

Infertility is the classical indication for propedeutic/therapeutic laparoscopy, which is indispensable to elucidate cases with no apparent cause⁽¹⁹⁻²¹⁾. According to non-controlled retrospective studies, diagnostic laparoscopy performed after several failed ovulation induction treatment cycles reveal significant pelvic pathology amenable to surgical treatment⁽²¹⁾. Laparoscopy indicates intra-abdominal abnormalities in 36%-68% of cases, even after normal hysterosalpingography^(19,20). Depending on the severity of laparoscopic findings, the initial treatment decision may be replaced by direct laparoscopic intervention, a laparotomic approach to fertility restoration or in vitro fertilization. This implies that, in addition to being a clinically important diagnostic tool, laparoscopy is essential for infertility treatment decision making⁽²⁰⁾.

In this study, laparoscopy was inconclusive in 17% of the patients assessed due to infertility with no apparent cause. However, in 83% of these cases it was essential for establishing the diagnosis of polycystic ovary (2.1%) with no other reason for infertility, ovarian endometrioma (6.4%), adhesions (17%), and endometriosis (57.5%) ($P>0.05$) (Graphic 1).



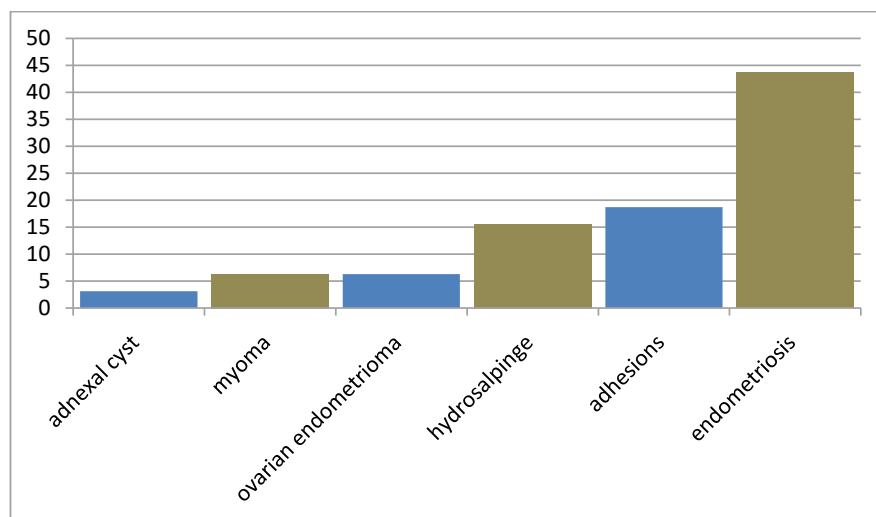
Graphic 1. Post-laparoscopy diagnosis of preoperative undefined infertility

Chronic pelvic pain

The introduction of laparoscopy into clinical practice has opened up new avenues for the diagnosis and management of chronic pelvic pain. It is estimated that more than half of patients with a normal preoperative pelvic examination will present abnormal findings during the laparoscopic procedure^(7,22). The literature shows that in women with chronic pelvic pain undergoing laparoscopy, the diagnosis may remain inconclusive in approximately 35% of cases, and endometriosis and adhesions can be diagnosed in 33% and 24%, respectively^(6,7,22,23). These findings represent about 90%

of all laparoscopies in women with pelvic pain suggesting that the predominant role of laparoscopy in the evaluation of these patients is to diagnose or rule out endometriosis and adhesions.

In this series, the diagnosis of chronic pelvic pain of undetermined origin was postoperatively diagnosed as adnexal cyst (3.1%), myoma (6.3%), ovarian endometrioma (6.3%), hydrosalpinx (15.6%), adhesions (18.7%), and endometriosis (43.7%) (Graphic 2).



Graphic 2. Post- laparoscopy diagnosis of preoperative chronic pelvic pain of undetermined origin.

Endometriosis

Endometriosis is a common laparoscopic diagnosis in patients with chronic pelvic pain, found in 15% to 80% of women undergoing surgery for chronic pelvic pain^(8,24). Similarly, endometriosis is estimated to affect up to 50% of infertile women, and its severity appears to correlate with reduced fertility⁽²⁵⁾.



Figure 1. Superficial endometriosis associated with intense local inflammatory response observed during laparoscopic procedure.

Adnexal masses

Except in cases of endometrioma, ovarian retention syndrome and ovarian residual syndrome, ovarian cysts are not a common cause of chronic pelvic pain. The laparoscopic assessment of patients with chronic pelvic pain reveals ovarian cysts in only 4% of all cases excluding endometriomas⁽⁷⁾.

In this study, after excluding the cases of adnexal and/or ovarian diseases (adnexal masses of unknown etiology, ovarian tumors and complex ovarian cysts) which require histopathological confirmation and cannot be accurately identified surgically, diagnostic elucidation after laparoscopy occurred in 93.7% of the cases of pelvic pain of unknown etiology ($P < 0.01$), and 59.6% of the cases of infertility with no apparent cause ($p > 0.05$).

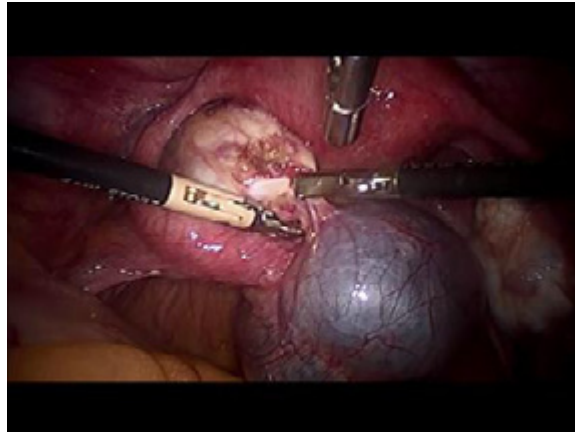


Figure 2. Hydrosalpinx observed during laparoscopic procedure in a patient with chronic pelvic pain and previous history of pelvic inflammatory disease.

The pre-laparoscopy diagnosis of complex ovarian cyst was related with the post-laparoscopy diagnosis of hemorrhagic corpus luteum (37.5%), ovarian tumor (ovarian teratoma on anatomopathology) (50%), and retention cyst (12.5%). In 40% of the cases with a preoperative diagnosis of ovarian tumor, and in 77.8% of cases with a diagnosis of adnexal mass of unknown etiology, laparoscopy detected uterine myoma, endometriosis, adhesions and tubo-ovarian abscesses, but with no statistical differences.

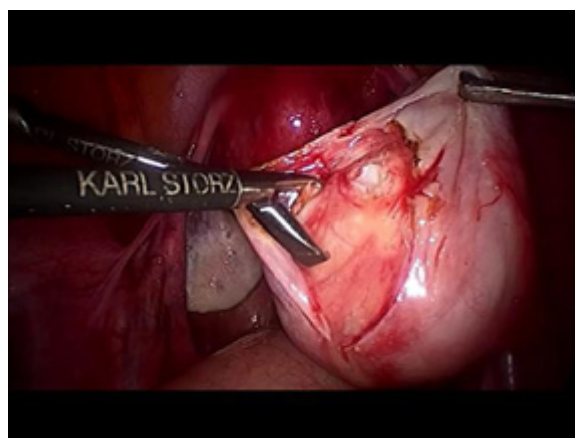


Figure 3. Ovarian tumor compatible with ovarian teratoma after laparoscopy.

Adhesions

Although no statistical difference was reached, laparoscopy increased in 76.7% the diagnosis of pelvic-abdominal adhesions, demonstrating that preoperative propedeutics is still ineffective to establish the diagnosis of this condition. Adhesions are common etiologic factors for infertility, dyspareunia, intestinal obstruction and chronic pelvic pain albeit their role in the physiopathology of pain remains unclear⁽²⁶⁾. Laparoscopy in 1,061 patients revealed that pelvic adhesions (found in 32.5% of cases) is the most common cause of chronic pain^(22,27).

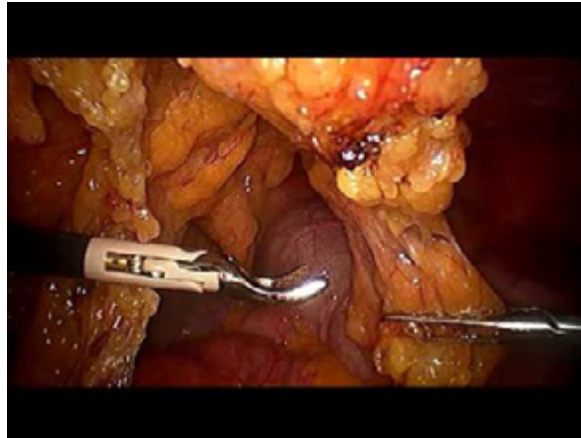


Figure 4. Intrabodinal adhesions detected at the beginning of laparoscopic procedure.

In our study, laparoscopy also proved to aid the diagnosis of tubo-ovarian abscess ($P < 0.05$). Despite the small number of cases, these findings corroborate the role of laparoscopy as a specific clinical criterion for the diagnosis of complicated pelvic inflammatory disease^(28,29).

The use of laparoscopy can reveal treatable conditions, not detected using other methods, with a very low rate of complications. The rate of potentially severe complications, in our study, ranged from 0.3% to 0.6%. A survey of 6,451 laparoscopic procedures showed an overall complication rate of 0.65% (42/6451). However, this rate rose to 0.80% (39/4865) when surgical laparoscopy was compared to merely diagnostic laparoscopy that was associated with a complication rate of 0.19% (3/1586) ($P < 0.001$)⁽³⁰⁾.

The benefits of this minimally invasive technique indicate that an in-depth discussion on reshaping medical residency programs is necessary as to adjust them to the new technology available as well as to today's reality. Given its propedeutic nature and association with very low complications risks, diagnostic laparoscopy should be routinely addressed in the training of future gynecologists. All efforts should be made so that health policies contemplate the dissemination and increasing use of laparoscopy, which has been demonstrated to offer numerous advantages throughout the medical assistance system, especially in the field of gynecology.

Conflict of Interest statement

The authors have no commercial, proprietary, or financial interest in the products or companies described in this article, or any other conflict of interest.

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ABSTRACT

Title: Early Resident Exposure to Laparoscopic Simulation Training, along with Resident-to-Resident Teaching

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Introduction: From Karl Fervers' first laparoscopic adhesiolysis and Boesch's first laparoscopic sterilization in the 1930s, to Kurt Semm's first ever laparoscopic appendectomy in 1983 (Kelley et al 2008), gynecologists have played a pivotal role in the development of laparoscopic surgery, which has now become the standard of care for most simple and complex gynecologic procedures alike.

Fundamentals of Laparoscopic Surgery (FLS) is a web-based course that includes an online didactic video component and a self-taught skills training component. While FLS was launched over a decade ago, a recent evaluation of trends in FLS certification exams shows that only 6% of testers are from a gynecological specialty, compared to 93% from general surgery (Bilgic et al 2017). Furthermore, junior residents account for only 6.4% of testers, compared to 84% for senior residents.

Objective: We aim to report the junior residents' feedback on their early exposure to laparoscopic simulation training and the implementation of a resident-to-resident teaching module.

Methods: An introductory course to laparoscopy was implemented in 2013 to first-year OBGYN residents at our institution, which consisted of the FLS course along with a resident-to-resident teaching module. The latter comprised of eight 3-hour sessions of senior residents teaching hands-on surgical skills to junior residents in small groups. A survey was then sent out to all residents upon completion of the course.

Results: A total of 17 junior residents underwent the introductory course since 2013, with a response rate of 88% (15/17) for the post-course survey. The results were very positive, with 87% rating the course as being very useful as a preparation tool for in-vivo practice, 93% noticing that the course improved their technical skills and helped them familiarize with laparoscopic instruments, 80% recommending it to upcoming juniors, and 100% considering the resident-to-resident teaching a non-stressful environment. Among the participants, 87% had not had a minimum of 4 hours of exposure to laparoscopic instruments prior to the course.

Conclusion: Early exposure of OBGYN residents to FLS with resident-to-resident teaching of hands-on skills seems to be a valuable introductory course to laparoscopic surgery, contributing to subjective improvements in technical skills and familiarity with laparoscopic instruments. Considering the current low uptake rate by OBGYN trainees compared to other specialties, the high reported benefits warrant further evaluation towards implementing this course as part of the OBGYN curriculum.

Gynaecologist and neurosurgeon: a new team for laparoscopic approach to pelvic nerves in patients with intractable pelvic pain

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Disease involving sacral plexus and pudendal and sciatic nerves may be a endopelvic cause of ano-genital and pelvic pain. Feasibility of a laparoscopic transperitoneal approach to the somatic nerves of the pelvis was showed by Possover et al. for diagnosis and treatment of ano-genital pain caused by pudendal and/or sacral nerve roots lesions. Ceccaroni et al reported in many paper reported their experience ad their technique to approach this structures. With this paper we present our experience in this field of surgery and we present the preliminary results of our series of 15 patients treated for pelvic pain due to pathological condition involving of somatic nerves.

From June 2015 and December 2017 we treated for pelvic, pudendal, ano -rectal and for sciatic pain 15 women (age 21-45 years) referred to our institution by other gynaecological department, by our department of neurology, our department of neurosurgery and by our and others department of orthopaedics. All of those patients did not shown a understandable cause of pain; 3 patients showed an altered electromyography; 2 patient showed an altered motor potential and somatosensory evoked potential in the legs; all patients performed a magnetic resonance but only in 2 cases was identified a possible endometriotic lesion near to sciatic nerve. Gynaecological clinical assessment revealed a possible lesion near the sacral roots, the pudendal nerve or near to sciatic nerve.

We performed a laparoscopy and according to Ceccaroni et al we performed an exploration of those areas and we performed a decompression and/or necrolysis in all of those 15 patients. For all surgery the collaboration of a neurosurgeon and the intraoperative electrophysiological study was always available. Fundamental was the role of neurosurgeon for the intraoperative evaluation of nerves and during the manipulation of those structures and the equip of anaesthesiologists to permit those procedures.

After the surgery 13 patient showed a great improvement of pain (3 patients did not reported pain at all), 1 patient reported a good improvement of pain but a long post-operative rehabilitation, 1 patients did not respond to procedure and the pain is nowadays present.

Our preliminary conclusions are that laparoscopic approach to pelvic nerves could be useful and safe for treatment of this kind of pain; a complete pre-operative work-up and a well explained counselling is the cornerstone of this treatment. An exhaustive knowledge of pelvic anatomy and the sharing of competences with other colleagues is the key to obtain a good results for patients.

Does use of balloon uterine manipulator in laparoscopic endometrial cancer staging lead to increased use of adjuvant therapy?

Seifi F, Clark M , Menderes G, Silasi D-A , Azodi M .

Objective: To determine whether the use of intrauterine manipulator was associated with an increase in pathologic reporting of pseudo-lymphovascular invasion (LVSI). Assess the potential impact of pseudo-LVSI secondary to balloon uterine manipulator use on adjuvant therapy.

Methods: Women with early stage (I/II) endometrial cancer of all histologies between 2012-2016 were included and clinicopathologic characteristics were abstracted from the medical record including but not limited to race, BMI, grade, age, stage, histology, presence or absence of LVSI, peritoneal cytology and adjuvant treatment. Slides were blindly reviewed by a gynecologic pathologist for the presence or absence of pseudo-LVSI.

Results: 104 patients met eligibility criteria. Groups were well matched on race, BMI and grade however, non-endometrioid histology ($p=0.046$), older age ($p=0.02$) and stage 1B/II ($p=0.01$) were more common in the no manipulator group. There was no difference on the presence of pseudo-LVSI based on use of manipulator ($p=0.86$) and in subgroup analysis there was no difference when considering grade ($p=0.79$). Six cases of misdiagnosis of LVSI were identified, of which 3 patients were in the manipulator group and received adjuvant radiotherapy who may not have otherwise been triaged to adjuvant therapy.

Conclusion: Pathologists should remain cognizant of the possibility of pseudo-LVSI when evaluating uterine specimens as it may impact adjuvant therapy. Surgeons may choose to use a uterine manipulator for endometrial cancer surgery as there does not appear to be an increased risk of skewing pathologic findings.

Pelvic floor medicine as an alternative to pelvic floor surgery: Feasibility, safety and efficacy of platelet rich plasma and fractional micro-ablative CO₂ laser for stress urinary incontinence

Abstract

Objectives: To evaluate the safety, feasibility and efficacy of trans-vaginal fractional micro-ablative CO₂ laser therapy in combination with platelet rich plasma (PRP) for the treatment of stress urinary incontinence (SUI) in women.

Study Design: Fifty-seven women who presented with SUI were enrolled into this study. Participants were subject to three sessions of trans-vaginal fractional micro-ablative CO₂ laser (MonaLisa Touch, DEKA) treatment and PRP, administered at 4-6 week intervals. Outcomes were assessed using relevant items from the bladder function section of the Australian Pelvic Floor Questionnaire (APFQ). APFQ scores were gathered from patients at baseline (T1), after the third treatment (T2) and 12-24 months after the initial treatment (T3), to assess changes in the participants' symptoms of SUI (primary outcome). Secondary outcomes relating to general bladder function (e.g. nocturia, pad usage, effect of urine leakage on routine activities) were assessed. Statistically and clinically significant differences occurring from T1 to T2 and T1 to T3 were detected using Wilcoxon signed-rank tests. Subjective verbal scales were used to assess the degree of pain associated with PRP injections and laser treatment.

Results: Sixty-five percent of participants reported improvements in SUI symptoms from T1 to T2 ($p < 0.001$). Treatment effect size was sizeable ($r = 0.53$). At T3, 63% of patients reported improvements in SUI symptoms ($p = 0.001$); treatment effect was sizeable ($r = 0.52$). From T1 to T2, all bladder function variables measured were improved significantly ($p < 0.002$). At T3, significant improvements ($p < 0.02$) were maintained for all bladder function variables except nocturia ($p = 0.180$) and pad usage ($p = 0.55$). Additionally, rates of urodynamic studies at this centre were reduced by 80%, and rates of surgery by 60%.

Conclusions: Combining fractional micro-ablative CO₂ laser with PRP appears to be a safe, feasible and efficacious treatment for SUI. It has the potential to be a minimally invasive and comparatively low-risk alternative to surgery, with less associated recovery time.

Environmental Phthalates Exposure and Measures of Uterine Fibroid Size

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Abstract

Background. Etiology of uterine leiomyoma (fibroids) is poorly understood. Environmental endocrine disrupting chemicals, such as phthalates, may contribute to fibroid pathobiology since ovarian hormones are critical to fibroid growth.

Objectives. The purpose of this study was to examine the association between exposure to phthalates and two measures of fibroid size and severity: diameter of largest fibroid and uterine volume.

Study Design. We conducted a cross-sectional study of 61 premenopausal women undergoing either hysterectomy or myomectomy for their fibroids between 2014-2017 in the Washington DC area. Spot urine samples were collected during a clinical visit (but not on the day of surgery) and analyzed for 14 phthalate metabolites and 2 non-phthalate plasticizer metabolites using mass spectrometry. Information on fibroid and uterine characteristics was obtained from MRI and/or ultrasound imaging. Size of the largest fibroid and uterine volume were modeled as dichotomous outcomes (above versus below the median measurement) using logistic regression after adjustment for age, race/ethnicity, body mass index, and time since diagnosis.

Results. The median (interquartile range) diameter of the largest fibroid and volume of the uterus was 7.2 cm (5.4, 10.5) and 563 cm³ (217, 867), respectively. In adjusted models, women with higher concentrations of di(2-ethylhexyl) phthalate (DEHP) and diisononyl phthalate (DiNP) metabolites had significantly greater uterine volumes compared to women with lower metabolite concentrations. Σ DEHP metabolites and Σ DINP metabolites were associated with 3.05 (95% CI 1.08-8.63) and 1.87 (95% CI 1.07, 3.29) increased odds of greater uterine volume, respectively. No significant associations were observed between phthalate biomarkers and size of largest fibroid.

Conclusions. In this preliminary study, exposure to some phthalates was associated with larger uterine volume, a marker of disease severity and fibroid growth. These results further support the hypothesis that endocrine-disrupting chemicals may impact gynecological health outcomes. Larger, prospective studies are needed to confirm these relationships.

Title: Predictors of overnight stay after minimally invasive hysterectomy and myomectomy

Author: Gaby N. Moawad, MD

Study Objective: To identify risk factors for admission vs. same-day discharge after minimally invasive hysterectomy and myomectomy to improve preoperative counseling and postoperative care.

Design: Retrospective cohort study including patients undergoing minimally invasive hysterectomy and myomectomy from January 2014 to December 2016

Setting: Urban university hospital center

Patients and participants: 645 minimally invasive, benign, gynecologic surgery patients. All surgeons were fellowship trained.

Results: For the hysterectomy cohort 84 patients (21%) were admitted for at least one overnight stay while 312 (79%) were discharged the same day. Overnight stay was associated significantly with older age (47 vs. 43 years, $P < 0.01$), lower pre-op hematocrit (36% vs. 37%, $P = 0.013$), prolonged operative time (191 vs. 115 min, $P < 0.01$), EBL > 1000 ml (4% vs. 0%, $P < 0.01$). As for the myomectomy cohort, 120 patients (48%) were admitted for at least one overnight stay while 129 (52%) were discharged the same day. Overnight stay was associated with older age (38 vs. 35 years, $P < 0.001$), lower pre-op hematocrit (36% vs. 38%, $P = 0.007$), and prior surgical procedure including prior cesarean section (12% vs. 2%, $P = 0.005$), prolonged operative time (185 vs. 139 min, $P < 0.001$). Logistic regression analysis for both procedures was performed to ascertain further clinical predictors and showed that increase in age, decrease in hematocrit, prior laparotomy, and longer operative time are significantly predictive any overnight stay.

Conclusion: Perioperative factors are reliable predictors of overnight hospital stay. That information could be used for better patient optimization preoperatively and improved counseling.

Title: Safety and Efficiency of Robot-Assisted Transabdominal Cerclage in the Prevention of Preterm Birth

Authors: Gaby N. Moawad

Objectives: To assess the obstetric benefits and surgical feasibility of robotic-assisted transabdominal cerclage.

Design: Retrospective cohort study of patients undergoing robot-assisted transabdominal cerclage for obstetric indications

Setting: Two urban teaching university hospitals and an academically affiliated community center

Patients and participants: 68 patients undergoing robot-assisted transabdominal cerclage placement by high-volume gynecologic surgeons.

Intervention: Robot-assisted transabdominal cerclage.

Measurements and main results: A total of 68 consecutive patients at each center undergoing robotic-assisted transabdominal cerclage for obstetric indications were selected. We compared 200 pregnancies pre-robotic cerclage to 60 pregnancies post-robot-assisted cerclage. To assess whether robotic cerclage had any effect on duration of pregnancy, we categorized gestational age into categorical variables: 0-13 weeks, 13-24 weeks, 24-28 weeks, 29-34 weeks, 34-36 weeks and term (>37 weeks). Using crosstabs between the categorized gestational age and obstetric outcomes pre/post robotic cerclage, we saw a significant increase in gestational age ($p < 0.0001$). The distribution of the counts suggests that gestation age is significantly increased post cerclage. Eleven percent of pre-cerclage pregnancies delivered after 34 weeks gestations age compared to 68.3% of post-cerclage pregnancies ($p < 0.0001$). Surgical outcomes were also favorable with zero conversions to open or perioperative pregnancy loss, zero intraoperative complications and two postoperative complications (two port-incision cellulitis).

Conclusion: Robot-assisted transabdominal cerclage influences increase in gestational age. Robotic-assisted Transabdominal cerclages provide excellent obstetric outcomes without the morbidity associated with open transabdominal cerclage and technical challenges associated with the laparoscopic-assisted transabdominal cerclage.

Title: Effect of Partial Bladder Filling After Minimally Invasive Hysterectomy on Post Anesthesia Care Unit Discharge and Associated Cost: A Single-Blinded Randomized Control Trial

Author: Gaby N. Moawad, MD

Objective: To identify the effect of partially filling the bladder on postoperative time spent in PACU and cost

Design: A randomized, single-blinded, placebo-controlled trial

Setting: Urban university hospital center

Patients and participants: 88 minimally invasive, benign, hysterectomy patients. All participating surgeons were high-volume and fellowship trained.

Intervention: Studying the effect of partially backfilling the bladder on time needed to void after surgery, time spent in PACU, and associated cost impact.

Measurements and main results: All patients were allocated to partially filling the bladder with 150 ccs of normal saline after surgery, or the bladder was completely drained as per standard of care. Primary outcome measures were time needed to void, time spent in PACU, and PACU cost. All preoperative and intraoperative variables were collected and analyzed to ensure successful randomization. Eighty-nine patients were included in our final analysis. Forty-six patients (51.6%) were randomized to the placebo group, and 43 (48.3%) patients to the intervention group. The two cohorts were homogenous for all tested. For the outcomes of interest, we used the t-test for comparison. In the intervention group patients voided on average 65 minutes earlier than the placebo group ($p=0.012$) and spent on average 48 minutes less in the PACU ($p=0.008$). This reduction in time was associated with a decrease in PACU cost- on average of 303.3 USD ($P=0.008$) per patient. No postoperative complications including readmission and reoperation were observed.

Conclusions: Our virtually free of charge minor intervention is expected to save USD 52-104 millions on the healthcare system with likely no negative impact on the patient well being.

Tips of Robotic Single-Site Surgery Suture Technique.

- *Screwing and clockwise direction suture technique for RSS surgery*

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Abstracts

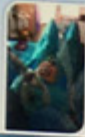
With the introduction of the robotic single-site platform, surgeons are able to perform minimally invasive surgery. However, surgical challenges still exist due to the limitation of movement and fighting of single-site instruments.

In order to perform successful and more robotic single-site surgeries, we must develop good surgical skills and better suturing techniques with the current set of limited instruments.

Based on my experiences performing more than 300 cases of robotic single-site surgeries with huge and adhesive uterine cases, I introduce surgical tips for vaginal cuff suturing techniques, including screwing of the needle driver, approximation of tissue, right direction with increasing angle, dragging and making an adequate loop of thread, and creating united strength with each instrument. When following these steps, I am able to reduce the operative time in robotic single-site hysterectomy and overcome suturing limitations of robotic single-site surgery with these steps.

Keyword; Robotic Single-Site, Suture Technique, Tip

Borderline ovarian tumor staging by conventional laparoscopic single port : a technical approach

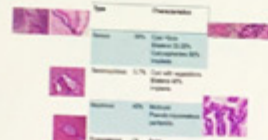


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Introduction

The BOT are ovarian neoplasm intermediate between benign and malignant category.
There is a new classification of WHO with 6 histologic subtype.
Standard treatment include complete surgical resection and surgical staging including intracolic omentectomy, peritoneal biopsy, peritoneal cytology and for mucinous tumor the appendectomy.
With the advanced of laparoscopic instrumentation, the LESS (Laparoscopic single-site surgery) was developed as an alternative to conventional laparoscopy for treatment of benign and malignant gynecologic tumor.
The objective of this study is to estimate the feasibility for the management of BOT by single port access.



Operative technique :

The patient was placed in the dorsal lithotomy position with two arms bed to her body, a 2cm classical inner incision was made within the umbilicus. Then the insertion of a small wound retractor (Alexis Applied Medical) in the wound opening, and after we adapt the Gelpoint (Applied Medical) for the single port, then we put 3 trocar (3 of 10 mm).
If it's necessary we use another 3cm trocar in the left iliac fossa.
The management of BOT is similar to the procedure performed in classic laparoscopic surgery (peritoneal cytology, oophorectomy, intracolic omentectomy, appendectomy, peritoneal biopsy and we don't perform lymphadenectomy) - We use classical more curve instrument - the use of new energies (Ligasure or Harmonic) is helpful.
At the end of the procedure it was easy to extract the specimen through the umbilical wound retractor, protect by Alexis which prevent of subcutaneous implantation of BOT.
We close the skin wound with resorbable running suture.



Results

Patients characteristics	
Age median (years)	40 (27-79)
Bmi : median	25 (24-40)
CA 125 : median	40 (30-70)
First Surgery	10/10
Cystectomy	5/10
Hysterectomy with oophorectomy	4/10
Bilateral oophorectomy	1/10
Histological types	
Serous ovarian borderline tumor	4/10
Mucinous borderline of endometrial subtype	4/10
Germ cell ovarian borderline	1/10
Mucinous ovarian borderline of intestinal sub-type	1/10
Second surgery	10/10
Omentectomy and peritoneal biopsies and cytology	5/10
Omentectomy - appendectomy - cytology-biopsy	5/10
oophorectomy	4/5
Operative time of second surgery median (minutes)	90 (70min -150 min)
Hospital stay median (days)	1 (1-3)
Complications	None

The minimally invasive surgery compared to the open surgery is associated with more favorable surgical outcomes with no compromise in oncologic outcome, faster recovery, lower perioperative complications rates, and more superior cosmesis (1).

The LESS (Laparoscopic single-site surgery) is feasible and safe in selected patients. The benefits of LESS approach including shorter hospital stays (single day surgery), lower health care costs, fewer complications, less pain, and improved cosmesis.

The disadvantages is the limitation of the movement of the operator (it could improve the risk of rupture and spillage of the tissue) and may be a higher rate of incisional hernia or hematoma (2-3).

Discussion



In conclusion the LESS technique using the Gel Point is feasible for surgical management of BOT with the same advantage of classic (3-4 port) laparoscopy, and better cosmetic result. But further trial should be needed to evaluate this technique.

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Borderline ovation tumor staging by laparoscopic single Port

Julien Bakenga

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LES TORSIONS DES ANNEXES DE L'UTERUS. ASPECTS CLINIQUES ET THERAPEUTIQUES/ A PROPOS D'UNE SERIE DE 50 CAS

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Introduction:

La torsion d'annexe est une pathologie peu fréquente secondaire à la rotation totale ou partielle de l'annexe autour de son axe vasculaire. La torsion peut être favorisée par l'existence d'une masse annexielle (kyste de l'ovaire), ou être sans cause retrouvée. Elle survient généralement durant la vie génitale (70 % des cas),

But :

A travers cette étude nous essayons d'étudier les particularités cliniques et thérapeutiques des torsions des annexes de l'utérus.

Matériels et méthodes :

Il s'agit d'une étude rétrospective ayant porté sur une série continue de 50 cas de torsions annexielles colligées au service de gynécologie-obstétrique de Monastir sur une période de 7ans

Résultats :

Les torsions des annexes de l'utérus représentent 14.85 % de toutes les tumeurs annexielles opérées. La grossesse y est assez souvent associée : 23 cas (17%). Le diagnostic positif a été posé correctement dès la première consultation que dans 57.8% des cas. L'échographie pelvienne a permis de retrouver une formation annexielle pathologique dans tous les cas . le traitement coelio-chirurgical a été effectué chez 57%des femmes en activité génitale, y compris 4 cas où la vitalité ovarienne était douteuse. Aucune complication thrombo-embolique n'a été décelée.

Conclusion :

Le diagnostic de torsion annexielle doit être évoqué devant toute douleur pelvienne aiguë.

L'échographie est un complément indispensable à l'examen clinique. La coélioscopie permet le diagnostic et assez souvent le traitement y compris pendant la grossesse.

Une vitalité douteuse des annexes ne serait pas une indication systématique à un traitement radical.

Tuberculose pelvienne simulant une tumeur ovarienne maligne compliquée à propos d'un cas

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Introduction et objectifs :

La tuberculose connaît ces dernières années une recrudescence et constitue actuellement un problème de santé publique. La localisation pelvienne représente actuellement 6 à 10%. Elle peut simuler en tout point clinique et radiologique une tumeur maligne de l'ovaire. Nous proposons à travers cette observation, les difficultés diagnostiques et les contraintes imposées par cette entité.

Matériels et méthodes :

Etude rétrospective d'un cas de tuberculose pelvienne simulant une tumeur ovarienne maligne compliquée de torsion pris en charge au service de gynécologie obstétrique de Monastir.

Observation :

Il s'agit de mademoiselle BA âgée de 24 ans admise dans notre service dans un tableau d'abdomen aigu fait de douleurs pelviennes, vomissements avec à l'examen une fièvre et une défense pelvienne. L'échographie a montré une masse retro et latéro utérine droite de 10 cm à contours flous et double composante solide et liquide associée à une lame d'épanchement dans le Douglas faisant évoquer un tératome ovarien. Une torsion d'annexe a été évoquée et une coelioscopie en urgence a été réalisée. L'exploration trouve une cavité parsemée de petites granulations translucides et des adhérences pelviennes massives réalisant un magma adhérentiel pelvien entre l'utérus, annexes et le tube digestif non dissécable. On s'est contenté de gestes biopsiques devant la suspicion de tumeur ovarienne maligne avec carcinose péritonéale. L'examen anatomopathologique revint en faveur d'une tuberculose pelvienne. La patiente a été transmise au service des maladies infectieuses pour traitement à base d'anti bacillaires.

Conclusion :

Du fait de la non spécificité des signes cliniques et biologiques, la tuberculose pelvienne doit être évoquée devant une masse pelvienne notamment quand il s'agit d'une jeune patiente venant d'un pays d'endémie tuberculeuse ou ayant un terrain d'immunodépression. L'étude anatomopathologique des prélèvements per-laparoscopie permet de confirmer le diagnostic.

Intérêt comparé de l'hystérosalpingographie et de la laparoscopie et l'hysteroscopie

Korbi.A ,Zouari I ;Hajji A ;Malek W ; Zokar O, MS rhim, Mhabrech H: ,Feleh.R

Introduction:

Au cours du bilan d'infertilité, de nombreux examens para cliniques sont nécessaires pour établir le niveau des lésions.

L'étude de la cavité utérine et de la perméabilité tubaire est habituellement réalisée soit par l'hystérosalpingographie (HSG), soit par l'hysteroscopie associée à la laparoscopie.

L'objectif de cette étude est de comparer les résultats de ces deux examens et de comparer les renseignements fournis par l'un et l'autre.

Matériels et méthodes :

Cette étude a été réalisée sur une période de 5 ans au service de gynécologie obstétrique de Monastir. Elle concerne 88 patientes âgées de 20 à 42 ans qui consultaient pour stérilité primaire ou secondaire.

Résultats :

Pour l'étude de la cavité utérine, aucune différence n'a été observée dans les résultats.

20 cas d'endométriose, ce qui représente 22,7% de l'effectif, ont été notés. Pour l'étude de la perméabilité tubaire, les observations concernant les trompes droites sont identiques pour les deux examens. Pour les trompes gauches, on note une discordance. En effet, un faux positif d'obstruction tubaire à l'HSG a été corrigé par la laparoscopie à l'épreuve du bleu de méthylène.

Conclusion:

Bien que l'HSG et la laparoscopie-hysteroscopie donnent des résultats comparables pour l'étude de l'endomètre et des trompes dans notre étude et que l'HSG est un examen moins couteux et moins invasif, la coelioscopie-hysteroscopie garde cependant son intérêt irremplaçable par l'HSG.

Torsion d'annexe et grossesse: une urgence porteuse de risque

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Service de gynécologie obstétrique CHU Fattouma Bourguiba Monastir

Introduction:

La torsion d'annexe est une pathologie rare secondaire à la rotation totale ou partielle de l'annexe autour de son axe vasculaire. Elle peut être favorisée par l'existence d'une masse annexielle ou avoir lieu plus rarement sur une annexe saine. La proportion des torsions d'annexe survenant en cours de grossesse varie de 13 à 28 % et sa fréquence est estimée à 1/5000 grossesses. Elle peut survenir durant les trois trimestres de la grossesse, bien que l'augmentation de taille de l'utérus au 2^e et 3^e trimestre réduise la mobilité de l'annexe. Certains auteurs plaident en faveur de la préservation de l'ovaire malgré son apparence nécrotique car sa fonction serait préservée dans 88 à 100% des cas.

Observation:

Nous présentons le cas d'une torsion d'annexe au premier trimestre de grossesse(8 semaines et 4 jours de grossesse) chez une patiente âgée de 18 ans mariée depuis 6mois sans antécédents particuliers qui nous a consulté pour une douleur pelvienne intense évoluant depuis 6 heures du temps. Nous avons réalisé une échographie objectivant un kyste de l'ovaire droit de 7 cm. Nous avons alors réalisé une kystectomie coelioscopique , suivie de l'administration de progestérone retard à la dose 500 mg par jour. Les suites post -opératoires étaient simples. L'analyse anatomopathologique de la masse chirurgicale a conclu à kyste du corps jaune hémorragique. L'ablation chirurgicale du corps jaune au premier trimestre de la grossesse pose le problème du maintien de celle - ci et devrait être présente à l'esprit des praticiens avant toute chirurgie pelvienne pendant cette période.

Conclusion:

La prise en charge chirurgicale des masses ovariennes au cours de la grossesse ne se conçoit que dans deux situations: la survenue de complications aiguës telles que la torsion, la rupture ou l'hémorragie intra-kystique, et la présence d'arguments de malignité ou simplement la persistance d'un kyste d'allure bénigne au-delà de la quatorzième semaine d'aménorrhée.

L'issue favorable de cette grossesse après l'ablation chirurgicale de son corps jaune souligne l'importance du traitement conservateur des kystes lutéaux lorsque ceux-ci se compliquent au cours du premier trimestre. La précocité de la coelioscopie après le début des symptômes augmente les chances de préservation du corps jaune mais n'est pas toujours possible.

Torsion tubaire isolée : Ne ratons pas le diagnostic ! À propos de deux cas

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Centre de maternité et de néonatalogie de Monastir

Introduction:

La torsion de la trompe est rare, voir exceptionnel chez l'adolescente. La clinique de la torsion tubaire isolée n'est pas spécifique rendant le diagnostic préopératoire difficile et souvent tardif, avec des séquelles irréversibles sur la trompe.

Matériel et Méthodes:

Nous rapportons dans ce travail tous les cas des patientes dont l'âge inférieur ou égal à 18 ans et se présentant à nos urgences pour des douleurs pelviennes et chez qui le diagnostic de torsion isolé de la trompe était suspecté échographiquement puis confirmé par la coelioscopie.

Il s'agit d'une étude rétrospective de 1er janvier 2016 au 31 décembre 2017. Deux cas ont été ainsi étudiés. Chaque patiente a bénéficiée d'un examen clinique, biologique, radiologique, d'un acte opératoire immédiat et d'un suivi post opératoire de 3 mois.

Résultats:

L'âge moyen est 15.5 ans (14,17 ans), Elles sont vierge toutes les deux et n'ayant pas des antécédents médical ou chirurgical notable, ses cycles sont réguliers et elles n'ont jamais été sous traitement hormonal.

Le motif de consultation était de douleur pelvienne aiguë avec vomissement. L'examen physique a montré une défense au niveau de fosse iliaque dans un contexte d'apyrexie avec un état hémodynamique stable. Le toucher vaginal n'a pas été réalisé, le toucher rectal trouve une masse latéro –utérine droite très sensible.

Pour le bilan biologique, l'un était normal, l'autre a montré un syndrome inflammatoire biologique modéré. L'échographie a montré une structure anéchogène tubulé entre l'utérus et l'ovaire, sans vascularisation au doppler. L'ovaire homolatéral ainsi que le controlatéral étaient normaux.

Le diagnostic de torsion d'annexe a été évoqué en premier lieu.

Toutes les deux ont bénéficiées d'une détorsion tubaire avec une laparoscopie de second look dans deux mois sans récurrence.

Conclusion :

Au total, la torsion tubaire isolée est une cause rare de douleur pelvienne aiguë de la femme jeune. Cependant, ce diagnostic doit être gardé à l'esprit en raison de l'urgence de son traitement chirurgical dans la perspective de préserver la fertilité de ces patientes jeunes.

Une intervention précoce, idéalement par coelioscopie, sera alors primordiale pour le sauvetage tubaire. Elle permettra de confirmer le diagnostic, de détordre la trompe et de la réchauffer.

A l'avenir, peut-être que la banalisation de l'IRM aux urgences et l'utilisation de l'échographie tridimensionnelle permettront un diagnostic plus précoce et une meilleure prise en charge.

A Rare Case Of Müllerian Anomaly: Accessory And Cavitated Uterine Mass Diagnosis And Treatment

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Objective:

ACUM is a rare congenital uterine anomalies, which lying within an otherwise normal uterus with functioning endometrium. This malformation also is difficult to explain embryologically even misdiagnosed preoperatively as cystic degeneration in adenomyoma and leiomyoma, even a juvenile cystic adenomyoma(JCA), thus remain difficult to diagnose.

Methods :

A 16-year-old nulligravida with severe dysmenorrhea and especially left lower quadrant (VAS: 10) presented on her every menstrual cycle for a year despite intravenous analgesic drugs and oral pills. Ultrasound (**Figure 1**) showed a 4 cm hypoechoic lesion on left of uterus favor adenomyoma. However on MRI (**Figure 2**), normal configuration of uterine cavity, but the cystic lesion content was hyperintense appearane, compatible with a degenerated leiomyoma or cystic adenomyoma. Review image study and clinical findings, physician suspicious it was a uterine malformation. Since discrimination of clinical findings and image study. Diagnostic methods are laparoscopic and hysteroscopy.

Result:

On laparoscopy, uterus appeared normal, the enlarged with intramural mass like lesion at left side favor rudimentary horn. It attached to the left anterior uterine wall just below the attachment of left round ligament, both cornue identified normally (**Figure 3**). We made a 4cm incision over the mass, 15ml of chocolate color fluid was drained (**Figure 4**). There was no communication with the main uterine cavity. In order to preserve more endometrium layer for fertility, only resection uterine mass. Histopathology revealed that it was an uterine mass with endometrium lining. After operation, her dicomfortable symptoms subsided.

Conclusion:

ACUM its embryological pathogenesis remains unclear. It could be caused by gubernaculum dysfunction. It associated with a cavitated and non-communicated uterine horn. This case highlight of characteristic ACUM most in young age(< 30y/o), nulliparous women. Differentia from adenomyoma degeneration and JCA by clinical findings, location of ACUM usually in the front of the left uterine horn, the remainder of the uterus, fallopian tubes and ovaries were anatomically normal. Abundant chocolate-brown-colored fluid content. Important point is pathology proof that uterine mass with functional endometrium. The diagnostic criteria for ACUM and JCA have been established before. But ACUM remain challenge and easy misleading diagnosis. For further evaluation, ultrasound and MRI are non-invasive modality and good valuable for Müllerian anomaly, but limitation on

rare cases. Hence, combined laparoscopy and hysteroscopy both of them as valuable diagnostic tools for making an accurate diagnosis and management at same time.

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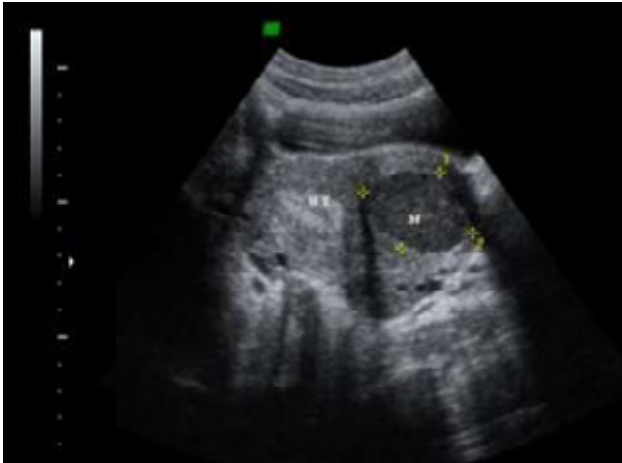


Figure 1

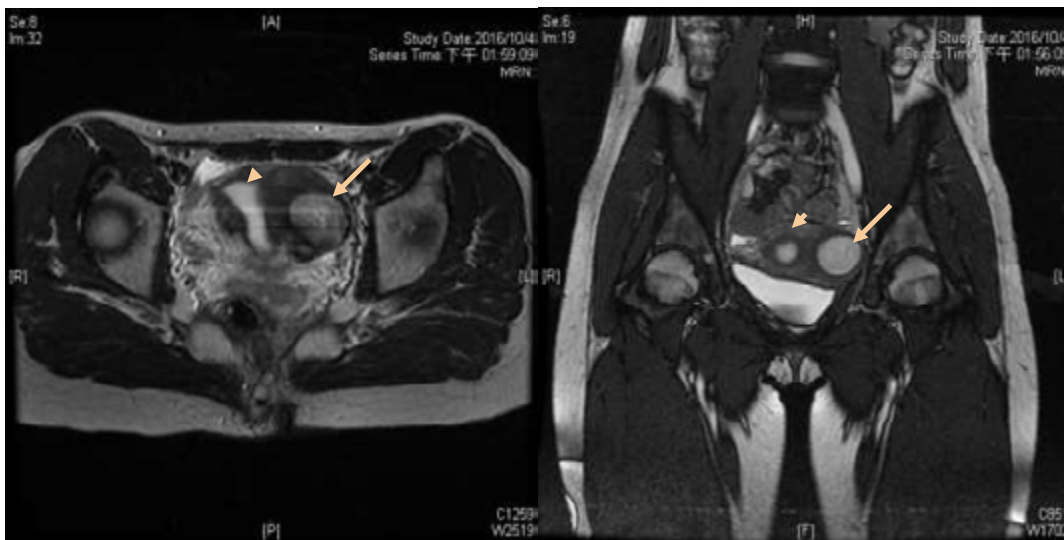


Figure 2

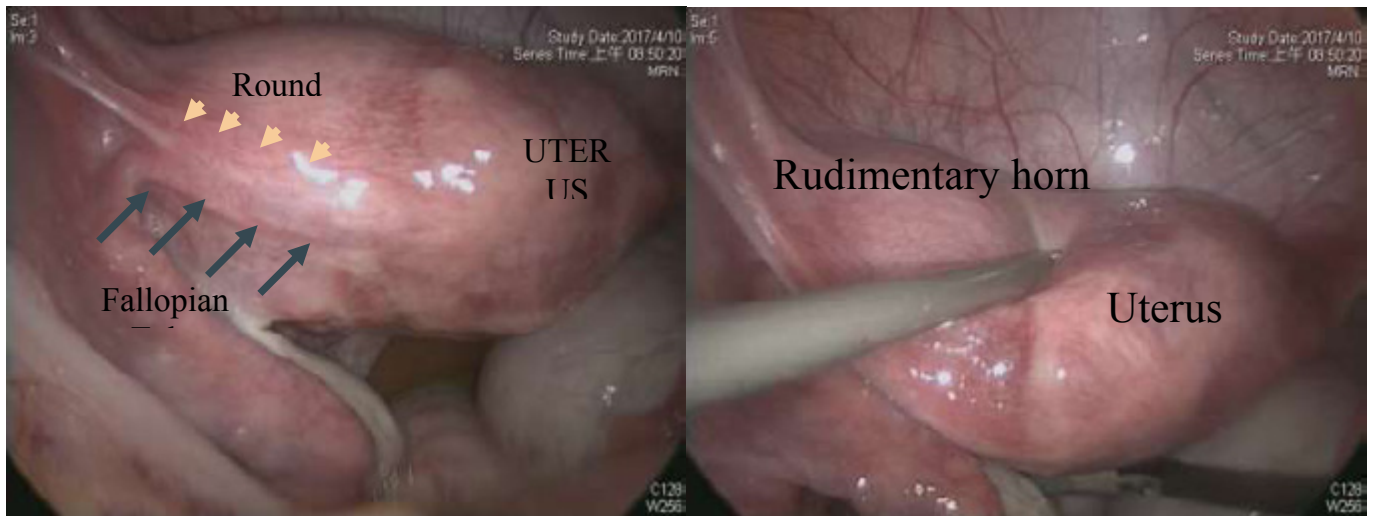


Figure 3

Fig. 1 Transverse view of an ultrasound image with a hypodense lesion on the left of the uterus, close to the myoma degeneration.

Fig. 2 MRI revealed two hypertensive lesions over the uterus; one was 4 cm in size and was located beside the uterus; thus, degenerated leiomyoma or cystic adenomyoma (arrow) was suspected. The endometrium lining is clearly visible in the image (arrow head).

Fig. 3 The remainder of the uterus, fallopian tubes, and ovaries were anatomically normal. The mass favor rudimentary horn is located under the uterine insertion of the left round ligament (arrow head: round ligament; arrow: fallopian tube).

Fig. 4

(A) A functional but noncommunicating rudimentary cavity filled with a chocolate–brown-colored fluid, which results in hematometra; endometriotic and fibrotic myometrium status post resection;

(B) Normal appearance after enucleation and resection of the left noncommunicating cavity.
Conformations of the cervix and uterine cavity were obtained using hysteroscopy.

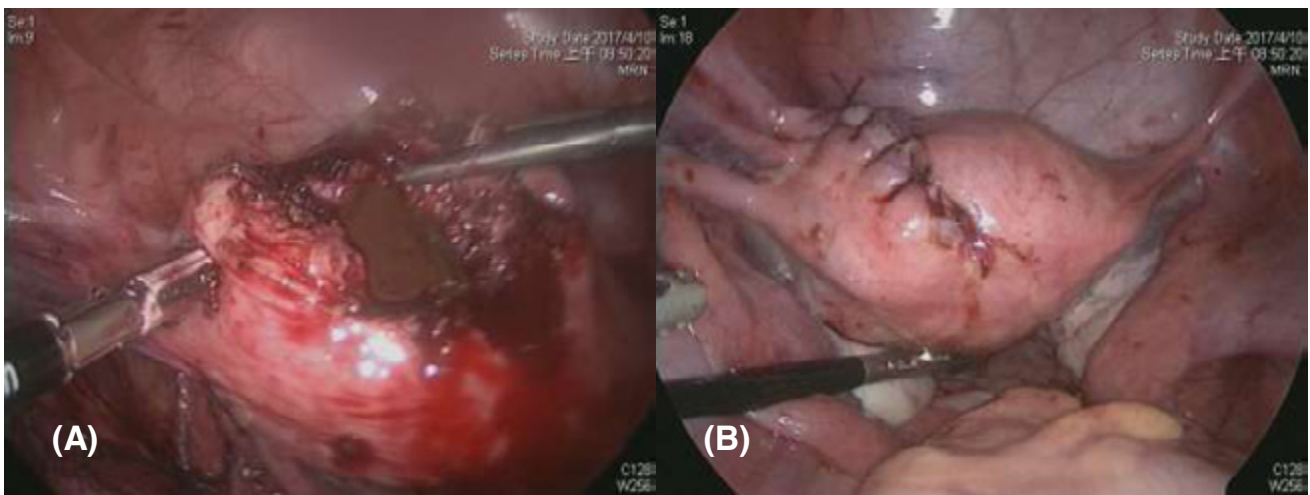


Figure 4

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Anastomosis uterus-vagina

Clinical History:

Patient 16 years hospitalized with significant cyclic pelvic pain and amenorrhea and for 4 days the symptoms were accompanied by fever and worsening of pain. History of vaginal agenesis diagnosis at 13 years with an attempt to reconstruct collagenous tissue and positive laparoscopy for endometriosis. In continuous use of dienogeste since then. Reports episodes of pelvic pain 2 years after surgery and successful sexual activity.

Physical examination: vaginal length of 5cm and absence of uterine cervix

Image exams: Ultrasonography: enlarged uterus (187cc) with hematometrial content and narrowing in the lower third suggestive of a body-cervix transition. Short vagina without cervix connection. Normal ovaries. Resonance: signs of agenesis of the upper 2/3 of the vagina and hematometrial. Small amount of fluid in the pelvic cavity. Normal ovaries. Surgical programming: Decided for an attempt of laparoscopic utero-vaginal anastomosis after resolution of the infectious condition. Findings: Uterus softened and enlarged. Small superficial foci of endometriosis. Suspension of the uterus in the pelvic wall. Bladder dissection up to vagina with vaginal valve aid. Followed by a hysterotomy with hematometrial drainage. The opening was extended longitudinally and part of the myometrium was removed in a circular fashion from the lower end of the hysterotomy.

Vaginal dome opening. Approach between lower uterine border and vaginal dome with separate stitches. Intrauterine 22fr delay vesical catheter passage connecting the vagina and uterine cavity with insufflation of 20ml of distilled water. Hysterorrhaphy.

Resection of foci of endometriosis. Postoperative: Maintained foley tube for 30days and started continuous combined hormonal contraceptive. Follow-up (40 days post-surgery):

She presented menstrual bleeding during contraceptive exchange. At the examination: Presence of orifice at vaginal fundus with drainage of sanguineous secretion compatible with uterine pertuite.

LAPAROSCOPIC RESSECTION FOR RETZIUS SPACE LEYOMIOMA

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Leiomioma é o tumor pélvico benigno mais comum na mulher, mas representa causa rara de obstrução urinária aguda, com poucos casos descritos na literatura. Neste relato, veremos um caso de leiomioma no espaço de Retzius, afim de melhor compreender o manejo dessa patologia. A 36-year-old woman sought gynecological emergency for acute urinary retention. She reported sensation of vaginal bulging for 2 years, dyspareunia and urinary incontinence sporadic, without urgency and not associated with efforts. On examination, she presented a mobile mass, 8 x 6 cm, in the anterior vaginal wall, with bimanual touch discomfort. Tests of renal, hepatic function, coagulation, complete blood count, urine summary and urine culture. Pelvic ultrasonography: 6.6 x 5.8 cm mass, between pubic symphysis, urethra and bladder. Contrast magnetic resonance: 7.2 x 6.1 cm mass, consistency of soft parts, in right paravaginal area. Extrinsic compression was observed on urethral dorsal wall, 9-3 hours, throughout its extension; bladder with trabeculated walls and normal ureteral meatus. Patient underwent videolaparoscopy with access to the space of Retzius and vesicouterine space. Anterior bladder wall was separated from the retropubic space at the lower border of the pubic symphysis until identification of the distal paracolpos, bilaterally, near the outer border of the urethra. An encapsulated, grayish-white tumor of 8.0 x 7.1 x 5.8 cm, with rich superficial venous vascularization, without vessels in its interior and mobile, was approached. After complete tumor resection and haemostasis of its bed, the tumor was excised with excision of the posterior spleen by colpotomy. Patient progressed well, without postoperative complications. Histological study confirmed leiomyoma. After three months, the patient was asymptomatic and continent, normal physical examination. Performed transvaginal / pelvic US and urethrocytoscopy without change.

First case of minimally invasive sentinel node biopsy using indocyanine green in early stage vulvar cancer

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Subtitle: sentinel node in vulvar cancer.

Running head: endoscopic sentinel node in vulvar cancer

All the authors declare they have no disclosure to report.

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ABSTRACT

Background: Minimally invasive lymphadenectomy is progressively emerging as an appealing strategy in patients with vulvar cancer [1-3]; at the same time, sentinel node biopsy (SNB) is currently recognized as standard of care in patients with early stage vulvar cancer (ESVC) [4]. Therefore, the integration of minimally-invasive approaches and SNB appears as an intriguing horizon, and we present here the first endoscopic SNB using indocyanine green (ICG) performed in a patient with ESVC.

Methods: The procedure was performed in the context of a Phase II clinical trial (GREEN-VEIL Study, NCT registration on going). The patient gave written informed consent to be enrolled, and for personal data to be published in the present video-article.

Results: Eighty-two years old woman with 3cm vulvar squamous cell carcinoma received endoscopic SNB. Twenty-five mg of ICG powder was diluted in 20mL of water. Two milliliters of the solution were injected in vulvar lesion. After 10 minutes, the sentinel node was detected using a camera with Karl Storz near infrared system, and removed using two ancillary 3mm trocars. The procedure duration was 25 minutes, and the patient discharged on post-operative day 1. At frozen section, and final histology one sentinel node was detected, and resulted negative for metastasis. No surgical complications were observed, and 5 months after surgery the patient was free from disease.

Conclusion: We present the first successful minimally-invasive inguinal SNB using ICG. The final results of our clinical trial (GREEN VEIL study, NCT registration on going) will help to clarify the feasibility of the procedure.

Key words: Early stage vulvar cancer; indocyanine; sentinel-node biopsy; 3mm instruments.

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Implementing laparoscopic hysterectomy using peer-to-peer learning in a District General Hospital

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Objective: Total Laparoscopic Hysterectomy (TLH) has become an important part of the specialist gynaecological training over the past 5 years. The benefits of the minimally invasive approach over the abdominal incision range from quicker recovery, better pain control and minimal scarring to significant cost savings. Acquisition of necessary skills out with a standardised training programme can be a longer and a more difficult process. We propose a model of peer learning where the acquisition rate of technical skills is significantly accelerated.

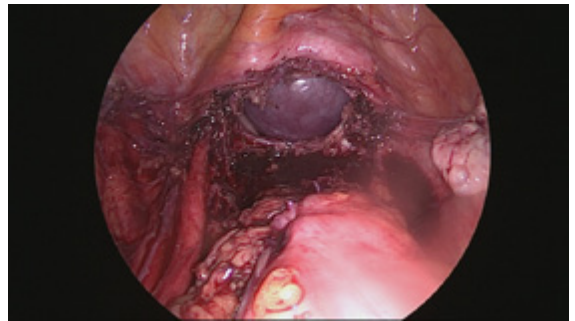
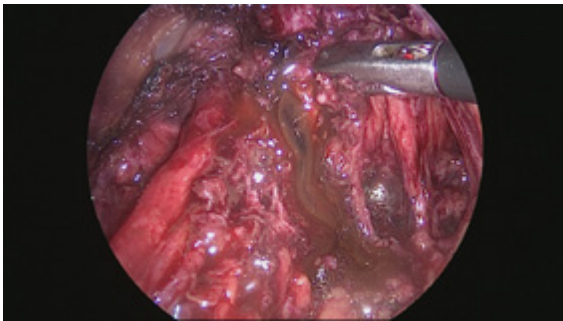
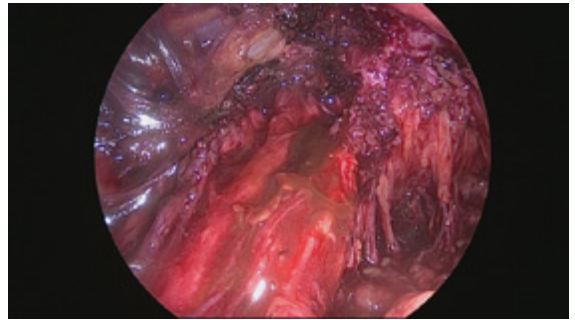
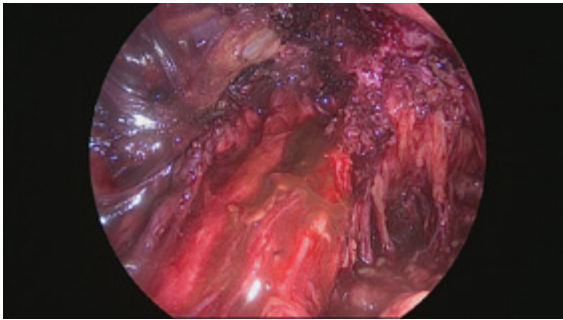
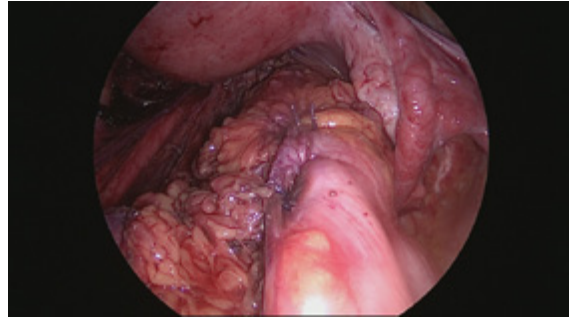
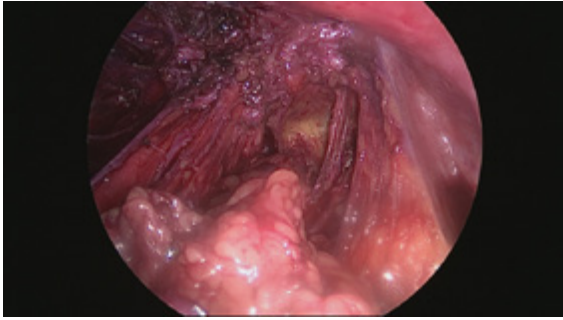
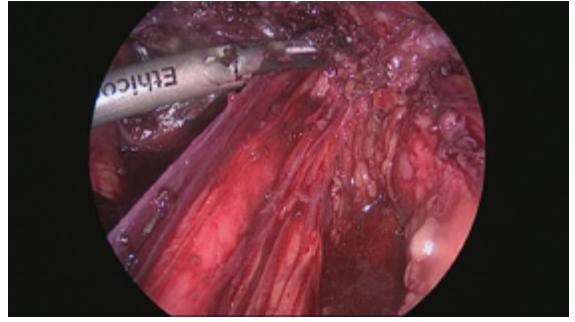
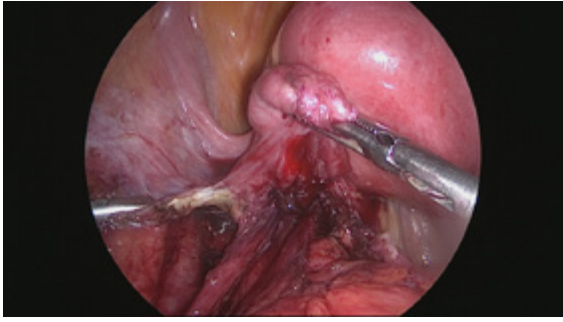
Methods and Results: TLH was introduced in 2009 in Wishaw General Hospital by 2 gynaecologists with appropriate skills and training. At that time, TLH represented less than 10% of hysterectomies whereas now it is the procedure of choice if hysterectomy is indicated. Over the past 8 years, colleague gynaecologists previously trained in benign and oncologic open hysterectomy participated in the "buddy operating" scheme and in turn they acquired necessary skills to perform the procedure independently. Recent trainees completing the RCOG Benign abdominal surgery advanced specialist training module and working as Consultants can perform the TLH independently.

Conclusion: Total Laparoscopic Hysterectomy is a reproducible gynaecological procedure and could be offered as an alternative to open or vaginal surgery if clinically indicated. The safe implementation of the procedure in a district general hospital has proven possible using the peer learning process. It has accelerated significantly individual surgeon's technical skills acquisition and has minimised conversion rate and injuries.

Clermont - Ferrand, France

Late ureteral injury bipolar use in ureteral endometriosis - case report

CSC, female, 36 years old, nulipara, 8 years of pelvic pain associated with dyspareunia, severe dysmenorrhea and pain to evacuation. At vaginal exam noted 3,5 cm nodulation in rectovaginal septum, painful at touch. Endovaginal ultrasound with intestinal preparation revealed a nodule of endometriosis in the rectovaginal septum, affecting the anterior wall of the rectum, preserving the intestinal mucosa and uterine myomatosis. Couple had no reproductive desire. A total hysterectomy with left anexectomy, intestinal shaver and resection of the endometriosis nodule was performed by laparoscopic approach. During surgery, a nodule of deep endometriosis was found affecting the retrocervical space, anterior wall of the rectum and left ureter at uterine artery intersection. Dissection of the nodule was performed with total removal of the lesion (in block). During the dissection, the uterine artery was sectioned three times due to the presence of extrinsic ureteral endometriosis at the intersection of the uterine artery. At the end of the surgery, normal ureteral peristalsis and absence of dilatation of the ureter were noted. In the 5th. postoperative day the patient developed urine leak through the vaginal route. Computed tomography, with intravenous contrast, revealed contrast extravasation near the insertion of the ureter into the bladder on the left side. Patient was submitted to ureteroscopy, where a ureteral lesion smaller than 5 mm was visualized. Opted for insertion of double "J" for 60 days, with good outcome.



L'ÉVALUATION DE LA FERTILITE APRES UN TRAITEMENT COELIOSCOPIQUE DE L'ENDOMETRIOSE

Zoukar.Olfa -Zouari.I-Ghadhab.I –Saidani Z- FelahR

Centre de maternité de Monastir

Introduction et Objectifs

L'infertilité liée à l'endométriose est une entité bien définie et son traitement devient de plus en plus codifié, bien que son pronostic reste réservé.

Notre but est d'évaluer la fertilité après un traitement chirurgical radical de l'endométriose pelvienne par cœlioscopie chez des patientes en échec de grossesse depuis au moins un an.

Matériels et méthodes

Étude rétrospective sur 4 ans portant sur 64 patientes présentant une infertilité supérieure à un an, associée à un désir de grossesse, dans un contexte d'endométriose minime à sévère (stades I à IV) et traitées par résection cœlioscopique complète de leurs lésions.

Résultats

Vingt-deux patientes ont été enceintes (65 %) après un délai médian de 8,5 mois (quartiles : 3 ; 15,5) [extrêmes : 1 ; 52] et 86,5 % des grossesses ont eu un accouchement comme issue. Le nombre de patientes enceintes a varié suivant le stade de gravité de l'endométriose (89 % pour les stades I–II, et 56 % pour les stades III–IV). Soixante pour cent des grossesses obtenues ont été spontanées dans un délai médian postopératoire de cinq mois (3 ; 9) [1 ; 52]. En cas de grossesse obtenue par AMP, le délai médian a été de 12 mois (9 ; 22) [2 ; 31]. Parmi les patientes enceintes de stades I–II, le délai médian d'obtention des grossesses a été de deux mois en cas de grossesse spontanée et 20,5 mois après AMP ($p = 0,007$). Pour les patientes enceintes de stades III–IV, les délais ont été respectivement de 8 et 12 mois ($p = 0,79$). Parmi les 21 % de patientes en échec de grossesse malgré une tentative d'AMP avant la chirurgie, 71 % ont été enceintes et pour les 4/5 sans recours à l'AMP. Parmi les 18 patientes (53 %) porteuses d'un endométriome, 50 % ont été enceintes. Parmi les quatre patientes ayant une endométriose digestive nécessitant une résection rectale, une patiente était enceinte.

Conclusion

La résection complète des lésions d'endométriose par cœlioscopie chez des patientes infertiles depuis au moins un an et désireuses de grossesse, est associée à l'obtention d'une grossesse dans 65 % des cas sur une durée médiane de 8,5 mois, spontanément dans 60 % des cas. En cas d'endométriose stades I–II, on proposera après la chirurgie une tentative de grossesse spontanée pendant 8–12 mois avant un passage en AMP alors qu'en cas d'endométriose stades III–IV, on s'orientera plus rapidement (après un délai de six à huit mois) vers des techniques d'AMP.

La place de l'hystérocopie dans le traitement des myomes sous muqueux

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Introduction

La résection hystérocopique des myomes utérins sous muqueux constitue une alternative sûre à la chirurgie classique.

But :

Evaluer les résultats anatomiques et fonctionnels de la résection endoscopique de fibromes endocavitaires tout en précisant les principales complications de cette technique.

Méthodes :

Il s'agit d'une étude rétrospective réalisée au service de gynécologie et obstétrique du centre de maternité et de néonatalogie de Monastir. Elle analyse une série de 100 résections per hystérocopiques de fibromes endocavitaires durant une période de 5 ans .

Résultats :

L'âge moyen de nos patientes était de 41 ans et 5 mois. Le motif de consultation le plus fréquemment retrouvé était le trouble du cycle menstruel à type de ménométrorragies (47,6%). L'évaluation préopératoire du fibrome était basée sur l'échographie endovaginale dans tous les cas associée à l'hystérocopie diagnostique dans 51,4 % des cas et à l'hydrosonographie dans 28,6% des cas. Les myomes de type 0 représentaient 42,8% des cas. La résection était considérée en fin d'intervention, comme complète chez 88 patientes (83,8%), partielle chez 17 patientes (16,2%) nécessitant un deuxième temps opératoire. Le résultat fonctionnel était satisfaisant en cas de trouble de cycle avec disparition de la symptomatologie hémorragique dans 90% des cas après un recul moyen de 17 mois.

Conclusion :

La résection hystérocopique des fibromes sous muqueux est une technique qui respecte la cavité utérine avec des résultats fonctionnels satisfaisants et une faible morbidité.

LE TRAITEMENT DE LA SYNÉCHIE DE L'UTÉRUS

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INTRODUCTION

L'hystérocopie opératoire est le traitement par excellence de la synéchie de l'utérus. La synéchie sera sectionnée le plus souvent ce qui est suffisant. Certains traitements sont très aisés. D'autres sont beaucoup plus difficiles lorsque les repères anatomiques habituels ont disparus; c'est le cas dans les synéchies complexes.

MATERIELS ET METHODES

Nous rapportons 5 observations de femmes qui ont bénéficié d'hystérocopie opératoire dans le cadre de traitement d'infertilité au centre de maternité et néonatalogie de Monastir.

RESULTAT

Toutes les femmes ont consulté pour infertilité dont trois présentent une infertilité secondaire. Une patiente présente une infertilité primaire et une dans le cadre de bilan pré FIV.

L'âge moyen était 33 ans.

L'hystérocopie a mis en évidence une synéchie lache pour quatre cas et le traitement opératoire était facile.

Pour le cinquième cas les synéchies étaient complexes et le traitement hystérocopique opératoire était laborieux avec comme complication une perforation utérine ponctiforme.

Un traitement hormonal était instauré pour tous les cas.

Un DIU a été mis en place immédiatement dans deux cas.

CONCLUSION

Il s'agit véritablement d'une intervention minutieuse de reconstruction de la cavité utérine qui nécessite une grande prudence. Ces utérus sont souvent fragiles et ne cicatrisent parfois pas très bien. Cette intervention doit permettre à un utérus qui a perdu sa capacité de nidation de la retrouver.

Torsion d'annexe au cours de la grossesse à-propos de 2 cas

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INTRODUCTION

La torsion d'annexe au cours de la grossesse est une entité rare survenant majoritairement aux cours des deux premiers trimestres de la grossesse (70 à 90%). Elle est favorisée par l'hyperstimulation ovarienne observée dans la procréation médicalement assistée.

PATIENTES ET OBSERVATIONS

Première parturiente : M.I. âgée de 29 ans, sans antécédent, consulte notre urgence sur un terme de 13 SA pour des douleurs de la FI gauche d'apparition brutale, continues et irradiant vers l'hypogastre. Une échographie a été pratiquée révélant une masse kystique de 5 cm anéchogène avec un ovaire gauche augmenté de taille (6m).

La torsion d'annexe est le premier diagnostic évoqué et une coeliochirurgie a été faite révélant un kyste séreux tordu (2 tours de spire) avec une bonne vitalité de l'ovaire.une kystectomie a été pratiquée et la patiente a été mise sous traitement progestatif.

Deuxième parturiente : N.A. âgée de 37 ans, infertilité de 6ans, enceinte sur un terme de 8 SA qui vient consulter plier en deux pour des douleurs pelviennes diffuses persistantes et atroces surtout à droite. La grossesse a été induite par un traitement hormonal. L'échographie a révélé deux ovaires d'hyperstimulation avec un ovaire gauche à 6 cm et l'ovaire droit à 9 cm. La patiente a été hospitalisée mise sous traitement symptomatique mais bout de 3 heures et devant des douleurs importantes malgré le traitement on a décidé de pratiquer une coeliochirurgie qui a révélé une torsion de l'ovaire droit mais de vitalité conservée, une détorsion de l'ovaire droit avec une fixation à la paroi abdominale des 2 ovaires a été faite et la patiente a été hospitalisé pendant une semaine pour surveillance du syndrome d'hyperstimulation.

CONCLUSION

Le diagnostic de torsion d'annexe reste difficile, en particularité pendant la grossesse. En effet, le tableau clinique est peu spécifique, les examens paracliniques sont peu fiables pour le diagnostic positif. Il est important d'évaluer le rapport bénéfice–risque à réaliser une coelioscopie diagnostique en respectant les consignes de sécurité devant des douleurs abdominales en cours de grossesse résistantes au antalgiques .

Anatomic dissection of internal iliac vein: Reaching the next level in pelvic dissection

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Introduction: Anatomic dissection forms the basis of any surgical skill. This becomes all the more important in transplantation surgeries and vascular mapping. Although plenty of surgical and anatomical research has been focussed on internal iliac artery for the purposes of controlling haemorrhage, less can be said about its counterpart. Where others feel that internal iliac vein is best left untouched, our video article describes its laparoscopic anatomic dissection in a patient serving as donor for uterine transplantation.

Design: Observational study

Method: Surgical video analysis of a laparoscopic extended hysterectomy in live healthy uterine donor for mitigation of uterine factor infertility.

Conclusion: Retrieving the uterus as a part of organ harvest is developing rapidly as the next big innovation and hence a detailed anatomic dissection of the vascular pedicles serves as a very distinct and essential part of this surgery.

Keywords: Internal iliac vein, laparoscopic pelvic dissection, laparoscopic hysterectomy, uterine transplantation, uterine factor infertility.

Simulation training for ultrasound guided central venous catheterization

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INTRODUCTION

Central venous catheter (CVC) insertion is an essential step in resuscitation. The placement of a CVC is an invasive procedure associated in 5 to 19% of cases with severe complications.

Ultrasound guidance vascular punctation procedures have demonstrated superiority over conventional superficial tracing techniques. Recommended by learned societies, the mastery of this technique is a necessity in the training of practitioners.

In Tunisia, this technique is newly introduced with the increasing use of imaging methods at bedside. Learning to apply CVC under ultrasound control could benefit from simulation for simultaneous knowledge of the three pillars of this technique: mastery of anatomy, ultrasound tool and guiding procedure.

OBJECTIVES

Demonstrate the interest of simulation in central venous catheter insertion under ultrasound control for:

- acquire and update knowledge and technical skills,
- analyze professional practices,
- and implement actions to improve the quality and safety of care.

METHODS

Target population:

To train trainers our target population has been the senior intensivist in neonatology, pediatrics, emergency medicine, medical resuscitation, and resuscitation anesthesia.

Eleven seniors participated in this training:

- A neonatologist.
- Three pediatricians;
- Two emergency doctors;
- Two medical resuscitators;
- Three anesthesiologists' resuscitators.

Simulation program:

One week before the start of the training, the participants received links for two videos for viewing by email, as well as the last update and recommendations on the subject of training.

The day of the training:

- Theoretical courses
- Ultrasound-anatomy: on simulated patients
- Practical training on low and high fidelity procedural simulators:
 - Puncture on a gelatin model (ballistic gel)
 - Puncture on mannequin
 - Puncture on turkey leg

Finally, participants were invited to perform venous punctures on living in the operating room.

RESULTS "EVALUATION OF THE SIMULATION PROGRAM"

A. FIRST LEVEL: "reactions" and satisfaction

The lowest level of satisfaction is noted for the duration of the training. All learners wished redo the training.

Regarding the degree of realism of the different models and scenarios used during the session, 100% of the participants considered the model as realistic.

B. SECOND LEVEL: "learning" and skill acquisition

The main difficulty is the gestural coordination necessary to perform an echo-guided puncture

In the week following the training, 4 participants performed CVC poses under ultrasound control without assistance. 2 participants presented, on their residents, a power point presentation on ultrasound placement techniques.

100% of participants believe that the use of ultrasound after this training will reduce the number of needle punctures, arterial puncture, pneumothorax and catheter-related infections.

C. THE THIRD LEVEL: "behavioral changes"

All participants expressed their wishes to organize training sessions for their teams as well as the interest of having ultrasound scanners in the services.

They have verbalized their growing interest in using high fidelity simulation as an innovative and powerful means of pedagogical training.

D. THE FOURTH LEVEL: "Outcomes" and Clinical Impact

The clinical impact of this training will be measured at 3 and 6 months.

CONCLUSION

The simulation is not intended to replace bedside teaching, nor theoretical or faculty teaching, but it is an indispensable complement. In Sousse, Tunisia, the simulation must continue its current integration in the initial and continuous training of doctors as is already the case in North America or in other European countries.

A newer technique to improve patient safety in the modern world

Introduction

Surgery and supportive care are often the pillar of management of acutely ill patients. However, surgery has its morbidity and, in some situations may lead to suboptimal outcomes eg a patient with coagulopathy. Interventional radiology is a relatively new and innovative technique providing image guided minimally invasive alternatives to traditional surgery.

Objective

To discuss 3 complex scenarios managed in a tertiary care setting in Australia.

To discuss the roles played by multiple disciplines in such situations

To impress on a team approach and the crucial role played by efficient communication and utilization of resources

Methods

We discuss 3 case scenarios –

1. Placenta Percreta in a post caesarean pregnancy invading the bladder mucosa.
2. Postnatal patient with a 2.5-litre retroperitoneal haematoma following vaginal delivery
3. Post Hysterectomy patient with recurrent PV bleeds and an AV malformation.

In the first patient, Interventional radiology was combined with Multidisciplinary surgical teams to minimize intra operative blood loss and make surgery safer and easier for the surgical team.

In the second patient, use of Interventional radiology negated the need for laparotomy, reduced the morbidity of treatment and hastened recovery of the patient.

In the third patient, use of interventional radiology bypassed the need for operative management for post op bleed.

This, along with surgical & non-surgical methods like ROTEM, and their role in difficult situations & their life-saving potential are discussed. These were managed using a multidisciplinary team (MDT) approach leading to lower blood loss, lesser morbidity, & improved patient safety and better patient outcomes in these situations.

Discussion and Conclusions

Newer surgical techniques & prompt recognition, planning & coordination can lead to improved outcomes. Use of Interventional Radiology has led to lower blood loss, lesser morbidity, & improved safety in these situations. The role Anaesthesia, Intensive care, Haematology, and associated specialities are crucial in managing these patients.

Finally, a multidisciplinary team approach with good planning, communication, and standardized protocols and care bundles are crucial in ensuring optimal outcomes. Lessons learnt, and recommendations from our experience over time, and the path to developing a centre of excellence in managing these difficult scenarios are discussed

“Solving difficulties in myoma evacuation: a comparison of multiple containing systems”

Devassy R

Abstract outline:

Objective: In gynecological minimal-access surgeries for the evacuation of larger and firm masses like that of myoma require a process known as morcellation wherein the tissue can be reduced mechanically with an instrument to facilitate its evacuation through the existing minimal-access surgical incisions., This fulfils the meaning to extraction in line with the purpose of surgery . We aim to compare the use of contained closed bags and open endobags during presumed benign minimal-access surgeries for safe specimen retrieval by morcellation.

Introduction: Use of bags for specimen retrieval in minimal-access surgeries has been practice since quite long and new advancements have been made in terms of shape, size, texture and maximum access for the need of safe extraction of specimen and better visibility and to minimise the risk of benign and malignant tissue dispersal or spillage of the contents of the specimen. The decision of type of the bag used for specimen retrieval depends upon the size and type of the specimen to be retrieved.

In the recent wake of controversies involved in morcellation, we have been involved in research to estimate the real scare of the hysteria from the fear of morcellation. We now though have data that the risk of malignant tissue dispersal involved with morcellation is negligibly low than the possibility even in laparotomy and the risks inherent with it, in lieu we also did understand the possibility of benign tissue dispersal.

Different specimen retrieval bags have different opening technique. Some bags are self-retaining (after introduction into the abdomen), while others require manual opening by two graspers holding the bag edges. The self-retaining bags are easier to use, but often more cumbersome to insert into the abdomen than the bags with manual opening.

Study design: A retrospective study was conducted on patients who came for laparoscopic surgeries of presumably benign nature Leiomyomas between the 2012 and 2017. Different types of bags were used randomly depending upon the size and type of the specimen and to prevent the risk of benign and malignant tissue dispersal and/or spillage of the contents of the specimen. Tailor-made bags (surgical gloves) were also used for contained morcellation of some specimens. There are limited manufacturers of morcellation containment systems, therefore having lesser options available in closed endobags to compare.

Main results:

Open bags were initially found to be easier in application, however the maintenance of stability of open bags and tailor-made bags (surgical gloves) had disadvantages in terms of precision in successive surgeries. Closed bags however required more training and the time for insertion and

Complications after Apical Vaginal Prolapse Surgeries (vaginal, robotic, laparoscopic): 5-year Experience and the Role of Surgeon on Outcomes

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OBJECTIVE: The objective of this study was to report the rate and type of complications after different types of apical vaginal prolapse surgeries in a single center over a period of 5 years.

METHOD: We performed a retrospective study for patients with apical vaginal prolapse who underwent pelvic reconstructive surgeries (robotic, laparoscopic, vaginal procedures with and without mesh) between January 2012 and September 2017 at St. Joseph's Hospital Health Center. We analyzed also the role of the surgeon on outcomes of sacrocolpopexy and vaginal prolapse surgery with mesh.

RESULTS: Nine hundred sixty-five apical prolapse surgeries were performed: 112 Lefort colpocleisis, 220 uterosacral ligament suspensions (USLS), 381 sacrospinous ligament suspensions (SSLs), 116 vaginal mesh surgeries and 136 sacrocolpopexies (45 robotic and 91 laparoscopic). No serious complications were reported after Lefort colpocleisis with 98% success rate (110/112). Complications were very low after USLS and SSLs. The surgical success rates were 67.4% (148/220) for USLS and 72.5% (276/381) for SSLs. Serious adverse events were 9.5% for USLS and 11.7% for SSLs. Vaginal mesh-related complications were 4.3 % with 84 % success rate (97/116). Robotic and laparoscopic sacrocolpopexy procedures had 91 % success rate (123/136) and mesh-related complications were 2.9 % with low serious adverse events (10.2% for robotic group vs 6.7% for laparoscopic).

CONCLUSION: Pelvic reconstructive surgeons need to appropriately choose the procedure for apical vaginal prolapse by considering all possible complications. Surgeon experience must be a consideration when reporting robotic/laparoscopic sacrocolpopexy complications and mesh-related complications after vaginal mesh surgeries.

LAPAROSCOPIC MANAGEMENT OF URINARY TRACT COMPLICATIONS: TRAINING ON ANIMAL MODEL.

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Background: Urinary tract injuries during laparoscopic gynaecologic surgery are quite rare but one of the most serious injuries that can occur. The incidence is between 0,03% and 1,6% in benign and oncologic surgery respectively. All this makes better laparoscopic training mandatory.

There is need for skilled surgeons that master adequate laparoscopic techniques to prevent, identify and repair urinary tract complications.

Methods: Laparoscopic simulation models are able to reduce the technical learning curve and prepare surgeons for actual practice. There are several types of models available such as animal models, human cadavers, artificial tissues or virtual reality computer simulation.

Animal models are an excellent simulation model for basic and advanced laparoscopic competency standards. Surgeons gain valuable experience in methodical management of complications during laparoscopic surgery in a supervised environment free of the limitations of the real life practice.

Laparoscopic training models offer the unique ability to review our practice by recording electively simulations of different kind of urinary tract injuries and their management. This process is considered an integral part of a clinician's learning and continuous development. They also permit development of innovative techniques before used on humans.

The next step involves facing complications in real life being mentored by more experienced surgeons with a process of graduated responsibility.

Conclusion: the low incidence of urinary tract injuries during daily laparoscopic surgery associated to the severe complications they involve makes training on animal models an appropriate tool to acquire and maintain the necessary laparoscopic ability to manage such injuries.

Patient understanding of the different surgical approaches to hysterectomy.

Stockwell, Erica; Pedroso, Jasmine; Brotherton, Joy; Volker, Warren; Howard, David L.

Study Objective

Only one prior study has specifically assessed patient understanding of the different approaches to gynecologic surgery such as open versus vaginal versus laparoscopic and robotic.

The objective of the study was to assess patient understanding of the open, vaginal, laparoscopic and robotic approach to hysterectomy.

Design

Cross-sectional Survey

Setting

A large private practice in Las Vegas, Nevada.

Patients or Participants

Adult patients attending an Obstetrics and Gynecology clinic in Las Vegas, Nevada (United States)

Interventions

None

Measurements/Main Results

This was a secondary analysis of data from a population based survey focused on women's overall understanding of the hysterectomy procedure and uterine fibroids. That study used an instrument consisting of 28 knowledge questions, 6 of which asked questions about different surgical approaches to hysterectomy. This instrument was adapted from a validated survey (The Hysterectomy Knowledge Interview Schedule) and pilot tested through a focus group discussion led by an expert sociologist. In this study, we analyzed the responses to those 6 questions in more detail.

There were 200 respondents to this population based survey. Of these 200 respondents, 51% had had some prior surgery in the past. Only 18.7% had had a prior laparoscopy and 6% had a prior hysterectomy.

Regardless of surgical history, performance was better on identifying an abdominal and a vaginal hysterectomy than identifying a robotic or laparoscopic hysterectomy. Overall, only 38% of respondents could correctly identify a robotic hysterectomy based on its description in words and only 39% could do the same for laparoscopic hysterectomy. Overall, 58.5% of respondents correctly identified an abdominal hysterectomy and 52.5% correctly identified a vaginal hysterectomy.

Women with any prior surgery were significantly better than those without at identifying an abdominal (67.7% vs 49.0%), vaginal (61.8% vs 42.9%) and laparoscopic hysterectomy (52.0% vs. 25.5%) but were not significantly better at identifying a robotic hysterectomy. Women with a prior laparoscopy were

significantly better than those without at identifying a vaginal hysterectomy (70.3% vs 48.7%), a laparoscopic hysterectomy (62.2% vs. 34.4%) and a robotic hysterectomy (48.7% vs. 37.7%). Even though women with a prior laparoscopy were better at identifying a robotic hysterectomy, less than half got this question correct. In terms of understanding the differences in risk between surgical approaches, women with a prior surgery and women with a prior laparoscopy were significantly better than those without that history at identifying abdominal hysterectomy as being the approach associated with the longest length of stay (62.8% vs. 42.9% [women with prior surgery]; 70.3% vs. 50% [women with prior laparoscopy]). Less than 6% of women with a prior surgery or a prior laparoscopy could identify the approach to hysterectomy with the highest risk of damage to the bladder.

Conclusion

Patient understanding of the different approaches to hysterectomy appears to be suboptimal overall with less than 60% being able to correctly identify an abdominal hysterectomy (the most traditional approach). Understanding of the robotic approach appeared to be the poorest of all the approaches—even among women with prior laparoscopy. If replicated by other studies, our results suggest a significant gap in patient understanding of popular modern day surgical approaches to hysterectomy, especially the robotic approach.

ReLARC[®], a New Hysteroscopic Reversible Uterine Insert , an Alternative to laparoscopic Sterilization, Essure[®] and IUDs

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Background and objective: This presentation will demonstrate a new hysteroscopic insertion technique with direct visualization of the intrauterine contraceptive (ReLARC[®]) with lifespan of 5 years or up to 10 years CE marked.

Methods: until 2017 more than 350 patients requesting contraception, or who presented with IUD problems, were evaluated by hysteroscopy and fitted with a ReLARC[®] copper intrauterine insert. (IUI). Ultrasound performed immediately and 4-6 weeks later were performed to measure the position and fixation of the anchored IUI.

Results: 334 patients received the ReLARC[®] IUI. The IUI was well positioned and fixed in all women as confirmed by ultrasound evaluation at follow-up. In only 6 cases after immediate ultrasound a re-insertion was performed as the insertion depth seemed insufficient. At follow-up at subsequent visits no expulsion were reported

Conclusion: The IUI can fit uterine cavities of all sizes and shapes. As it is frameless, flexible and fixed in the fundus embedment or displacement is not possible. This is an important advantage for the continuation rate of a long term contraceptive IUI (>10 years). Conventional framed T-shape IUDs can cause pain and abnormal bleeding and dislocation, particularly in case of gross disparity between the IUD and the uterine cavity. ReLARC[®] can be inserted in an outpatient/office setting without full anesthesia. An intrauterine surgery, polyp removal, curettage or endometrial ablation can be followed by a ReLARC insertion in one procedure. Office removal is simple with minimal pain and without any damage for the uterine wall. Case-reports will be presented and the hysteroscopic insertion technique of ReLARC[®] will be shown in video films.

The future:

More women are interested in intrauterine contraception, to avoid hormones. But many women fear the problems of Copper IUDs, heavy bleeding, dislocation sometimes followed by a pregnancy. ReLARC is fixed at the best position in the fundus uteri, safe, easy to control by ultrasound even a perforation, which is seldom will be harmless, because it is visible by ultrasound



ReLARC[®] 10 years

Sodium polystyrene sulfonate – a transvaginal mesh complication without mesh.

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Abstract

Objectives:

A case report and literature review on a rare complication from sodium polystyrene sulfonate (SPS) resin, the active ingredient in Resonium-A.

Methods

To review a clinical case and literature on SPS complication of gastrointestinal injury and rectovaginal fistula.

Results

A 62-year-old lady was admitted to intensive care unit after cardiogenic shock. Her hospital stay was complicated by acute renal impairment, for which she was treated with SPS resin. Five weeks into her hospital admission, she was found to have a large (47mm by 47mm) rectovaginal fistula on clinical examination and CT scan. Due to her deconditioned state and multiple comorbidities, she was treated conservatively for another two months before undergoing a laparoscopic loop colostomy. At that operation, she had rectovaginal biopsies that revealed kayexalate crystals on histopathology, which is more consistent with Resonium use rather than transvaginal mesh implant.

SPS works by releasing sodium ions that are exchanged with potassium ions before excretion from the body, which occurs mainly in the large intestine. Case reports of intestinal injury have shown intestinal necrosis and perforation in both small and large bowel with an overall mortality rate of 33%. This complication occurs in patients with multiple co-morbidities, especially in post-operative state and chronic renal disease.

Conclusion

Rectovaginal fistula is a rare complication of SPS use.

What Are the Invisible Roadblocks to Widespread Use of Endoscopy in Gynecology?

Background: Laparoscopic surgery remains challenging for many gynecological surgeons and laparotomy continues to be used for many benign conditions, despite clear benefits of endoscopy.

Aims: To identify the barriers to the uptake of endoscopy in gynecology in order to guide solutions towards these barriers.

Design: Literature review

Results: Over the last decades, there has been an increase in endoscopic operative procedures in gynecology. Overall however, many operations continue to be performed by laparotomy, especially for more advanced procedures such as hysterectomy. Adoption of endoscopic surgery has been suboptimal in other specialties as well. Perceived barriers are best identified through surveys and focus groups. To facilitate analysis of these barriers, classification based on the Modified Unified Theory of Use and Acceptance of Technology is used. The three main categories of barriers are insufficient facilitating conditions, perceived difficulty of use and complexity, and lack of perceived usefulness. Insufficient facilitating conditions include limited operating room access, lack of resources, equipment and trained personnel, limited expert mentoring and opportunity for further training. Perceived difficulty of use and complexity refers to difficult video-eye-hand coordination, altered depth perception, laparoscopic suturing, slow learning curve and reluctance in managing unexpected scenarios. The lack of perceived usefulness is the surgeon perception of additional benefit of performing laparoscopy versus other approaches. With regards to robotic surgery, the three main barriers to adoption are perceived ease of use and complexity, perceived usefulness, and perceived behavioral control. The solution that tackles the most barriers addresses better and more training for trainees and consultants, in the form of simulation-based training, hands-on courses and colleague mentoring to name a few. Increasing resources and ensuring dedicated teams and staffs are other solutions to the identified barriers.

Conclusion: Identifying barriers to the use of endoscopy will help channel resources to find solutions to increase adoption of minimally invasive surgery in gynecology.

[Title]

An analysis of eighty-nine laparoscopic surgeries involving intestinal endometriosis.

[Background]

About 10% of reproductive age women suffer from endometriosis.

The symptoms of intestinal endometriosis are especially severe such as dysmenorrhea, abdominal pain, low back pain and dyschezia.

These symptoms negatively effect the QOL of the women remarkably.

Surgeries are considered when medical therapy does not succeed or in the setting of infertility.

We show preoperative evaluation, intraoperative findings and the postoperative course for patients with intestinal endometriosis in our facility

[Method]

We evaluated age, symptom, surgical procedures, duration of the procedure, estimated blood loss, location of intestinal endometriosis, the coexistent endometriosis lesions, complications, post-operative recurrence, postoperative medication and pregnancy rate among eighty nine cases over ten years (from January, 2008 to December, 2017) retrospectively.

[Results]

The average age was 39.3 ± 6.15 years old (mean \pm SD). In fifty-nine cases, Patients complain of dyschezia such as severe constipation, diarrhea, peristaltic pain and bloody feces.

These symptoms significantly improved after surgery in all cases.

The most frequent lesion is rectosigmoid junction, subsequently appeared in the rectal upper part, a sigmoid colon.

As for the rectum, endometriosis infiltrated lesions were located on the ventral (or uterine) side in sixty-two cases(78%), and whole circumference lesion in eighteen cases(22%).

Coexistent endometriosis lesions were found in the uterosacral ligament, and ovaries frequently. Frozen pelvis due to deep infiltrating endometriosis (DIE) was seen in fifty-six cases.

Endometriosis lesions were dominant on the left side of pelvis in thirty-one cases (67%), on the middle in eleven cases (24%) and on the right side in four cases (9%).

We evaluated postoperative recurrence in twenty-three fertility sparing cases which were observed for more than six months. No recurrence was found in eleven dienogest-administrated groups and two LEP-administrated groups. On the contrary it was found in five out of ten cases without hormone therapy,

The recurrence lesions were one rectum, three ovaries, one DIE, one peritoneum, one ureter.

There were eight postoperative complications. Unfortunately, we were obliged to perform a colostomy due to intestinal dehiscence in two cases. The others were peritonitis in two and intermittent self-catheterization of urine due to the neurogenic bladder in two.

Nine cases (33.9 ± 4.63 years old) had a desired conception and seven were successful (two natural pregnancy, five ART pregnancy) and acquired babies in five, which are observed more than six months. Two cases that did not lead to pregnancy started hormonal treatment with the recurrence of endometriosis.

[Conclusion]

Operative treatment greatly improved complaints of the patients.

As intestinal endometriosis often develops a deep infiltrated endometriosis, a frozen pelvis and adenomyosis, postoperative relapse rate is significantly high. Thus, prevention is particularly important.

When endometriosis was located in recto-sigmoid junction or a sigmoid colon, often there was also endometriosis on the left side of the pelvis.

Furthermore, most endometriotic lesions exist on the ventral side of the intestine.

It has been suggested that the onset of intestinal endometriosis greatly depends on anatomical position.

For example, it appeared that when an endometriotic lesion such as endometrioma happens, the endometriosis lesion touching an intestine directly, adhered and infiltrated from a rectal serosa to mucous membrane.

There were thirty five fecundity-sparing cases (33.9 ± 5.24 years old).

Most of the patients desired conception. But many, once they have finished surgical treatment, tended to hesitate to get pregnant for fear of a recurrence.

Actually five of nine cases that have infertility treatment developed a recurrence of endometriosis.

For patients who try to have fecundity-sparing surgery, doctors should provide education regarding the high risk of recurrence and usefulness of the Assisted Reproductive Technology (ART).

Prior to surgery, patients should be evaluated for ovarian function and counseled regarding ART such as oocyte pick up, embryo freeze preservation.

[Title]

Analysis on 89 laparoscopic surgeries for intestinal endometriosis in our institute

[Background]

About 10% of women of reproductive age suffer from endometriosis. The symptoms of intestinal endometriosis are especially severe such as dysmenorrhea, abdominal pain, low back pain and dyschezia. These symptoms decrease the QOL of the women remarkably. Surgeries are considered in cases where medical therapy does not succeed or cases with infertility. We will show preoperative diagnosis, intraoperative findings and the postoperative course of cases underwent surgery for intestinal endometriosis in our institute.

[Method]

We evaluated age, symptoms, surgical procedures, duration of the procedure, estimated blood loss, location of intestinal endometriosis, the coexistent endometriosis lesion, complications, post-operative recurrence, postoperative medication and pregnancy among the 89 cases for 10 years (from January, 2008 to December, 2017) retrospectively. The 89 cases underwent low or high anterior resection. 33 cases underwent fertility sparing surgery and 56 cases underwent hysterectomy ± adnexectomy.

[Results]

The mean age of cases was 39.3 ± 6.15 years old (mean \pm SD). In 59 cases, patients complain of dyschezia such as severe constipation, diarrhea, peristaltic pain and bloody feces. These symptoms significantly improved after surgery in all cases. Lesions were most frequently found at the rectosigmoid. As for the rectum, endometriosis infiltrated the ventral (or uterine) side in 62 cases, and the anterior and posterior rectum in 18 cases.

Coexistent endometriosis lesions were frequently found in the sacrouterine ligament and ovaries. Frozen pelvis due to deeply infiltrated endometriosis (DIE) was discovered in 56 cases.

Endometriosis lesions were dominantly found on the left side of the pelvis in 31 cases, in the middle in 11 cases and on the right side in four cases. Other cases showed no dominant trend.

We evaluated postoperative recurrence in the twenty-three cases that underwent fertility sparing surgery after an observation period of more than six months. No recurrence was found in eleven dienogest-administrated groups and two LEP-administrated groups. On the contrary recurrence was found in five out of ten cases without hormone therapy. The recurrence lesions were found at the rectum (one case), three at the ovaries, one as DIE, one at the peritoneum and one at the ureter.

There were eight postoperative complications. We applied colostomy due to anastomotic leak in two cases. The others were localized peritonitis in two cases recovered after conservative therapy and temporary self-withdrawing of urine due to the neurogenic bladder in two cases also managed with conservative treatment.

Nine cases (33.9 ± 4.63 years old) aimed for pregnancy. Seven cases achieved pregnancy (two natural and five ART pregnancies) and five babies were born as a result during the six-month observation period. Two cases that did not achieve pregnancy started hormonal treatment as a result of recurrence of endometriosis.

[Conclusion]

Operative treatment greatly improved symptoms of the patients. As intestinal

endometriosis often develops into frozen pelvis and adenomyosis, the postoperative relapse rate is significantly high. Prevention is particularly important.

The cases where endometriosis was located in the recto-sigmoid junction or sigmoid colon was found to often have a coexisting lesion on the left side of the pelvis. Furthermore, most of endometriotic lesions existed at the ventral side of the intestines.

Examining our data, we may assume that the occurrence of intestinal endometriosis could be the result of anatomical positioning. If a patient has an endometrioma, for example, this lesion may come into direct contact with the intestine and finally adhere. Endometriosis could be infiltrated via the rectal serosa to the mucosal membrane.

There were thirty five fecundity-sparing cases (33.9 ± 5.24 years old).

Most of patients have desire for baby. But once they have finished surgeries, they tended to hesitate to get pregnant for fear of the uneasiness to a recurrence.

Actually five of nine cases that have infertility treatment developed a recurrence of endometriosis.

For the patients who try to have fecundity-sparing surgery, Doctors have to educate the facts of high risk of the recurrence and usefulness of the ART.

And prior to a surgery, patients should be evaluated ovarian function and positively proposed ART such as oocyte pick up, embryo freeze preservation.

Comparison of Robotic and laparoscopic isthmocele surgery

The symptomatic cesarean scar defect (CSSD, niche, or isthmocele)- had increased due to global rising cesarean rates. Several obstetric complications due to inappropriately healed cesarean scar such as placenta accreta, scar dehiscence, and ectopic scar pregnancy are increasingly reported .Many gynecologic conditions, including abnormal uterine bleeding, pelvic pain and infertility, are imputed to deficient cesarean scar healing.

The laparoscopic approach increases uterine wall thickness when compared with the hysteroscopic approach, hysteroscopy does not strengthen the uterine wall;the repair of the defect to reinforce the myometrial endurance seems to be an appropriate method of treatment.

The rational for definite treatment is to remove the old scar and repair it again. Robotic surgeries offer many benefits compared to traditional laparoscopic surgeries including enhanced dexterity, 3D visual field and greater maneuverability of instruments. It can access with delicate movements when in adhesiolysis and suture repair of the defect, especially in deep narrow pelvis due to a modern lower uterine segment caesarean section incision.

Material and methods

Between April 2013 and March 2017, the medical records of all patients who had laparoscopic metroplasty or robotic metroplasty for symptomatic uterine scar defect were reviewed. Patient characteristics and operative parameters were recorded. With 4-port technique, bilateral uterine arteries were identified through retrograde tracking of the umbilical ligaments, and ligated with hem-o-loks. The scar defect was identified and excised, the uterine wound was closed by using a V-Loc™ wound closure device and ; an adhesion barrier was used to cover the traumatized rough surface .

Results:

A total of 32 patients with symptomatic uterine scar defect were enrolled in this study, 16 of them (50%) had robotic metroplasty. In the laparoscopic group, 11 cases (68.8%) had pelvic adhesion which required adhesiolysis, whereas 14 cases (87.5%) in the robotic group had pelvic adhesion. The mean operative time was 121 ± 28 minutes (range =

70-150 minutes) in the laparoscopic group and 161 ± 26 minutes (range = 130-210 minutes) in the robotic group. The average amount of intraoperative blood loss was 79 ± 53 mL (range = 20-200 mL) in the laparoscopic group and 106 ± 60 mL (range = 50-200 mL) in the robotic group. No cases were converted to open surgery. No major complications such as ureteral, bladder or bowel injury were noted. In both groups, post-operative surveillance of the uterine scar defect yielded satisfactory result, with average measurable scar defect of 0.17cm in the laparoscopic group and 0.14cm in the robotic group. There was a median of 7 days reduction in menstrual length in the laparoscopic group and 6 days in the robotic group.

Conclusions: Both laparoscopic and robotic metroplasty yielded comparable outcomes. Robotic metroplasty has the advantages of articulation beyond normal manipulation and three-dimensional magnification that helps resulting in improved ergonomics.

Neck scarf of ureter works as GPS in Da Vinci Robotic deep infiltrating endometriosis excision.

Introduction :

DIE is one of the most challenging gynecologic operation due to the distorted anatomy by the fibrosis of endometriosis gland.

The ureters were easily injured during difficult dissection. A novel solution to keep the ureters safe is urgent even in the new era of 3D Robotic minimal invasive surgery.

Clinical issue and solution :

In the video, we showed the major surgical procedure including the following

1. The bilateral ovarian chocolate cyst were decompressed and suspended with a suture to abdominal wall .
2. The ureterolysis by trace the ureter course from pelvic brim to crossing with uterine vessels.
3. Dissection of the origin of uterine vessels from the origin and block it with bulldog temporally
4. Develop the para-rectal space, and expose the Cul-de-sac by using the vaginal and rectal probe
5. Excise the fibrosis mass surrounded by the Sacro-uterine ligament and posterior vaginal wall and the rectal surface shaving.

Here we present our technique by using the yellow rubber band to collar the ureter as a neck- scarf, when using Da Vinci Si robot system with four arms (included robotic laparoscopy), the stable third arm as an assistant of the surgeon to traction the neck scarf to prevent ureter injury when doing dissection .

20 consecutive patients with DIE were safely operated without fistula, ureter injuries, laceration.

Conclusion: We could always notice the neck scarf of ureter and check the ureter safety during difficult dissection, especially during the long surgery the surgeon was fatigue and had less concentration while using the energy source.

In Robotic minimal invasive surgery, there is no tactile sensation on the tissues. The console surgeon must depend the visualization "the hands –eyes coordination". The colorful neck-scarf loop over the ureters could alarm the surgeon where the ureters are in dissection. Besides using the robotic arm to traction the loops , the indirect force over the ureters could prevent ureters injuries.

Following the ureters courses from cephalic to caudal pelvis , it is a GPS in difficult DIE dissection .

Use of Indocyanine Green in Endometriosis Surgery

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Abstract

Objective: To report and visually demonstrate the feasibility of using Indocyanine Green (ICG) in endometriosis surgery and discuss potential benefits.

Design: ICG fluorescent imaging has been validated to assess tissue perfusion with clinical use in many medical fields including gynecology and digestive surgery (reducing anastomosis leak rates), but not described in endometriosis surgery for bowel assessment. Patients undergoing laparoscopic surgery for deep infiltrating endometriosis (DIE) with a rectal shaving procedure were injected ICG intravenously at the end of endometriosis resection. Visual assessment of the rectal shaving area was assessed whether fluoresced or not using a Likert based scale (0=no fluorescence, 4=very good fluorescence). This potentially may lead to a reduction in post-operative fistula formation.

Setting: Feasibility phase of a registered clinical trial conducted at a tertiary University hospital.

Patients: 3 patients undergoing laparoscopic surgery for DIE with a rectal shaving procedure.

Outcomes: After ICG injection, all 3 patients have shown very good fluorescence levels at the rectal shaving area with no adverse reactions. Other uses of ICG are demonstrated throughout the video (vaginal cuff, ureter and ovary assessment).

Conclusion: ICG fluorescent imaging is feasible in endometriosis surgery, and there is an ongoing trial to determine if its use reduces post-operative fistula formation and enhances patient safety.

Keywords:

Fluorescence imaging, Indocyanine Green (ICG), Endometriosis, Rectal Shaving, Fistula

Valeur diagnostique de l'exploration laparoscopique des algies pelviennes chroniques :

Expérience personnelle et revue de la littérature

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Introduction :

La douleur pelvienne chronique est une cause fréquente de consultation en gynécologie. Elle pose, des problèmes difficiles à résoudre. En effet, la symptomatologie, très subjective, entre difficilement dans un cadre clinique bien défini. Il importe de rappeler qu'en l'absence de signes objectifs, un certain nombre de patientes souffrant de douleurs pelviennes sont dirigées vers une consultation de neuropsychiatrie ou reçoivent, sans évaluation diagnostique adéquate, un traitement purement symptomatique. Nous partageons le point de vue de la majorité des auteurs concernés par cette symptomatologie et nous prenons la laparoscopie comme une exploration diagnostique indispensable dans la mise au point de douleurs pelviennes chroniques.

Matériel et méthodes :

Entre janvier 2009 et décembre 2016, dans le centre de maternité et néonatalogie de Monastir, 34 patientes souffrant de douleurs pelviennes chroniques ont été soumises à une laparoscopie diagnostique. La douleur pelvienne chronique a été définie par « douleur des régions abdominales inférieures et/ou dorsales basses, à localisation précise, perçue de façon constante, cyclique ou intermittente pendant une durée d'au moins six mois »

Résultats :

Nombre des patientes	34
Age moyen	33,2
Anomalies retrouvées	
Endométriose	10
Adhérences pelviennes	9
Adhérences extra-pelviennes	5
Séquelle d'affection pelvienne inflammatoire	5
Varicocèle pelvienne	1
Myomes	1
Pelvis normal	3

Conclusion :

La valeur de la laparoscopie dans le diagnostic de la douleur pelvienne chronique est indéniable. Toutefois, dans la mesure où le but poursuivi est d'aider la femme à se libérer de ce problème, soit lors de la phase diagnostique, soit au moment du choix thérapeutique, le problème doit être géré de façon interdisciplinaire, ce qui augmente la chance de réduire les échecs et les erreurs thérapeutiques.

La résection endométriale à l'anse diathermique dans la prise en charge des ménométrorragies : à propos de 47 cas

***Zemni Zeineb ,Souguir Habiba, Chelly Cyrine, Briki Raja, kehila mahdi,
Bouguizene Sassi***

Service de gynécologie obstétrique de Sousse

C'est une étude rétrospective portant sur 47 résections endométriales à l'anse diathermique réalisées au service de gynécologie obstétrique de Sousse.

Objectif

Apprécier l'efficacité et la morbidité de la résection endométriale et sa place parmi les autres techniques dans le traitement des ménométrorragies de la période périménopausique rebelles au traitement médical.

Résultats

L'âge moyen des femmes était de 43,55 ans. La symptomatologie était faite de troubles hémorragiques du cycle menstruel.

Le bilan para clinique et l'hystérocopie préopératoire se sont attachés à éliminer toutes pathologies néoplasiques. L'analyse des copeaux de résection a révélé la présence d'endomètre normal dans 48,93% des cas, d'hyperplasie de l'endomètre dans 42,55% des cas, d'atrophie de l'endomètre 8,51% des cas et d'adénomyose dans 25,53% des cas.

Avec un recul moyen de 39,71 mois, le taux de succès est de 82,6%, les échecs se traduisant par une persistance du saignement ou la survenue de récurrence étaient de 17,39% des cas et ont bénéficié d'une hystérectomie secondaire.

L'analyse des facteurs d'échec a permis de mettre en évidence la grande taille utérine dans 75% des cas, l'adénomyose dans 75% des cas et les myomes utérins dans 62,5% des cas.

Conclusion

La résection endométriale est une technique simple et fiable. Ses complications sont rares si la technique est bien maîtrisée et constitue une bonne alternative à l'hystérectomie.

Le DIU migrateur : à propos de 16 cas.

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Service de gynécologie- obstétrique de Sousse

La contraception par dispositif intra-utérin (DIU) occupe la première place comme méthode contraceptive en Tunisie. Il s'agit d'un moyen efficace et réversible. Cependant, il n'est pas dénué de complications dont la migration du DIU .

Objectif

Le but de ce travail est d'étudier l'apport de l'hystérocopie ainsi que de la coelioscopie dans la prise en charge des DIU migrateurs.

Méthodes

Il s'agit d'une étude rétrospective portant sur 16 cas de DIU migrateurs colligés au service de gynécologie-obstétrique de Sousse sur une période de 7 ans allant de janvier 2007 à décembre 2014.

Résultats

L'âge moyen de nos patientes était de 36 ans. Les facteurs de risque de migration du stérilet retenus dans notre étude, ont été la parité : parité moyenne de 3,16 et la cicatrice utérine retrouvée dans 25% des cas.

La découverte fortuite et les douleurs pelviennes ont été les principales circonstances de découverte .

L'examen clinique a retrouvé le fil du stérilet au niveau de l'orifice cervical externe dans un seul cas : il s'agit d'un DIU en intra cervical.

Nous avons conclu à 11 cas de migration complète et 5 cas de migration partielle avec des localisations diverses.

L'extraction du DIU a été réalisée par hystérocopie chez 10 patientes. La coelioscopie a été pratiquée dans 4 cas de migration complète de DIU. Dans un cas de migration intra vésicale, le stérilet a été retiré lors d'une cystoscopie.

Conclusion

La contraception par stérilet reste un moyen de régulation des naissances simple, sûr, efficace, économique et réversible. Cependant il n'est pas indemne de certaines complications. Le respect des contre indications, des règles de pose et la surveillance du stérilet a permis d'en diminuer la fréquence sans toutefois les annuler.

Les complications de l'hystérocopie opératoire : à propos de 115 cas

Zemni Zeineb, Agili Abir, Chachia Salma, Kaabia Ons

Service de gynécologie obstétrique de Sousse

L'hystérocopie s'est imposée comme l'exploration de choix dans l'appréciation des anomalies endocavitaires et comme méthode thérapeutique pour traiter les pathologies organiques bénignes endocavitaires.

Objectif

Evaluer la pratique de l'hystérocopie opératoire dans notre milieu, relever les indications, préciser le déroulement de l'intervention et les principales complications.

Méthodes

Etude rétrospective de 115 cas d'hystérocopies opératoires colligées au service de gynécologie obstétrique de Sousse.

Résultats

L'âge moyen des patientes était de 39 ans, les deux principaux motifs d'admission étaient dominés par les troubles du cycle menstruel et l'infertilité dans 40% des cas. Nous avons pratiqué une résection de synéchie dans 49 cas, 27 myomectomies, 13 polypectomies, 12 cures de cloisons, 7 endometrectomies et 7 ablations de dispositif intra utérin à fils perdus.

La durée moyenne de l'intervention était de 20 minutes. Le taux global de **complications** opératoires était de 7%.

Les complications mécaniques étaient les plus fréquentes. Il s'agit de 3 perforations utérines lors de cure de synéchies dans 2 cas et lors de section de cloison dans un cas. Deux fausses routes ont été observées de la dilatation cervicale. On a noté la survenue d'hémorragie ayant nécessité une hémostase et l'arrêt de l'intervention dans 3 cas. Un cas de décès peropératoire à été observé.

Aucune patiente n'a présenté de syndrome infectieux post opératoire.

Aucune complication métabolique n'a été notée.

Le séjour post opératoire a été de un jour dans la majorité des cas.

Conclusion

L'hystérocopie opératoire est une technique efficace et sûre, les complications sont rares. C'est une bonne alternative à la chirurgie classique par voie haute permettant de diminuer la morbidité et la mortalité et entraîner une courte hospitalisation avec de meilleurs résultats.

ORAL COMMUNICATIONS

UTERINE MANIPULATOR FOR LAPAROSCOPIC RADICAL HYSTERECTOMY

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Objectives: The role of minimally invasive surgery in gynecologic cancer treatment keeps on growing. We want to report our experience in totally laparoscopic radical hysterectomy (TLRH) in patients with cervical cancer and represent useful tools for its performing.

Methods: In 2010-2017 we performed 502 radical laparoscopic operations for gynecologic malignancies. Among them there were 129 TLRH for cervical cancer. We used standard five ports technique and two devices to manipulate the uterus: corkscrew retractor and specially designed uterine manipulator. Ovary preservation and transposition was done in 49, paraaortal lymphodissection in addition to pelvic – in 31.

Results: Average age was 45.7 years. FIGO stage distribution: IA - 22 (17,1%), IB - 89 (69%), II - 16 (12,4%), IIIA - 2 (1,5%). Average operative time – 141 minutes. Estimated blood loss – 53 ml. Median hospital stay – 4.5 days. Number of lymphnodes – 19.8. Perioperative complications occurred in 30 (23.3%) cases. Intraoperative complications (injury of bladder, a.epigastrica) –6 (4.7%). Postoperative 30-day complications – 24 (18.6%): seroma (2), lymphorrhea for 2-4 weeks (6), lymphocyst (3), urinary bladder atony (11), stricture and necrosis of distal part of ureter (2). Necrosis of the ureter on the 8th postop day was treated by laparoscopic ureteroneocystostomy. Later postoperative complications – 7 (5.4%): vaginal stump rapture (4), vesicovaginal fistula (3). All patients with urinary complications received perioperative radiotherapy. No death occurred.

Conclusions: TLRG is feasible and safe procedure to cure cervical cancer with an acceptable level of morbidity and well known benefits. Specially designed uterine manipulator helps to achieve adequate vaginal dissection level and avoid cancer cells spread during surgery.

Keywords: laparoscopic radical hysterectomy, uterine manipulator

Can we speak about innovation in healthcare without understanding BLOCK CHAIN impacts in clinician practice ? ENDOMETRIOSIS AS A USER CASE TO UNDERSTAND HOW BLOCKCHAIN COULD IMPACT RADICALLY THE HEALTHCARE .

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Abstract :

Health care has become one of the most important emerging application areas of the blockchain distributed ledger technology but physicians are still not jumping into the water by lack of knowledge ,lack of understanding of the potential application and unappropriate fears.We would like to make a practical presentation of potential applications of blockchain for healthcare and used the example of endometriosis disease management for this purpose.

Even if the management of the disease and diagnosis has significantly improved over the last decade the journey of the patient remains fulls of issues and questions that the decentralized technology called blockchain could help to resolve some of these issues. The aim of the article is to evaluate what are the challenges that are facing the patients along the journey of this chronic disease, and to analyse for each of them which kind of help or solution could be brought by the blockchain .

In addition the aim of this study is to raise awareness and offer a comprehensive approach for the clinicians of this new technology that is going to produce a breakthrough in the healthcare industry and in the patient journey

Material and method :

We performed a survey of 400 patients with endometriosis to evaluate the problems of this chronic disease and we focus on the participation of the digital medicine into it and data management . For each problem defined we analysed how blockchain could be helpful .

Results :

Blockchain could offer solutions for most of endometriosis challenges described by our group of 400 patients .This can be done by improving the datasharing system , the used of data generated by the patient , the clinical research.

Conclusion :

Patients with chronic disease as endometriosis ,are facing today issues that digital medicine ,by using Block chain technology , will help to solve . Endometriosis is a good user case to help to understand how block chain will radically impact the management of chronic diseases , as endometriosis , by .revolutionizing the transmission of patient data across geographies without compromising its privacy and security



Effect of a simple curriculum on surgical outcome of resident's first live operative laparoscopy

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Study objectives: To evaluate the effect of a simple curriculum on surgical outcome of participants' first operative laparoscopy, laparoscopic salpingectomy.

Design: Randomized, double-blinded prospective interventional study.

Setting: Helsinki University Hospital and Hyvinkää Hospital, a local teaching hospital in the Hospital District of Helsinki and Uusimaa.

Participants: Junior residents in Obstetrics and Gynecology with no previous experience of operative laparoscopies as a first surgeon.

Intervention: A simple curriculum containing a cognitive web course (Basics in Gynecological laparoscopy) and a training program with basic skills and fixed times in virtual reality simulator (LapMentor).

Methods: Twenty residents were recruited between June 2013 and December 2016 in Helsinki area. Half of the residents completed the intervention, other half took part to traditional teaching and served as a control group. Participants' first live laparoscopic salpingectomy was recorded and assessed later by three experts by using both Objective Structured Assessment of Technical Skills (OSATS) form for Global Rating Skills (GRS) and salpingectomy specific form (OSA-LS). Operative time, blood loss, direct complications and OSATS scores were compared between groups.

Results: In the reliability analysis, between the three assessors, the consistency type agreement was 0.787 (95% CI 0.729-0.835) and the absolute type agreement 0.787 (95% CI 0.729-0.834). In the operations recorded, there was no differences between groups in operative time, bleeding, or complications. In assessing the recorded operations, there was no statistical difference in OSATS scores between the intervention and the control group.

Conclusions: According to this study, this simple curriculum did not ensure skills enough to certify junior residents to live operations. The training program with fixed number of repetitions was insufficient to reach the plateau in learning curve. Consequently, the training program in such a curriculum should be proficiency based.

Pelvic floor medicine as an alternative to pelvic floor surgery: Feasibility, safety and efficacy of platelet rich plasma and fractional micro-ablative CO₂ laser for stress urinary incontinence

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Title: Augmented Reality To Improve Spatial Awareness In gynecologic surgery

Authors: Gaby N. Moawad, MD, Paul Tyan, MD, Samuel Huang, M.S., Kathy Huynh, B.S., Bon Carlo Tadios, B.S.N., Tania Tariq, B.S., Kyle Miller, M.D., M.B.A., Jonathan Sorger, Ph.D., M.B.A.

Objectives: To assess feasibility and benefits of uterine 3D reconstruction before surgery to keep vital reproductive structures intact during myomectomy.

Design: Single descriptive case

Setting: Medical research laboratory

Patients and participants: Porcine model was used to evaluate augmented reality

Intervention: Fibroids were incorporated into a porcine uterus, and a CT scan was used for evaluation of for augmented reality

Measurements and main results: Augmented Reality was explored to provide improved situational awareness during gynecological procedures. Mock fibroids were injected into the uterine wall of a porcine model, which was subsequently imaged with a CT scanner. Critical structures were segmented, and a 3D model was provided to the surgeon during a robotic myomectomy. Various presentations were explored, using TilePro and visual overlays. The model provided visual clues as to where to expect critical structures relative to the fibroids, such as the endometrium.

Discussion: Although still at its initial stages, research in the field of augmented reality for gynecological surgery is projected to decrease iatrogenic complications due to better identification of vital structures. Also, this project could become crucial in sub-fertility patients desiring myomectomy who would benefit the most from this an undistorted cavity.

Title: Comparison Between Single-site and Multiport Robot-assisted Myomectomy Techniques: A Multicenter Study.

Author: Gaby Moawad, MD

Objective: To study the perioperative outcomes of Robotic Single-Site Myomectomy (RSSM) in comparison to Robotic Multiport Myomectomy (RMM).

Design: Retrospective cohort study of patients undergoing myomectomy.

Setting: Three urban teaching university hospitals.

Patients and participants: 368 patients with symptomatic uterine fibroids desiring minimally invasive surgical management.

Intervention: Single-site robot-assisted minimally invasive myomectomy

Measurements and main results: Patients were allocated to either a RSSM or RMM based on fibroid tumor burden. Statistical analysis of operative and postoperative variables were performed while adjusting for fibroid characteristics.

Estimated Blood Loss (EBL), Operative time, hospital stay and postoperative complications of RMM and RSSM. Of the 368 women, 80 (21.7%) underwent RSSM and 288 (78.3%) underwent RMM. Single-site vs. multiport patient demographics significantly differed in mean age (39.1 vs. 36.1 years, $p < 0.001$), body mass index (25.3 vs. 27.9, $p < 0.001$), and predominant race (46.3% Asian vs. 56.6% black). A history of prior cesarean section (14.1% vs. 5.7%, $p = 0.012$) and adnexal surgery (8.8% vs. 2.1%) was more common in the RSSM group. Average fibroid weight (342.8gm vs. 85.2gm, $p < 0.001$), and an average number of fibroids removed (4.7 vs. 2.4, $p < 0.001$) was higher in the RMM group. After adjusting for demographic, surgical history and fibroid characteristics, single-site myomectomy was associated with lower estimated blood loss (201.2cc vs. 314.3cc, $p = 0.043$) and shorter operative times (171.9min vs. 199.3min, $p = 0.002$). No significant differences existed in the length of postoperative hospital stay (OR=1.94, $p = 0.101$) or postoperative complications (OR=0.65, $p = 0.546$).

Conclusions: In selected patients, robotic single-site myomectomy is a feasible and safe procedure compared to the robotic multiport myomectomy. Both surgical approaches are associated with low rates of intra-operative and postoperative complications.

Three-Dimensional Printed Models of Deep-Infiltrating Endometriosis and Fibroids

Ajao MO, Clark NV, Kelil T, Cohen SL, Einarsson JI

Pelvic ultrasound and magnetic resonance imaging are common diagnostic tools in the preoperative assessment of gynecologic pathologies. While both modalities can reliably identify structural abnormalities of the pelvic organs, certain complex conditions may be insufficiently characterized by two-dimensional imaging alone. Deep-infiltrating endometriosis (DIE) and the multifibroid uterus are two conditions that may benefit from three-dimensional (3D) imaging prior to surgery. Three-dimensional modeling of DIE is suspected to better detail the site of implants and the extent of surrounding tissue involvement. Similarly, 3D modeling of a uterus enlarged with multiple fibroids may improve the identification of individual fibroids and their relative location. In both circumstances, a surgeon may benefit from the ability to see and palpate DIE or fibroids on a 3D printed model that differentiates tissues using materials of varying color and density. A more complete laparoscopic excision of endometriosis or myomectomy may result. At present, we have generated a 3D printed model of an endometriotic nodule that corroborated with the location identified during laparoscopic excision. We are in the process of 3D printing a uterus enlarged with multiple fibroids prior to a laparoscopic myomectomy. Both cases will be discussed including representative images, intraoperative findings, and the surgeon's impression of the model as an adjunct to traditional preoperative imaging.

Laparoscopic surgery simulator: Low cost

Good morning /afternoon or evening

I suggest this communication on the interest of simulation for gynecologist surgeon training in **laparoscopy** .

This personal learning work on box trainer surgery is done through stages from more simple (basic skills) to more complicated (the different procedures in gynecological surgery) and this thanks to simple inexpensive means:

- firstly, the Learning of basic gestures : gestural mastery; familiarization with 2D vision
- sutures that require great gestural dexterity
- There is even a simulator dedicated to learning pneumoperitonium
- as well as training on certain surgical procedures via anatomical modeling of the various gynecological interventions from ovarian cystectomy through hysterectomy; myomectomy; sacrocolpopexy and ilio-obturator lymphadenectomy

This means of Learning, the privilege of beginners and also experts who can repeat some rare and complicated situation including vascular injury on large vessels and exercise is planned in this direction (like in aeronautics, we learn to manage rare cases and complicated on a simulator and not in a real cockpit.)

I have developed a simple simulator at a lower cost just as laparoscopy and hysteroscopy allowing beginner surgeons to make these gestures at home the desired number of times till learning and see even the mastery without running a risk to our patients

I would also say that this is the result of my own experience that goes back to 15 years and thanks to this low cost simulator;which allowed me to go through basic skills;suturing till learning and event reach perfection. reliable and available at all times ; I learned my job as a coeioscopist and of course with the help of Traditional **apprenticeship model** who will always keep its place in the training of surgeons.

Companionship : mentoring

Communication time: 20min

Dr Ouzaher hamza

Gynecologist

Oujda Morocco

cordially

Video-Based Self-Assessment for Training Laparoscopic Hysterectomy Procedural Skills
on a Virtual Reality Simulator: a Randomized-Controlled Study

Crochet P, Netter A, Compan C, Agostini A

Introduction

Procedural training is increasingly available on virtual reality (VR) laparoscopic simulators. Coaching proved to be very efficient to enhance technical performances in a VR setting, but it remains challenging for a trainee to find a coach who can be present while he or she is operating. This study investigated whether video-based self-assessment leads to an increase in surgical quality in VR laparoscopic hysterectomy (LH).

Material et methods

This prospective randomized-controlled trial was conducted at two French academic hospitals in 2016-2017. Twenty-four gynecology residents with moderate experience in the OR were randomized into SA group (n=12) or Control group (n=12). Baselines were assessed on a validated basic VR task. Both groups performed three sessions of one LH on a VR simulator and received no guidance nor feedback. Following each session, SA group participants rated the video of their performance using a generic and a procedure-specific rating scale. Control group participants watched a 30 minutes expert' video demonstration. Outcome measures were simulator-derived metrics and modified Objective Structured Assessment of Technical Skills scores.

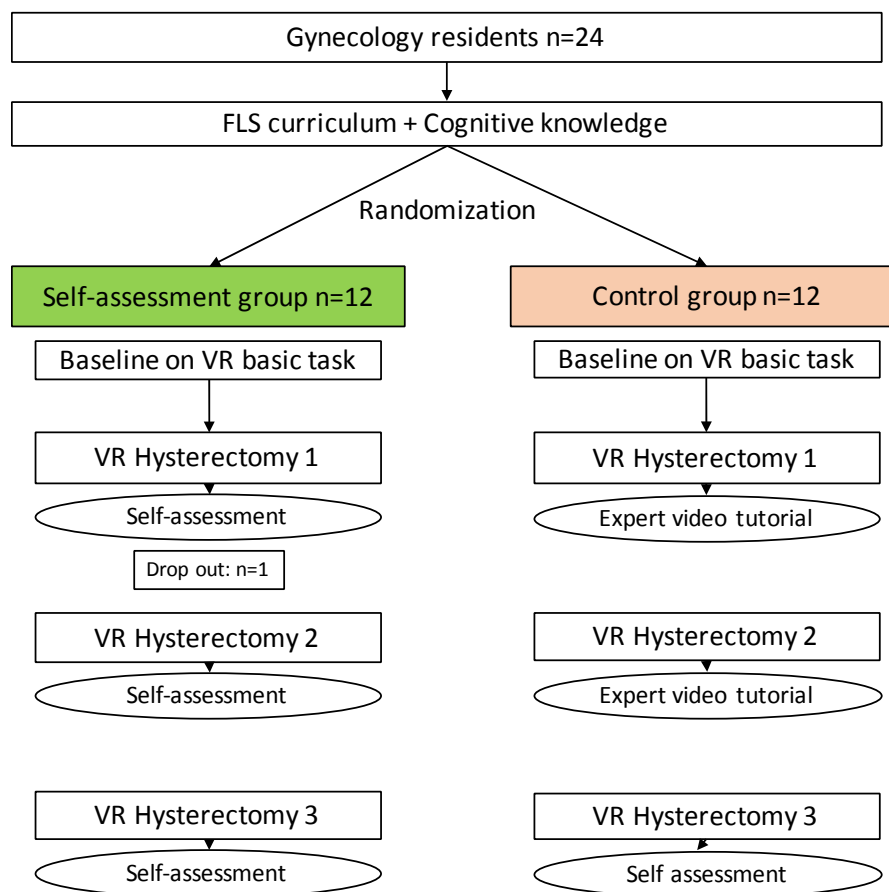
Results

There was no difference between groups in baseline performances. At LH1, there was no difference between the SA group and the Control group in terms of time, dexterity and OSATS scores (9.5 vs 9.5, p=0.728). Both groups improved between LH1 and LH3 in terms of time, dexterity, and OSATS score (all p< 0.05). At LH3, there was no difference regarding time

and dexterity between both groups. OSATS scores were higher in the SA group than the control group (17 vs 15, $p=0.039$).

Discussion

This study suggests that SA on a VR simulator leads to improved procedural skills in LH compared to watching benchmark expert performance, in a population of resident with moderate experience in the OR. The use of a structured SA intervention can be considered as an additional option to improve learning curve of procedural skills in a VR setting.



Clinical evaluation of the efficacy of static trainer training "Pelvic-trainer" in a certificate program of complementary study of gynecological endoscopy

Raja Briki¹, Safia Ernez¹, Zeineb Zemni¹, Badra Bannour¹, Salma Chachia¹, Sabri Youssef², Sassi Boughizane¹

¹Department of Gynecology and Obstetrics, Farhat Hached's university hospital, Sousse, Tunisia

²General Surgery Service, Farhat Hached's university hospital, Sousse, Tunisia

INTRODUCTION

The operating theater is less and less conducive to the technical training of interns and residents in surgery for various ethical, technical and economic reasons. Laparoscopy is a technique that requires specific learning. Thus, the risk of complication is major in untrained hands. Laparoscopic simulation is a means of learning and acquiring surgical technique. It relies essentially on two complementary educational tools: pelvic-trainer and virtual simulation. The pelvic-trainer allows practicing simple laparoscopic procedures, including suture exercises on inert surfaces. It permits oculomotor coordination, non-dominant hand training, dexterity and speed.

OBJECTIVES

We wanted to evaluate the clinical impact of a learning program on Pelvic-trainer to the acquisition of laparoscopic basic skills as the performing an intracorporeal node as part of an endoscopy diploma in gynecology.

METHODS

50 residents in gynecology were randomized into two groups: a control group (n = 25) and a training group (n = 25). Each resident has made at least one intracorporeal node during their training of the endoscopy certificate. The control group did not receive any training unlike the training group. Each procedure was recorded and analyzed according to different qualitative criteria.

RESULTS

We observe a significant decrease in the duration of realization between the training group (E) and the control group (T). With regard to the quality criteria, referred to as subjective criteria, we note a clear tendency to improve all the criteria, except for the "tremor" criterion.

The T group participants all had a "negative" feeling about this experience. Each explained to have attended laparoscopies during which intracorporeal nodes were made, as in this study. All of them, except for one, thought that they could do better by having "understood" and "visually assimilated the technique". Conversely, participants in group E had all a "positive" feeling, having realized that having attended such interventions and understanding the technique was not enough to control the gesture and that, instead, the simulator training allowed them to overcome their difficulties.

CONCLUSION

The use of simulation can fill gaps in technical education in surgery, providing a common, assessable and measurable learning.

Impacts of a Medical Application: QCM, CROC and Clinical Cases in Gynecology-Obstetrics on the Quality of Learning of Second Cycle Medical Students

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INTRODUCTION

e Learning platforms, by the variety of tools offered and the devices that can be developed, appear to constitute a field where the tools (Technologies' pole) and the training methods (Pedagogies' pole) to become instruments of construction knowledge and skills for learners, reflexivity and professional development for teachers, promotion and innovation in institutions.

OBJECTIVES

Measuring the Impacts of a technology tool: a downloadable Free Medical App on Google Play, on learning and teaching Gynecology-Obstetrics in second cycle Medical Students.

METHODS

QCM, CROC and Clinical Cases in Gynecology-Obstetrics is a free downloadable Medical App on Google Play. This application comprising hundreds of multiple choice questions, short-answer questions and clinical cases of Obstetrics Gynecology. An instant correction is proposed as well as a score per module and final.

Sixty-five students enrolled in fourth-year medicine used the app for their self-study, and were asked about its impacts on their initial Gynecology-Obstetrics training, as well as its contribution in improving their academic results.

RESULTS

From this survey, we see three categories of change emerging:

- Two are related to skills related to Lifelong Learning (competence in information retrieval, digital literacy and teamwork, the "I" and the "C" of Information and Communication Technologies (ICT))
- And one is linked to motivational dimensions.

These changes are:

- The development of skills related to learning: cited by more than half of the students.
- The increase of social interactions: between students themselves, and with teachers in particular the responsible for putting the application online.
- An increase in motivation, in most students.

CONCLUSION

Mobile technologies can significantly improve access to teaching of different medical specialties, equity and quality of educational services.

tissue conception was found to be decreased after 20 procedures and the precision of tissue handling was impeccable in time and therefore reducing operating times.

Conclusion: Even in presumably benign minimal-access surgeries, closed bag specimen extraction was found to be the best method of choice irrespective of the time and cost difference involved when compared to the other bags and techniques. The incidence of Malignancy in such presumed benign minimal-access surgeries was relatively high, to ignore the fact and compromise on safety in extraction techniques, thereby also absolutely eliminating the risk of benign tissue dispersal.

Key words: open endobags, contained closed bags, specimen extraction

Authors: Devassy R, C Cezar, H Krental, L Leicher, HC Verhoeven, De Wilde RL

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A Curricular Framework for Obstetrics and Gynecology Resident Education in Robotic Surgery

Introduction

A metadata analysis was conducted to determine if obstetric and gynecologic (OBGYN) residency programs in the United States employ any robotic surgery training. Surveys from 247 accredited programs using the Accreditation Council for Graduate Medical Education data were collected¹. Of the completed surveyed programs, most employed a robot for gynecological procedures, but only half had a robotic curriculum¹. The overwhelming majority of surveyed programs believe a structured program would be a benefit for residents in training, but the same programs provided limited robotic availability for resident exposure¹.

We present an IRB-approved pilot curricular framework for training OBGYN residents in robotic surgery. Our goal is to provide a standardized comprehensive, progressive, and formalized curriculum for obstetrics and gynecology residents to achieve proficiency in robotic surgery through skill based progression. This curriculum is guided through a methodology of proficiency-based skill progression.

Background

Despite its increasing use in surgical practice, no formal certification exists to show competency in robotic surgery². Additionally, recent studies have demonstrated the direct correlation between early exposure technical skills and higher pass rates on in-training evaluation reports at the resident level^{3,4}. Our robotic curriculum, when completed, provides residents with a letter from the program director documenting their experience and competency at the time of graduation. Although credentialing for robotic surgery varies by hospital, this letter may help demonstrate proficiency in robotic surgery and assist with attaining robotic hospital privileges after graduation.

Methodology

Gynecologic resident surgical education in robotics should involve a structured, competency-based modular curriculum which allows the trainee to progress in a graduated fashion. This methodology is paramount for trainees to attain the requisite knowledge and skills to provide safe and effective patient care⁵.

Our curriculum is guided through a methodology of proficiency-based skill progression.

Four-Module Curriculum:

1. Intuitive Online training modules and review articles
2. RoSS® and/or Intuitive® Robotic Simulator lab experience with minimum passing thresholds of 90% or greater
3. Intuitive® Representative Dry Lab Training / Set-up session
4. Operating Room surgical console observational assessment using the validated Global Evaluative Assessment of Robotic Skills (GEARS)⁶

Results

In our current pilot study, 11 resident cases have been enrolled in our OBGYN Robotic Curriculum Program. Each of these robotic cases were assessed by the assigned robotic surgeon mentor, and deployed the validated GEARS electronically to assess learners. The validated scale ranges from one to five, with five being the highest score and one being the lowest score. Below are the resident case means and standard deviations (SD) in each area, with descriptions.

Category	Mean	SD	Mean Description
Depth Perception	3.1	0.67	Some overshooting or missing of target, but quick to correct
Efficiency	3.4	0.64	Slow, but planned movements are reasonably organized
Force Sensitivity	3.2	0.57	Handles tissues reasonably well, minor trauma to adjacent tissue, rare suture breakage
Autonomy	3.1	0.67	Able to complete task safely with moderate guidance
Robotic Control	3.3	0.75	View is sometimes not optimal. Occasionally needs to relocate arms. Occasional collisions and obstruction of assistant
Use of Third Arm	2.5	0.50	Consistently does not use it, or does not use it well when required, even with verbal guidance
Bimanual Dexterity	3.2	0.72	Use both hands, but does not optimize interactions between hands
Overall Performance	2.0	0.00	Good/at appropriate level

Discussion

The results illustrate the need for additional proficiency-based curriculum enhancements. The resident population included all four years of training, and the overall technical performance yielded a SD of zero. This demonstrates the normalization of the distribution of resident overall technical capabilities in robotic gynecological surgery. Having equal amounts of learners above and below determined proficiency benchmarks provide sufficient objective evidence to increase simulated robotic cases.

Once the four-module curriculum is successfully navigated, the learner will be granted a certificate of completion. With the variability of credentialing for robotic surgeons, it is hoped to better standardize the criterion for achieving the status of "robotic gynecological surgeon." The technology now exists to further validate simulated platforms and assessment tools for presentation at certification boards such as the American Board of Obstetrics and Gynecology.

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⁵Peter MacCallum Cancer Centre

Abstract

Title: Barriers and enablers to establishing a sustainable gynaecological simulation program in a teaching hospital.

Background: The future of gynaecology requires innovation in teaching methodology and tools. Simulation is one such pedagogical method embracing new and old technology. To succeed any simulation program needs to be established in an organisation in a sound and sustainable manner.

“Simulation is defined as a technique to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner”. There is extensive research demonstrating efficacy of simulation to teach practical skills, human factor skills and teamwork and emerging evidence to demonstrate that this translates to patient outcomes. Implementation science scholars argue that the introduction of novel practices into established health care organizations requires much effort and needs to be “informed by an assessment of the likely barriers and enablers.”

Aims: The two aims of this research were to explore experts' experiences of barriers and enablers to implementation of a sustainable simulation-based education (SBE) program and/or centre in a teaching hospital; and to determine how to embed a SBE program and/or centre in a teaching hospital.

Methods: The study used a mixed method design with a dominant qualitative component to explore experts' experiences of how to embed a sustainable SBE program and/or centre in a teaching hospital. Known experts across Australia and North America were recruited. Ten Australian participants and seven North American participants (2 Canadian, 5 American) were included. To enhance the robustness of analysis a sample of three of the semi-structured interviews (one from each country) was chosen to create an analytical framework using thematic analysis to be used to analyse the remainder of the large data set in the next phase of this research.

Results: The analytical framework created has demonstrated 6 interlinked themes encompassing both barriers and enablers – These themes are Engagement of people; Funding challenges; Executive 'buy-in'; Context plays a key role; Research; and Natural evolution of a program.

Conclusion: Barriers and enablers are intimately intertwined. Faculty development and promotion of SBE are the most important enablers and funding challenges particularly demonstrating 'worth' and 'return on investment' are the most significant barriers. Whilst knowledge of barriers and enablers of SBE is important these will always exist particularly in complex organisations with uncertainty. Leadership traits and skills of SBE directors are vital to overcome any existing or future barriers and to magnify enablers. Increasing understanding of the roles of complexity theory, uncertainty and healthcare as well as change management and leadership to further embed SBE warrants both further consideration and research.

Keywords

Simulation, simulation-based education (SBE), implementation, sustainability

Lead → Enga → Fundi → Executi
ve buy- → Conetxt
plays a → Resear
ch → Natural
evoluti

Stretching the Borders of Laparoscopy: Urgent Laparoscopic Surgeries in the Late Third Trimester

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Background: Laparoscopic management of acute abdominal pain in the late third trimester of pregnancy remains controversial with limited data regarding procedure safety and feasibility. The purpose of this study is to investigate the feasibility, immediate complications and the short term outcomes of laparoscopic surgery during the third trimester of pregnancy, including assessment of the risk for preterm delivery and intra uterine fetal demise (IUFD).

Methods: The clinical data of all patients who underwent laparoscopic surgery between 27-39 weeks of gestation in the Sheba Medical Center between January 2010 and July 2017 were collected and retrospectively analyzed.

Results: Urgent laparoscopic surgery was performed for 12 patients during third trimester, the estimated gestational age of the patients undergoing laparoscopic surgery was 27 to 39 weeks all of them were singleton pregnancies. Laparoscopic surgeries included seven appendectomies, four adnexal torsion release; three of them with cyst aspiration/cystectomy, and one diagnostic laparoscopy. There were no complications related to the access for any of the 12 laparoscopic surgeries. The laparoscopic surgery procedure was successfully completed for 11 patients, only one laparoscopic appendectomy for perforated acute appendicitis with purulent peritonitis at 30 weeks of gestation was converted to laparotomy because of diminished space. Delivery data were available for ten patients, only one patient had preterm labor at 35 weeks of gestation 6 weeks after laparoscopic appendectomy, because of bleeding placenta previa with suspected placental abruption. None of the cases were complicated with intra uterine fetal demise.

Conclusion: Our results demonstrate that laparoscopic surgery for appendectomy and adnexal pathology is feasible and can be safely performed during late third trimester with minimal risk for the patient and the fetus.

EDUCATION ON LAPAROSCOPIC SURGERY AND ENTRY TECHNIQUES – A NATIONAL SURVEY OF ObGYN RESIDENTS

Authors: Susana Maia, Pedro Brandão, JL Silva Carvalho, João Bernardes, Cristina Santos, Arnaud Wattiez

INTRODUCTION

Around 50% of the complications in laparoscopic surgery occur during trocar placement. Using a national survey, the authors evaluated the interest, experience and opinion about education on laparoscopic surgery and entry techniques among Portuguese residents.

METHODS

A 23-item questionnaire was sent to the residents of the Portuguese Network of Trainees of Obstetrics and Gynecology (PONTOG) between January and February 2018. Questions evaluated personal interest and experience in learning and performing laparoscopic surgery, characterization of Department resources for teaching laparoscopy, GESEA certification status, personal opinion about education on laparoscopy and entry techniques.

RESULTS

The response rate with completed surveys was 35%. The majority of residents were female (90%), less than 30 years old (69%), with high interest in laparoscopy (57%), and experience as surgeon in laparoscopic procedures (84%). Seventy-three percent of residents already performed practical training on models, and 26% performed a fellowship of laparoscopy in a Portuguese Department. Seventy-four percent of residents knew the GESEA certification and 16% were certified for level I. During 2017, training of laparoscopic skills (camera navigation, hand-eye coordination, bimanual coordination and suturing) was performed sometimes or frequently by around 30% of residents; however, entry training was only carried out by 11% of them. For 74% of residents the first time that they had placed a trocar was on a patient. Unsuccessful attempt of trocars placement, after achieved by the specialist, or with conversion to laparotomy, were referred by 66% and 14% of residents, respectively. Fifty-seven percent of residents referred minor complications like subperitoneal emphysema resulting from trocars placed by them. The main barriers to learning laparoscopy were time restriction (49%), economic constraint (49%) and absence of training equipment in the Department (46%). Residents have agreed or strongly agreed that a structured teaching program would be useful (94%), a teaching program independent of the hospital, and transversal to all residents, would be fairer (93%), provision of time for training during working hours would be motivating (88%), and the accomplishment of entry training before performing it on a patient would be important (97%).

CONCLUSIONS

This survey showed that among the specific skills of laparoscopy, entry was the less trained one. For the majority of the residents, the first time they had placed a trocar was in a patient. Regarding the high rate of minor complications and unsuccessful attempts of trocars placement, this is an important aspect to improve during simulation training. Moreover, almost all residents have agreed that entry training should be accomplished before performing it on a patient.

INFLUENCE OF RECENT LASTT TRAINING ON LASTT CERTIFICATION SCORES

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CETEC – CUF Porto Hospital, Medicine Faculty of Oporto University, Portugal

INTRODUCTION

Gynaecological Endoscopic Surgical Education and Assessment (GESEA) programme provides training and evaluation of laparoscopic psychomotor skills (LPS) such as camera navigation, hand-eye and bimanual coordination using the Laparoscopic Skills Testing and Training (LASTT) model. The authors evaluated the influence of recente LASTT training on LASTT certification scores carried out in our center.

METHODS

Standardised certification sessions with one tutor per working station were organised in our center. Participants were classified in three groups (G). G1 comprises only residentes that performed LASTT training (3 repetitions of the 3 exercises) during the morning and GESEA Certification in the afternoon. G2 comprises specialists and residents that underwent GESEA Certification after performing LASTT training in our center during the week of Certification. G3 comprises specialists and residents that underwent GESEA Certification without performing LASTT training during that week. The time to complete each repetition of the three exercises performed by all participants at certification sessions and by the residents of G1 during the training session was registered in seconds and analyzed.

RESULTS

For exercise 1, camera navigation, G1 presented the best time to complete exercise (G1: 66s; G2: 69s; G3: 97s) and the best mean time of the three repetitions (G1: 72s; G2: 76s; G3: 109s). For exercise 2, hand-eye coordination, G1 also presented the best time to complete exercise (G1: 71s; G2: 78s; G3: 79s) and the best mean time of the three repetitions (G1: 89s; G2: 99s; G3: 106s). For exercise 3, bimanual coordination, G2 presented the best time to complete exercise (G1: 92s; G2: 81s; G3: 94s) and the best mean time of the three repetitions (G1: 104s; G2: 94s; G3: 112s). Comparing training with certification scores in G3, there was a reduction of the time to complete the repetitions in all exercises. Age, gender, training status and dominant hand were also collected,

CONCLUSIONS

LASTT training performed shortly before the session improves certification scores.

Automated tissue recognizing system in endoscopic surgeries

Introduction

Shifting from open-surgery (laparotomy) to keyhole-surgery (endoscopy, laparoscopy) is meaning a lot of changes in everyday life of endoscopic surgeons. New instruments, new technique are needed to achieve the advantages of the minimally invasive procedure. During technical evolution, new optical systems, new instruments were invented and used. In the 80's analog video systems were applied to make easier to watch, record and teach the process of endoscopic operations. In the 21st century due to the revolution in computer methods, analog cameras and recording equipments were replaced by digital systems. Quality of images are much better, capacity of recording are much more with these new equipments. But using digital systems only for transmitting data is wasting. Computers have the capacity to make billions of processes on the images that are transmitted through them.

Aim of this work is to use convolutional neural network to evaluate images of organs in female pelvis. Using deep learning methods, images of different tissues or organs could be identified and differentiated. Differentiating vessels, nerves or ureter in the pelvis is very important to increase accuracy, decrease time, mortality and rate of complications of surgery and it could be safe while performing the surgery. So experts can have advantages using this applications and trainees can learn surgeries easier with it, as well. Gynecologists face these kind of problems every day during total hysterectomies, radical hysterectomies, oncological operations and all kind of surgeries that need the opening of the retroperitoneal space because of the lack of the tactile information.

Methods

Our dataset has been collected retrospectively during 13 different gynecological endoscopic operations at the Department of Obstetrics and Gynecology of the University of Debrecen. The videos have been recorded by a high definition 1-MOS endoscopic camera at 30 frames/sec rate and resolution of 1920×1080 pixels.

Data of patients scheduled for gynecological endoscopic operations were analyzed. The medical expert manually marked the region of different tissues as vessels, ureter by drawing lines above them. Then, the maximum number of sub-images of size 224×224 pixels are cut off along the axis from the video frame. In this way we extracted training images with manually annotations and we used this dataset in the training stage. To solve the classification problem, we taught a convolutional neural network which can label appropriately the questionable organs in the video frame.

Main results and the role of chance

Our effort primarily addressed the drawback of losing tactile information during key-hole surgery in the recognition of different organs. We have developed a method which can help medical experts differentiates the organs during endoscopic surgeries. To address this problem, we have developed an automatic tool which automatically evaluate the whole frame of the endoscopic videos. In this step, the method applies a sliding window with size 224x224 and a pretrained GoogLeNet convolutional neural network classifies each sub-images under this window. At the end of this procedure, a probability map is made using the labels of the sub-images assigned by GoogLeNet. This probability map shows the ureter, vessels and the background by different colors which can help to identify different organs.

The classification performance of the trained GoogLeNet model on our test dataset considering the accuracy which is determined number of true positive, false positive, true negative and false negative pixels. The achieved results with the test set are the following accuracy: 0.7834.

Limitations, reasons for caution

Our collected dataset is relatively small with containing insufficient number of images to train a complex neural network, so we should extend the size of our dataset.

Wider implications of the findings

Using the software created on the base of the results of the study, accuracy of the tissue/organ recognition could be increased during training laparoscopic technique, or for the experts as well.

Study funding/competing interest(s)

This work was supported in part by the projects GINOP-2.1.1-15-2015-00376 and VKSZ 14-1-2015-0072, SCOPIA: Development of diagnostic tools based on endoscope technology supported by the European Union, co-financed by the European Social Fund.

Software for developing of assistance skills during endoscopy

Introduction

In recent years teaching and training in endoscopy came into focus. After developing endoscopic surgery, it became clear that totally different movements, attitude, view is needed for key-hole operations. There are several methods for training endoscopic skills through the use of computers or simulators. Practicing special movements on pelvic-trainers are possibly the most widespread method to prepare somebody for in vivo operations. There are working systems, procedures for training surgeons and for measuring and certifying their skills. Besides the special skills of the operator, another difference has to be seen clearly. Compared to open surgery, where the surgeon sees what he wants, and can inspect the desired area of the operating field, during endoscopy the assistant shows the surgeon the operating field. Adequate movements of the camera can lead to increased accuracy, decreased operating time and complications, meaning decreased morbidity and mortality. The aim of our work is to develop a new software that can follow and record camera movements of the assistant during real life operations during the learning curve. The software collects all the data from the trainee's camera movement and it shows the statistically analyzed data with the improvements of the trainee's skills.

Methods

There is no need for investing in new equipment. The newly developed software can be installed on any kind of computer that is used for operating the camera system. Showing the software the tip of any instrument will designate the center of the desired area of image. Moving the camera physically, the assistant can follow the operative movements and try to fit the instruments tip to the center of the image. The software is recording all the camera movements and the time of it and will give a certificate at the end of the operation.

Conclusion

It is not easy to learn this kind of operating technique, because of the special skills that are needed for endoscopic surgery. Having this newly invented software, associates have the opportunity to easily get familiar with laparoscopic operations. The software helps in moving the camera, following the operation in a correct way. By recording and analyzing the data of the whole procedure, progress can be followed during more and more assistance in in vivo surgeries.

The CARE Master Class 5-day Integrative Hands-On Course – a Successful Model in Teaching Minimally Invasive Surgery at All Levels Based on 17 Years Experience

Background: The uptake of laparoscopic surgery in gynecology has been suboptimal, as many surgeries for benign conditions continue to be performed by laparotomy, despite clear benefits of minimally invasive surgery. One of the main barriers identified is inadequate training while preferred methods of acquiring endoscopic skills include hands-on surgical education courses.

Aim: We propose a model of a 5-day practical and comprehensive course for optimal improvement of laparoscopic skills, with focus on critical thinking, safety and approaching the operative room as whole.

Design: 17-year experience of the Centre for Advanced Reproductive Endosurgery (CARE) Master Class.

Results: The CARE Master Class has two main courses, one focused on hysterectomy, myomectomy and adnexal surgery and the other on complex endometriosis surgery. Both are based on the same model and principles. The structure of the course is designed so participants can build on knowledge, skills and tips learned the previous days. There are ample live surgery cases and we go through the administrative hurdles for the participants' hospital registration so they can assist and get maximal exposure and experience. The course also includes a dry lab, personal skill lab with one-on-one teaching, interactive discussion and didactic teaching, culminating in the anesthetised live animal lab on the last day where participants integrate what they learned as a team. The focus is not purely on surgical skills and operative technique, but on approaching the operative room as whole, such as appropriate patient selection, skilled team, environment conducive to concentration and teamwork, ergonomics for all members of the team, clear communication, surgeon leadership, operative planning and critical thinking. Critical thinking involves having the adequate skills and team available, knowing the anatomy, adhering to surgical principles, thinking 2-3 steps ahead to anticipate difficulties or complications in order to stay safe, using the second surgeon fully and continuous decision making, highlighted at every step of live surgery cases. Many participants return to build on skills learned on previous Master Class courses.

Conclusion: A multi-day laparoscopic hands-on course focused on critical thinking, safety and global approach to the operating room, with opportunity to assist and receive one-on-one coaching constitute a surgical course model that optimises improvement of endoscopic skills.

**SLIDES
PRESENTATIONS**

Burnout and Resilience

Gary N. Frishman, M.D.

Professor of Obstetrics and Gynecology

Warren Alpert Medical School of Brown University
Women & Infants Hospital of Rhode Island



Disclosures

I have no disclosures relevant to this presentation

Objectives

- 1) Become familiar with the key elements of burnout
- 2) Understand the impact of burnout on physicians and healthcare
- 3) Become familiar with steps to mitigate burnout



Burnout symptoms

- Emotional exhaustion
 - Loss of enthusiasm for work
 - Most common symptom of burnout
- Depersonalization
 - Feelings of detachment and cynicism
 - Development of negative, callous and cynical attitude toward patients and their concerns
- Low sense of personal accomplishment
 - View work negatively, without value or meaningful (“what’s the use?”) and see self as incompetent



Jennings. Acad Med. 2015 90 (9):1246

Maslach Burnout Scoring Guide

Burnout Level	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Low	≤16	≤6	≥31
Moderate	17-26	7-12	32-38
High	≥27	≥13	≥39

Maslach C, Leiter MP. *Maslach Burnout Inventory Manual*. Palo Alto, CA: CPP Inc; 1996.



American College of Surgeons

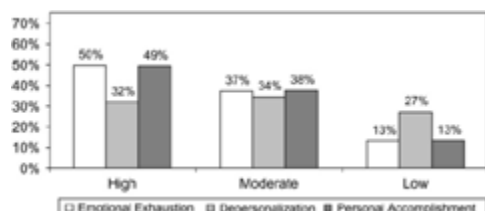
- 7,905 surgeons surveyed
 - 40% signs of burnout
 - 30% had depression
 - 7% had suicidal ideation



Shanafelt Ann Surg. 2009 Sep;250(3):463

Burnout Among US Ob/Gyn Residents

- 89.8% moderate burnout
- 34.2% depressed



Becker AJOG 2006;195:1444

French GI Surgical Residents

- 500 trainees
 - 65.5% response
- 52% high burnout syndrome score
- 12% suicidal thoughts



Chait Amer J Surg 2017;213:754

Other countries similar results

- Australian Residents Arora J Orthop Surg (Hong Kong) 2014;22 (3):374-377
 - 26% emotional exhaustion
- Spanish Residents Castelo-Branco BJOG 2007;114:94
 - 58% burnout
- Saudi Arabia Otolaryngology Residents

Burnout Subscale	Low	Moderate	High
Emotional exhaustion	12 (14)	20 (24)	53 (62)
Depersonalization	18 (21)	20 (24)	47 (55)
Personal accomplishment	48 (56)	23 (27)	14 (17)



Aldrees. J Surg Edu 2015;72:844

Other countries similar results

- Brazilian Pediatric Intensivists Tedesco Pediatr Crit Care Med 2014;15:e347
 - 17% all 3 domains
- Belgrade Orthopaedic Surgeons Lesic Acta Chir Iugosl. 2009;56(2):53
 - 55% Depersonalization
- Lithuanian Physicians Mikalauskas Medicina (Kaunas) 2012;48(9):478
 - 19% exhaustion, 26% depersonalization



Other countries similar results

- Italian Psychiatric Residents Ferrari Med Lav 2015;106:172
 - 16% lifetime suicidal ideation
- Irish Interns Nason Ir J Med Sci 2013;182:595
 - Mod levels both exhaustion and depersonalization
- Dutch Medical Residents Prins Medical Education 2010;44:236
 - 21% met criteria for moderate to severe burnout
- Japanese Residents Miyoshi Asian Journal of Psychiatry 2016;24:5
 - 23.5% showed burnout after 10 months
 - Both burnout and depressive state levels increased over time



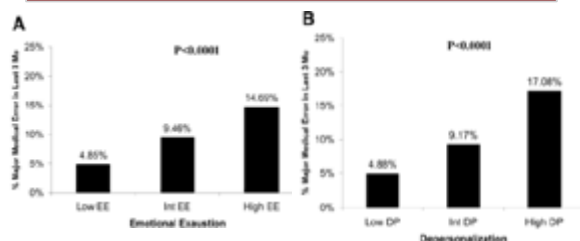
Impact of Burnout: American Surgeons

- 700 (8.9%) made major medical error in last 3 months
- 70% stated due to individual rather than system factors
- The frequency of overnight call, practice setting, method of compensation, and number of hours worked not associated with errors
- Each point increase emotional exhaustion score:
 - Associated with 5% increase in likelihood of reporting a medical error
- Each point increase depersonalization score:
 - Associated with 11% increase in likelihood of reporting a medical error



Shanafelt Ann Surg 2010;251(6):995

Impact of Burnout: American Surgeons



Shanafelt Ann Surg 2010;251(6):995

Work Environment

- 218 US Transplant Surgeons
 - 40.1% emotional exhaustion
 - 17.1% depersonalization
 - 46.5% low personal accomplishment
- Key predictors: Unsupportive environment
 - Lower decisional authority
 - Higher psychological work demands
 - Lower coworker support



Jesse American Journal of Transplantation 2015;15:772

Work Environment

- Resident survey
- Perceived social support was the only demographic variable significantly associated with levels of emotional exhaustion, depersonalization, and personal accomplishment



Eckleberry-Hunt Acad Med 2009;84:269e277

Impact of Mentorship

- US General Surgery Residents
- Work hour reform does not appear to have had a positive effect on burnout or attrition in general surgery trainees
- Structured mentoring program helped
 - Early identification of burnout
 - Help trainees develop tailored strategies



Elmore J Am Coll Surg 2016;223:440e451.

Resident Resilience

- Resilience among residents emerged as rooted in their calling to the work of medicine
- Drive to overcome obstacles arose from strong affiliation w/ professional identity and values
- Strong supports from peers and mentors... represented powerful buffers through conflicts presented throughout training

Thriving in Scrubs: A Qualitative Study of Resident Resilience
Personal communication Abigail Ford Winkel, MD



Personal Wellness

- 7197 surgeons
- Multivariate analysis, surgeons decreased burnout if placed greater emphasis
 - Finding meaning in work
 - Focusing on what is important in life
 - Maintaining a positive outlook
 - Embracing philosophy stressing work/life balance



Shanafelt Ann Surg 2012;255:4

Meta-Analysis

- Interventions to prevent and reduce physician burnout
- 15 randomized trials; 37 observational studies
- Burnout ↓: 54% to 44% (p<0.0001)
- Emotional exhaustion score ↓: 23.82 points to 21.17 points (p<0.0001)
- Depersonalization score ↓: 9.05 to 8.41 points (p=0.01)



West Lancet Epub 2016 Sept:2272

Meta-Analysis

- Both individual-focused and structural or organizational strategies can reduce physician burnout
- Individual-focused interventions
 - Small group curricula
 - Stress management and self-care training
 - Communication skills training
 - Mindfulness-based approaches

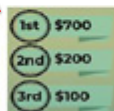


West Lancet Epub 2016 Sept:2272

GET READY FOR THE 2nd ANNUAL ACOG NATIONAL WELLNESS WEEK

Dear Program Directors, Program Managers and Junior Fellows:
Do Good! Feel Good! ACOG Junior Fellow College Advisory Council (JFAC) and Council on Resident Education in Obstetrics and Gynecology (CREOG) encourages all Junior Fellow and Residency Programs to participate in the ACOG National Wellness Week, February 5-9, 2018! Submit your program's wellness activities and win cash prizes for your program!

- Our 2018 daily themes are:
- Monday – Physical
 - Tuesday – Emotional
 - Wednesday – Spiritual
 - Thursday – Environmental
 - Friday – Social



Being part of Wellness Week is easy!
1. PLAN daily activities to PROMOTE physician wellness
2. SHARE your activities on social media and use the #ACOG@well2018. Important reminder: when using social media, always be mindful to maintain professionalism and protect patient privacy.



ACGME

- ACGME focusing on 5 key areas to support its ongoing commitment to physician well-being:
 - Resources
 - Education
 - Influence
 - Research
 - Collaboration



Physician Well-Being Initiative. In: ACGME 2016
<http://www.acgme.org/What-We-Do/initiatives/Physician-Well-Being>.

National Academy of Medicine

- “Clinician well-being is essential for safe, high-quality patient care”
- Action Collaborative on Clinician Well-Being and Resilience
- Over 130 Organizations Formally Commit to Promoting Clinician Well-Being



<https://nam.edu/initiatives/clinician-resilience-and-well-being/>

Suggestions

Intervention/Preventive Measure	Description
Mindfulness-based interventions	Increased physical and emotional self-awareness, education, techniques from yoga
Counseling sessions and workshops	Stress management and coping education, group discussion of burnout
Maximizing protective factors	Protective factors include support at work and home, having a mentor, being part of a national specialty organization, separating personal and professional life, meditating, exercise and hobbies, limiting alcohol intake, maintaining strong family relationships
Institutional adjustments	Increased physician control, increased work efficiency, encouragement of physician leadership, increased fairness



Daniels J Am Acad Orthop Surg 2016;24:213

Suggestions

- Recognize and acknowledge
- Monitor and identify
- Educate, empower and support



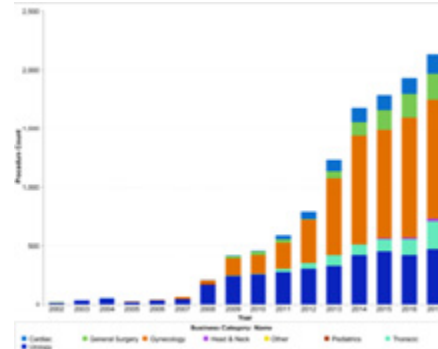


CSATS - QUALITY IMPROVEMENT LEARNING PLATFORM

Kathy Huang, M.D.
 Director, Robotic Surgery Center
 NYU Langone Health



Tisch's Robotics Annual Procedural Volume 2002 – Now



2 Robotics Oversight Committee February Meeting



Robotics Dashboard



3 Robotics Oversight Committee February Meeting



Robotics Dashboard – Sample Scorecard



4 Robotics Oversight Committee February Meeting



Robotics Scorecard – 2016 & 2017

Hospital Name	Category	Procedure	System Model	Volume		Avg Time (Min)				Variance to US Avg	Variance to Area Avg	Ratio vs US	Ratio vs Area
				2016	2017	2016	2017	2016	2017				
New York University Medical Center Tisch Hospital	General Surgery	Cholecystectomy	da Vinci Xi	1	1	344	83	80	82	23	1	20%	12%
		Colon Resection	da Vinci Xi	82	91	208	211	172	188	30	15	20%	38%
		Gastrectomy	da Vinci Xi	5	5	118	178	209	180	-83	-83	63%	78%
		HRP	da Vinci Xi	13	9	210	217	225	213	-7	-38	38%	17%
		Inguinal Hernia	da Vinci Xi	1	1	112	93	105	-83	-108			
NYU Langone Health	Gynecology	Rectal Resection	da Vinci Xi	73	62	218	220	182	210	29	9	37%	38%
		Neural Stimulation	da Vinci Xi	23	15	189	130	169	182	21	-22	32%	17%
		AVN - Benign	da Vinci Xi	198	213	111	119	133	133	17	-21	33%	38%
		AVN - Malignant	da Vinci Xi	209	187	134	138	110	132	45	23	18%	17%
		AVN - Other	da Vinci Xi	428	381	97	101	128	124	-27	-23	71%	71%
NYU Langone Health	Thoracic	HRP	da Vinci Xi	34	37	143	143	157	201	-14	-68	80%	38%
		Cholecystectomy	da Vinci Xi	24	27	94	99	119	182	21	-3	38%	38%
		AVN	da Vinci Xi	64	117	187	134	114	183	-80	-58	30%	38%
NYU Langone Health	Urology	AVN	da Vinci Xi	8	14	414	314	171	189	-19	-19	58%	10%
		AVN	da Vinci Xi	28	24	182	174	178	175	18	4	38%	48%
		AVN	da Vinci Xi	196	181	188	188	188	188	18	17	38%	47%
		AVN	da Vinci Xi	108	102	147	148	168	198	-8	-10	38%	23%
NYU Langone Health	Prostatectomy	da Vinci Xi	18	14	138	188	145	181	43	27	38%	23%	

5



C-SATS

6 Robotics Oversight Committee February Meeting



Global Evaluative Assessment of Robotic Skills (GEARS)

GEARS is a validated assessment tool for grading overall technical proficiency for robotic surgery. Below are the performance anchors and rating scale for the GEARS tool. Each scale is scored 1-5, which means the total score could range from 5-25.

	Depth Perception 3.8	Bimanual Dexterity 4.2	Efficiency 3.9	Force Sensitivity 3.5	Robotic Control 4.1
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DEPTH PERCEPTION

- 1 - Constantly overshoots target, wide swings, slow to correct
- 3 - Some overshooting or missing target, but quick to correct
- 5 - Accurately directs instruments in the correct plane to target

FORCE SENSITIVITY

- 1 - Rough moves, tears tissue, injures nearby structures, poor control, frequent suture breakage
- 3 - Handles tissue reasonably well, minor trauma to adjacent tissue, rare suture breakage
- 5 - Applies appropriate tension, negligible injury to adjacent structures, no suture breakage



Robotic Myomectomy, July 14 2017



My Overall Case Score
22.1 / 25

This case scored in the top quartile. Compared across all C-SATS scores for Myomectomy.



Score by Step

- 21.1: Removal of connective tissue from myoma during enucleation
- 23.5: Closure of the myometrium



See Case Comments sections above for feedback on this step

4.5	4.2	4.1	4.0	4.3
Bimanual Dexterity	Depth Perception	Efficiency	Force Sensitivity	Robotic Control

Select a Domain: Force Sensitivity | Efficiency | **Depth Perception**

My Video: 4.0

Comparison Video: 4.3



Play Both Videos



Learning Opportunities – Customized for you

Take control of your learning by working on the skills you most need at your own pace.



High-Impact Videos

Watch best-in-class videos for see how you compare. We've chosen a few for you based on your latest assessment.

Expert Case Studies

The best lessons are learned through experience and our Case Study library offers you insights and practical solutions tailored to your specialty.

Tele-mentoring

C-SATS Tele-mentoring provides direct, one-on-one, virtual access to some of the best surgeons in the world!



Simulation Curriculum

Developing robotic surgery skills with these customized simulation exercises for the da Vinci Robotic System.

IMPROVE YOUR SKILLS

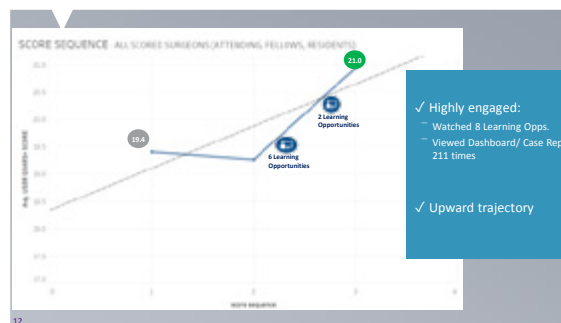


All pilot goals were met, or exceeded

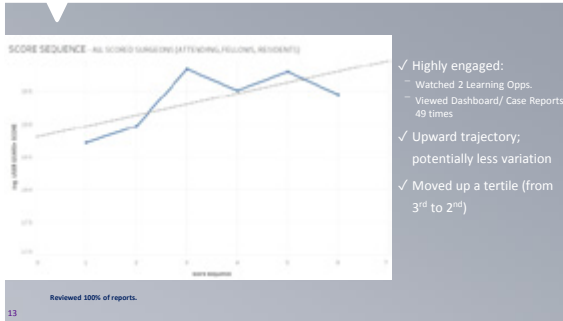
	Success Metric/ (target)	Definition	Pilot results
ADOPTION	• % Adoption (target = 10 new Robotic Surgeons uploading 4 videos each)	Number of Unique Users that have submitted a video, by site and in aggregate	• Exceeded: 21 surgeons uploaded 88 videos
ENGAGEMENT	• % Engagement (70%)	Number of Unique Users that logged into their account post assessment	• Exceeded: 89% of participants reviewed their dashboard/ case report
	• % Platform Usage (70%)	Number of engaged users that participated in learning opportunities	• Exceeded: 71% of participants engaged in additional learning opportunities
PERFORMANCE	• Success Stories	Showcase Surgeons that have demonstrated improvement over the period	• Met: Showcased two Surgeons



Success Story #1



Success Story #2



TOP QUARTILE vs. BOTTOM QUARTILE

