Gynecol Surg (2009) 6 (Suppl 1):S71–S125
DOI 10.1007/s10397-009-0521-3

ABSTRACTS

Free Communications

FC1_01

No place for laparotomy—ovarian cyst in pregnancy

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Laparoscopic surgery during pregnancy has been reported to be safe. Advantages of laparoscopic approach in pregnancy include • panoramic magnified view, • reduced intraoperative uterine manipulation and reduced risk of miscarriage, • reduced postoperative pain and need for opiates, • early mobility and reduced risk of DVT and • Less risk of poor scar healing. This video presentation of three cases will demonstrate laparoscopic approach to ovarian cyst impacted in the pouch of Douglas and massive ovarian cyst (30 cm). All three cases are examples of safe laparoscopic approach to adnexal cyst. It demonstrates that a benign cyst of any size and at any location can be done laparoscopically even in the second trimester of pregnancy. *Case 1*: 20 weeks pregnancy with 11 cm adnexal cyst at ultrasound. At laparoscopy, the cyst was impacted in the pouch of Douglas behind the uterus. Laparoscopic aspiration of the left ovarian cyst (800 ml) and cystectomy was performed. *Case 2*: 18 weeks pregnancy with 15 x 14 cm cyst at ultrasound. Laparoscopic aspiration of ovarian cyst of 1500 ml clear fluid followed by Left salpingo-oophorectomy. *Case 3*: 16 weeks with 30 × 32 cm large simple cyst originating from the left adnexa at ultrasound. 8150 ml of clear fluid was aspirated. At laparoscopy, an excision of the left large parovarian cyst and salpingectomy was done. All three were discharged home the following day. The histology was benign. All three delivered at term with good outcome.

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FC1_02

Laparoscopic treatment of interstitial (cornual) pregnancy

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Objectives: Interstitial (cornual) pregnancy is the least common type of ectopic pregnancy.the incidence of interstitial ectopic is 1 in 2500–5000 livbe births and it accounts for 2–6% of all ectopic pregnancies' risk factors predisposing to an interstitial ectopic pregnancy are the same as those for tubal ectopics and include previous ectopic pregnancy, assisted reproduction treatment and sexually transmitted infections and previous ipsiateral salpingectomy.

Design and methods: 32 years old patient with history of laparoscopic adhesolysis for pelvic adhesions presented with lower abdominal pain in pelvic examination she had a slightly enlarged uterus, Hgb 10 gm/dl, serum B-HCG 2680, ultrasonography suspected a left cornual ectopic pregnancy, with positive fetal heart pulsation. arrangements were made for emergency laparoscopy and possible laparotoy, laparoscopy confirmed left cornual ectopic pregnancy, with single trochar entry the ectopic pregnany was recognized. First the pregnancy material was aspirated then a cut was made in cornual region by the help of endograsper the ectopic pregnancy was extirpated and sutured.

Conclusion: Interstitial (cornual) pregnancy can be treated by laparoscopic surgery.

FC1_03

Translation and validation of the German "ICIQ Vaginal Symptoms Questionnaire" (The ICIQ-VS German): An observational study

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Introduction: In 2006 the International Continence Society developed a validated vaginal questionnaire contenting the sexual aspect as well as pain, pressure and quality of life items. The ICIQ-VS has not been translated yet into German. We here report about the translation and validation process of the ICIQ-VS (German).

Design: Observational Study

Setting: Gynaecological and internal Department of a German teaching hospital.

Patients: Pilot-Study: Ten patients without specific diseases. Main study: 58 patients suffering from genital prolapse more than grade I (vaginal group) and 51 patients without prolaps (control group). Patients of the vaginal group underwent subsequent laparoscopic sacropexy.

Material & methods: For establishing a cultural adaptive equivalent in German the recommendations from Guillemin et al. was followed extensively. Comprehension difficulties were excluded in a pilot study. The final version of the ICIQ-VS was given to patients at time 1 (T1), eight days later (T2) and one year later (T3). Patients of the vaginal group underwent a laparoscopic sacropexy one day after T2. During the first and second submission of the ICIQ-VS no clinical or surgical intervention was performed. Statistics were performed SPSS und Starter TM.

Main outcome measures: Consistency, reliability, sensitivity, validity
Results: In our pre-test analysis all items were well interpreted and filled in by all ten patients. In the main study mean age was 64 years (35 to 87 years) in the vaginal group and 56 years (range 25–86 years) in the control group. No changes from the original format were observed after translation and cultural adaptation. Internal consistency was high (standardized Cronbach alpha coefficient range 0.71–0.78). The test retest reliability (stability over time) was measured by weighted Kappa index and was stable for both groups (0.71–0.88). Sensitivity to change was excellent (Wilcoxon sign rank test, $p<0.01$–$p<0.001$). The impact of vaginal symptoms of quality of life was worse in the vaginal than in the control group. Construct validity revealed statistical significant differences between groups (Tab.1). Response rate was 96 % in the vaginal group and 98 % in the control group. We had low rates of missing data (vaginal group 3.6 %, control group 3.6 %). Thus the content validity was excellent. We cannot state concurrent validity as no comparable questionnaire concerning vaginal symptoms was available in German.
Conclusion: The ICIQ-VS has been translated and evaluated successfully into German. To our knowledge this is the first evaluated vaginal questionnaire which is available in German. During the last years the broad use of the English version has proven its relevance for clinical research. We expect the same to this German version.

	Vaginal group T1	Vaginal group T2	Vaginal group T3	Control group T1
Vaginal Score (maximum=53)				
Mean score (SD)	18.91 (9.5)	19.63 (9.86)	7.13 (8.42)	5.8 (7.05)
Median score (range)	17.5 (2–41)	18.5 (2–41)	4 (0–30)	2 (0–30)
Sexual Score (maximum=58)				
Mean score (SD)	14.83 (14.06)	17.58 (16.89)	5.58 (8.75)	2,82 (8.16)
Median score (range)	11 (0–50)	11 (0–58)	0 (0–30)	0 (0–38

Table 1: Verification of the scoring system: Statistical results comparing the mean vaginal and sexual symptoms score for vaginal group at time one, two and three (T1-T3) and control group at time one

FC1_04

Evaluation of SprayShield in a Center: Randomized Controlled Study in Women Undergoing Myomectomy
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Evaluation of SprayShieldTM in a Single Center, Randomized Controlled Study in Women Undergoing Laparoscopic Myomectomy Tchartchian G; Dittert B, De Wilde RL Dept.Ob/Gyn, Pius Clinic, Oldenburg, Germany. Adhesions are a major cause of chronic, recurrent pelvic pain and infertility in a significant percentage of operative patients. Adhesions also have major financial implication as well; indeed, in the United Kingdom alone, adhesion-formation related readmissions following lower abdominal surgery over a ten year period cost over 500 million pounds . Though many different materials have been evaluated for their potential ability to prevent adhesion formation to date, the need for comprehensible, site-specific protection remains high. The SprayShieldTM Adhesion Barrier has been developed as a product to be sprayed onto adhesiogenic tissues. It is a site specific adhesion barrier that solidifies within seconds of being applied onto tissues and is intended to protect tissues from adhesion formation while the tissues heal. The SprayShieldTM Adhesion Barrier System includes a polymer kit and an air-assisted sprayer applicator. The SprayShieldTM Polymer kit contains two solutions, a polyethylene glycol (PEG) ester trylisine amine solution and a borate buffer solution referred to as the blue and the clear precursors, respectively. When sprayed, the blue and clear precursors react in-situ in an electrophilic-nucleophilic reaction, causing the PEG molecules to cross-link and form a hydrogel within seconds with no heat evolved and no external energy source required (i.e., light source). Within 7 days of application, the hydrogel will hydrolyze and the individual components (PEG and Trylisine) are readily absorbed into the circulatory system and excreted via renal filtration . The SprayShieldTM Adhesion Barrier System has been shown to prevent adhesions in a laparoscopic porcine model of gynecological surgery versus control (good surgical technique). To further evaluate the ability of SprayShieldTM to reduce adhesions following gynecological surgery, a single center, fifteen subject, single blinded, randomized controlled study was undertaken comparing SprayShieldTM versus good surgical technique alone (control group) in subjects undergoing laparoscopic myomectomy. Briefly, the study was conducted in women age 18 and older, who were scheduled to undergo laparoscopic myomectomy, met all study inclusion and exclusion criteria and signed an informed consent. Subjects were randomly assigned in a 2:1 ratio to the SprayShieldTM group or to a control group. In subjects randomized to the SprayShieldTM group, SprayShieldTM was applied to all myomectomy suture lines, any other areas surgically treated or at sites the surgeon deemed to be prone to adhesion formation. Subjects assigned to the control group received no anti-adhesion treatment, of any kind, only good surgical technique. Subjects were then asked to return 8–12 weeks post002Dmyomectomy for a second look laparoscopic (SLL) procedure to evaluate adhesion formation at 21 anatomical sites. Both the myomectomy procedure and the SLL were recorded. The videos were then edited to remove the SprayShieldTM application from treated subjects and all videos were assigned a unique blind code to blind the reviewer to treatment. The videos were then sent to an independent gynecological surgeon to obtain a standardized, unbiased evaluation of adhesion formation. All adhesions were evaluated for Incidence (Number of adhesions from the uterus to other anatomical structures), Severity (1=filmy, avascular; 2=vascular and/or dense; 3=cohesive) and Extent (1=covering 51% of total area). The area of the uterus, in millimeters, covered by adhesions was also assessed.

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FC1_05

CEGPA – a new peruvian-german teaching center for gynecologic endoscopy in Lima - Peru

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CEGPA—a new peruvian-german teaching center for gynecologic endoscopy in Lima - Peru Following the educational concept of the german association of gynecologic endoscopy (AGE) in March 2009 we realized the first workshops for gynecologic laparoscopy in the new Centro de Endoscopia Ginecologica Peruano Aleman – CEGPA in Lima / Peru. Live surgery has been demonstrated followed by a program of scientific presentations and a practical part using various laparotrainers. The CEGPA has been presented during the first german-peruvian congress of gynecology and obstetrics in Lima in October 2008 which had been organized in cooperation with the AGE and the Peruvian Society of Obstetrics and Gynecology (SPOG) and the Peruvian Society of Ultrasound in Gynecology and Obstetrics (SPUOG). The CEGPA is a new teching center realizing a constant cooperation between german and peruvian gynecologic endoscopists which is supported by the Peruvian University Cayetano Heredia and the departement of gynecology and obstetrics of the University in Tübingen—Germany. In the first workshops 21 peruvian ginecologists from five different peruvian cities recieved the certificates of the AGE after successfull participation. The cooperation offers the exchange of new scientific, social and cultural aspects in the treatment of females by gynecologic endoscopy. The CEGPA is a new link between Europe and South America in the teaching and the use of modern endoscopic techniques.

FC1_06

Two simple and cheap systems for recording surgery digitally

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Introduction: The visual recording of surgical procedures either as still images or movies is becoming standard practice across many specialities. Analogue recording using film or video is gradually being replaced by digital technology for reasons of quality and convenience. Commercial systems are available but are expensive and have limited capabilities and capacity. We have been using a digital system based around a standard personal computer since 2003 to record all our surgery.
Methods: We use one of two systems. One system consists of a standard laptop running Windows® operating system linked to a large and fast (7200 rpm) external hard drive which is used to save the video file. The video signal from the theatre camera is processed by an external analogue/digital converter (Ikasu USB video converter); we compress the video using the DivX codec to approximately 1 Gb per hour of video. The second system is based around an Archos AV-500 mobile digital video recorder which also uses the DivX codex to compress the video signal; we use the Archos to make edited recordings which are then transferred to a CD and given to the patient after her surgery.
Findings: Very few patients refused to have their surgery recorded, and we have recorded over 1500 procedures since 2003. All recordings were of excellent quality and could easily be searched and reviewed if required (e.g. in cases of operative complications). They proved an excellent medium for teaching trainees, and could easily and conveniently edited if required using standard software (we used the freeware program, VirtualDub). The recordings could also be added to PowerPoint presentations for teaching or demonstration purposes after suitable conversion to an appropriate format.
Conclusions: A digital recording system built around a standard personal computer or a mobile digital video recorder is relatively cheap, versatile and has a huge capacity to record surgical procedures. It is a convenient and useful way to keep a permanent record of surgery.

FC1_07

Training laparoscopic gynaecologic surgery on live animals

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A laparoscopic surgery teaching program has already started at the Gynaecology Department Of The `Lozano Blesa` University Hospital. Zaragoza. Spain. This program has been approved by the Ethics Committee for Animal Research Of The Zaragoza University and will use rats, rabbits and sows. This project aims to follow a "Step By Step" process, with progressive surgery complexity from the rat and rabbit models to more difficult surgery in sows. We worked in wistar rats using them in two different ways: — Microsurgery as first level, because like laparoscopic surgery, working with operating microscope, surgeons can´t see their hands only the movement of the mnstruments and also work with high vision, then microsurgery improves spacial orientation - inside a pelvitrainer and looking at mobile compact unit telepack, we will be able to use dissecting and grasping forceps, scissors required in laparoscopic surgery. This animal is cheaper than a sow and it is very useful to practise suturing thecniques. Following level would be in new zealands white rabbits: we use this model to teach—abdominal acces: by using a veress needle. Open acces—electrosurgery thecniques—how to perform total hysterectomy using vaginal extraction of uterus, tubes and ovaries (notes)—vaginal closed by laparoscopic approach using suturing techniques interrupted or continuous with intra-corporeal or extra-corporeal knots. Finally we work with sows to perform oncologic laparoscopic surgery, it would be the highest level (master) describing anatomic - surgical landmarks that must be followed to complete this kind of surgery, includindg pelvic lymphadenectomy, creating paravesical, pararectal spaces and to be prepared for casual injuries that could be happen during laparoscopic surgery.

FC1_08

Colpotomy for transvaginal NOTES: should we be afraid?

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Introduction: Vaginal surgery is associated with risks of infection and dyspareunia. Transvaginal laparoscopy has been abandoned due to infection and rectal injury risks. Natural Orifices Transluminal

Endoscopic Surgery (NOTES) is a new era of minimal invasive surgery. For the moment, transvaginal approach is mostly used since other routes (ie, transgastric, transrectal and transvaginal) require incision closure techniques to be defined. Recently, a study using a questionnaire assessed the acceptance of gynaecologists to this route. They would not advise their patients to use this route. Infection and dyspareunia are the most feared complications reported in this study. We present the results of colpotomy in NOTES transvaginal procedures.

Methods: The study enrols 17 patients operated by NOTES transvaginal procedures. Ten patients had cholecystectomy and seven sleeve gastrectomy. Eventual peri operative complications such as rectal injury, fever and pain are reported. Follow up is done at one and six months. Colpotomy is assessed by vaginal exam and direct visualization. Patients fill a questionnaire about sexual function, dyspareunia and infection.

Results: Ongoing. Primary results do not confirm the fear of gynaecologists.

Conclusion: It seems that the fears from complications related to the colpotomy in NOTES are not supported by clinical data. Even though, patient's acceptance should also be assessed.

FC1_09

First clinical experience of Argon neutral plasma energy in gynaecological surgery

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Introduction: We present the first series of in-vivo use of neutral argon plasma energy in gynaecological surgery. PlasmaJet™ was used in 65 cases in a tertiary referral centre for gynaecological oncology and minimal access surgery.

PlasmaJet™ is a new device designed to produce a fine jet of argon plasma by heating argon gas. Originally developed for jet engines in the Russian space exploration programme, it utilizes neutral plasma energy to desiccate and vaporize soft and hard tissues.

Methods: A prospective, observational study in women with a wide spectrum of benign and malignant conditions was undertaken between June and May 2009. Patients were offered information on the use of PlasmaJet™ during their procedure. PlasmaJet™ Version-2 was used in 47 cases and Version-3 in 18 cases. Efficacy and safety data was collected on 57 laparoscopies, 7 laparotomies and 1 groin node dissection. Data related to use of PlasmaJet™ including procedure performed, power settings used and tissue effect were recorded. Effectiveness of PlasmaJet™ was measured in terms of precision, ease of use, coagulation and cutting effects, safety and complications.

Results: The PlasmaJet™ device was easy to use and set up with a disposable hand piece and no moving parts. The length of the jet produced is approximately 2cms with no risk of overshoot to distant organs. Depth of penetration appears very superficial with minimal lateral heat spread; no neighbouring tissue damage was observed. Neutral plasma energy removes the risk of arcing.

Conclusion: shows promising results as a cutting and coagulating instrument for both laparoscopic and open gynaecological surgery.

FC1_10

Advantages of successful laparoscopic approach vs conversion laparotomy and total laparotomy

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Objective: To value the advantages of laparoscopic approach in endometrium cancer vs conversion laparotomic approach and total laparotomic access.

Design and methods: A retrospective study between 1996 and 2008, over 201 consecutive patients with endometrium cancer. Three groups were defined LPS (successfull laparoscopic approach) NLM (Conversion into laparotomy needed) and TLM (total laparotomy). We have studied different items such as epidemiological data, diagnosis procedures, surgical access, operating time, complications rate, hospital stay, transfusion rate, and pathological findings. Statistical analysis was done using SPSS 15.O.

Results: No differences were observed in age or BMI (body mass index). Endometrial risk factors were seen in 103(51,2%). In 123 patients (89,13%) successfull LPS approach was feasible while in the remaining 15 cases (10,86%) NLM and TLM was chosed in 63 cases like initial approach. Lymphadenectomy was possible in 118 (95,93%) of LPS group vs NLM 10(66,66%) and in TLM 41(65,07%). Operating time time was longer for NLM 160,71±10,7 (85–270) and LPS 154,07±3,85(50–285) vs TLM 142,06±5,99 (45–270) minutes. Hospital stay was shorter for LPS 5,13+0,67(2–22) and TLM 7,76±0,68(3–33) vs NLM 13,20±4,68(3–65) days ($p<0.05$). Haemoglobin balance was better $p<0.001$ for LPS 2,89±0,13(0,4–8,8) vs NLM 3,78±0,4(0,4–7,8) gr/dl and TLM 3,16±0,2(0,4–7,8 gr/dl. Global transfusion rate was higher in NLM 46,7% ($p<0,01$). No differences in nodes collected were found. Survival rate were similar.

Conclusions: When laparoscopic approach is feasible the results are better. Lymphadenectomy were more sucessfully performed in LPS group with less haemoglobin balance, operating time and fewer transfusion rate. Hospital stay was also shorter in LPS approach. When TLM is permorfed from initial access the surgical results are better than in LPS conversion. Avoid NLM should help to improve operative morbidity.

FC1_11

Hysteroscopy after uterine artery embolization (UAE) or laparoscopic uterine artery occlusion (LUAO) for leiomyomas

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Objective: To compare hysteroscopic and histological intrauterine findings after radiological or surgical depletion of uterine arteries for leiomyomas.

Design: Prospective comparative study.
Methods: Women with reproductive plans and symptomatic intramural uterine fibroid/s larger than 4 cm treated with UAE or LUAO were assigned for hysteroscopy and biopsy from 3–6 months after primary procedure. Only patients without simultaneous or subsequent myomectomy were included.
Results: 111 women entered the study (mean age: 35 years, mean dominant fibroid size before treatment: 51 mm, mean number of fibroids: 2; no significant differences between groups); 74 with previous UAE and 37 with LUAO. Completely normal hysteroscopic finding was assessed in 30 patients after UAE (40.5 %) and in 36 after LUAO (97.3 %) = the difference was significant (p=0.0001, chi-square test). Intrauterine necrotic changes were present and verified by histology in 32 patients (43.2 %) after UAE, in compare with only 1 patient (2.7 %) after LUAO (p=0.0001, chi-square test). Vital, functional endometrium was histologically proved in 64 women after UAE (86.5 %), and in 35 (94.6 %) after LUAO (non-significant difference, Fisher's test).
Conclusion: Our results show that uterine fibroid embolization in patients with intramural leiomyomas could significantly impair uterine cavity, which could subsequently worsen their fertility prognosis. Except one patient (from 37) no damage of endometrium and uterine cavity was observed after LUAO.

FC1_12

Single port laparoscopy in gynaecology, what can we perform: a series of 35 cases

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Introduction: Minimally invasive surgery has influenced the techniques used in gynaecology, with an overall minimisation of complications and increased patient satisfaction.
Study objective: To demonstrate the safety and feasibility of Single Port Laparoscopic (SPL) Surgery in Gynaecology
Methods and procedures: Retrospective, descriptive, non randomized study, in the setting of Iaso Hospital and Attikon University Hospital, Athens, Greece. 35 patients were selected who underwent SPL Surgery between October 2008 and February 2009.
Indications included 55% Salpingo-oophorectomy, 26% Diagnostic Laparoscopy and treatment of Stage 1/2 Endometriosis, 19% cases for cystectomy, 1 case of Total Hysterectomy.
Results: Duration of operation and of hospital stay, safety (morbidity and mortality), and patient satisfaction were assessed Estimated blood loss was 35 ml (range 10–230 ml) Intraoperative complications: 0% vascular injuries and 0% nerve or ureter injuries. Early postoperative morbidity included no major complications, 0.1% bladder infection and dysfunction and 0.3% of incision infection. All patients were discharged to home the same day with an average length of stay for these patients of 8 hours.
Conclusions: Single port Laparoscopic Surgery seems to be a safe alternative to traditional Laparoscopy for the procedures performed in this study. Surgical time, safety and feasibility is similar, were as the cosmetic result and the post operative pain levels seem to be better accepted by the female patient. Further studies need to be performed and new instrumentation is necessary in order to perform more complicated cases.

FC1_13

The efficacy of a polyethylene glycol adhesion barrier in the prevention of post-operative adhesions in patients undergoing gynecologic laparoscopy

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Background: Postoperative adhesions are the most frequent complication of peritoneal surgery, causing small bowel obstruction, female infertility and chronic pelvic pain. This study assessed the efficacy of a sprayable polyethylene glycol barrier in reducing adhesion formation.
Methods: 16 patients aged 20–38 years undergoing laparoscopic gynecologic surgery were randomly assigned to receive either the adhesion barrier or no adhesion prevention. Incidence and severity of adhesions were scored systematically on 8 sites in the pelvis. After 9–60 days second look laparoscopy was performed to reassess adhesions. Success was defined as a reduction in the number of sites covered with adhesions or preservation of an adhesion free abdomen.
Results: 10 patients were randomized to treatment and 6 patients to control group. One patients in the treatment group was excluded because no complete adhesiolysis could be achieved during initial laparoscopy. Patients who received the polyethylene glycol adhesion barrier had significantly more often successful prevention (100% vs. 50% P=0.04) and a significant greater reduction in the number of sites covered with adhesions (−2.4 ± 2.0 vs. 0.8 ± 2.3, P=0.01). Further, patients in the treated group had a significant greater reduction of LABS score at second look laparoscopy (−2.6 vs. −0.06, P=0.03).
Conclusion: Polyethylene glycol significantly reduces postoperative adhesion formation. Further studies are necessary to confirm beneficial effects on small bowel obstruction and infertility.

FC1_14

Uterine artery embolization versus hysterectomy in the treatment of symptomatic uterine fibroids: Five-years' outcomes from the randomized EMMY trial

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Background: During the last decade, Uterine Artery Embolization (UAE) has been introduced as an alternative treatment modality for symptomatic uterine fibroids. Several randomized trials comparing UAE and surgery have earlier been reported. In this paper, we present the long-term outcome from one of these randomized trials; the EMMY trail.
Methods: Patients suffering from symptomatic fibroids who were eligible for hysterectomy were randomized 1:1 for either hysterectomy or UAE and followed up after both procedures with questionnaires at baseline and at several intervals after treatment. Analysis was by intention to treat. Endpoints were re-interventions, menorrhagia, menopause, Health Related Quality of Life (HRQOL) measures

assessed by validated questionnaires and patients' satisfaction after five years.

Results: 177 patients were randomly assigned UAE (n=88) or hysterectomy (n=89) and followed for 5 years (median of 59 months). Five years after treatment 23/81 (28.4%) UAE patients had undergone a hysterectomy because of insufficient improvement of complaints (24.7% after successful UAE). Menorrhagia was controlled in 75.9% of the UAE patients that still had their uterus. HRQOL measures improved significantly and remained stable in both groups from 6 months on. UAE had a positive effect both on urinary and defecation function. Hysterectomy patients and UAE patients were equally satisfied after five years of follow up.

Conclusions: UAE avoided hysterectomy in 3 out of 4 cases after 5 years of follow-up. Based on re-interventions, menorrhagia and HRQOL results in both groups, UAE is a good alternative to hysterectomy and patients should be counselled on the possibility of UAE.

FC1_15

Natural Orifice Transluminal Endoscopic Surgery (NOTES): retroperitoneoscopic approach for sentinel limph-node- preliminary report in the porcine model (with video)

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Introduction: NOTES is a new concept of surgery and it seems to obey one of the basic tenets of modern day surgery which is decreased invasiveness. The search for the sentinel lymph node (SLN) by this surgical approach after injection of a blue dye can allow improved staging of uterine cancers which may ultimately change the management of early stage uterine cancer.

Objective: To evaluate the feasibility of accessing the SLN from the uterine cervix by a transvaginal retroperitoneoscopic approach in the porcine model (NOTES technique).

Material and methods: Female pigs weighing between 12 and 18 kg were submitted to general anaesthesia using Stresnil and Propofol according to their weight, were intubated and ventilated. 0.2 ml of patent blue was injected into the paracervical region at the 4 and 8 o'clock position under laparoscopic guidance. A 10-mm vaginal incision in the right side was performed to allow the introduction of a double-channel flexible endoscope (Videogastroscope Karl Storz®, Tuttlingen, Germany). The retroperitoneal space was created using carbon-dioxide dissection and the endoscope. Exposure of pelvic and lumbar-aortic lymph nodes was obtained and SLN coloured in blue were excised. Then a conventional laparoscopy followed by laparotomy were performed to evaluate the number of residual SLN and the presence of any complications. All procedures were recorded.

Results: 11 pigs were operated. Mean operative time was 56 (±15) minutes. Mean number of SLN retrieved was 2 (±1.41). All but one SLN were identified and retrieved by NOTES procedure. In two pigs the SLN could not be extracted by NOTES due to violation of the peritoneum. In these cases, 2 SLN retrieved by laparotomy had been accurately identified by NOTES. No major complication was observed. During laparoscopic surgery performed immediately after NOTES procedure, the peritoneum returned to its original anatomic place in most cases.

Conclusion: Transvaginal retroperitoneal NOTES can allow a simple and satisfactory exposure of pelvic and lumbar-aortic nodes. Identification and resection of SLN by this approach is feasible and promising.

FC1_16

Results of a comparative randomized study in adhesion prevention: second-look evaluation shows significant results of PREVADH adhesion barrier

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Introduction: Post-surgical adhesions are a universal phenomenon whatever the surgical discipline is. 60 to 90% of the patients having undergone a major gynaecological surgical operation develop adhesions [1]. After a myomectomy, rates from 55 to 94% were reported in the literature according to the route [2–8]. The aim of this comparative multicenter randomized study was to assess the efficiency and long-term outcomes of a continuous and hydrophilic resorbable film (PREVADH™-Sofradim-Covidien France) in prevention of post-myomectomy adhesions.

Material: From May 2006 to June 2008, sixty patients aged 34 years ±5 years, undergoing myomectomy by open surgery, were randomly allocated to receive either PREVADH™ film or Ringer® Lactate solution, directly applied to the uterine scars. Only patients with intramural and subserosal myomas larger than 6 cm were included in this study. The incidence, severity and extent of postoperative adhesions to the uterine scars, the presence of adhesions to the adnexa and in the abdomino-pelvic cavity were first assessed by the investigators during a laparoscopic second-look performed between 10–20 weeks. A second reviewing of the data was performed by two independent surgeons via videos.

Results: 54 patients (28 patients in the Prevadh group, 26 patients in the control group) underwent laparoscopic second-look at 105.9 days ±46.3. According to the surgeons assessment, twelve patients (43%) in the Prevadh group and twenty-four patients (92%) in the Ringer group demonstrate adhesions to the uterine scars ($p=0.001$).

The results are also significant when the incidence of adhesions to the uterine scars is expressed per uterine scar (29% of adhesions in the PREVADH™ group versus 76% in the Ringer group $p<0.001$).

63% of adhesions to the uterine scars are considered as severe in the control group versus 25% in the Prevadh group ($p=0.008$). There is no significant difference in terms of extent of adhesions between the two groups.

Moreover, there are significantly more *de novo* adhesions on the treated sites in the Ringer group than in the Prevadh group (27% in the Prevadh group versus 63% in the control group $p=0$).

No significant differences were found in terms of AFS and mAFS scores between the two groups, even if the Prevadh™ film seems to have a favorable impact on adhesions formation.

Although the surgeons tend to underevaluate the presence of adhesions, the reviewers' assessment concludes to the same results in terms of incidence (67% in the Prevadh group versus 100% in the control group (p=0.004), severity (78% of adhesions to the uterine scars are considered as severe in the control group versus 54% in the Prevadh group (p=0.04) and extent of adhesions to the uterine scars, and in terms of AFS and mAFS scores (no significant differences). The reviewers also concluded that there are significantly more *de novo* adhesions on the treated sites in the Ringer group than in the Prevadh group (54% in the Prevadh group versus 68% in the control group p=0.05).

No serious adverse event related to PREVADH™ or control group and no adhesion-related complication were reported.

Conclusion: Myomectomy operations frequently result in pelvic adhesions which may impair fertility. In this prospective comparative randomized study, it has been clearly demonstrated that the Prevadh™ film prevents adhesions formation to the uterine scars.

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FC1_17

Recent possibilities of suturing-free techniques in gynaecological operations

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Introduction: The operative techniques in gynaecological surgery are strongly changing in last decades. There are new special surgical materials, new more sofisticated surgery hardware, high definition cameras, electrosurgery, new instruments, surgery tools etc.

There is a new revolution in laparoscopic surgery last 30 years. Thanks to modern miniinvasive operative tools, instruments, graspers, scissors, morcellators, endobags, trocars, endo-suturing materials, electrosurgical instruments, laparoscopic approach becomes simply, safe, cost-effective method. Laparoscopic with vaginal approach are more preferable in simply hysterectomy recently. There are more advantages of laparoscopic approach, medically and economically more effective, short surgery-time, short time of hospitalisation and time of reconvalescency, less painful, better cosmetic effect.

Background: One of the modern electrosugery technique is using of LigaSure. LigasSure is unique vessel sealing technology that provides a unique combination of pressure and energy to create vessel fusion. LigaSure permanently fuses vessels up to and including 7 mm in diameter and tissue bundles without dissection or isolation. An optimized combination of pressure and energy creates the seal by melting the collagen and elastin in the vessel walls and reforming it into a permanent, plastic-like seal. It does not rely on a proximal thrombus.

Besides it reduces thermal spread: it minimizes thermal spread to approximately 2 mm for most LigaSure instruments.

Between october 2007 and may 2009 we operated on 162 patients, 68 by laparoscopic, 94 by laparotomic approach, using LigaSure. Endoscopy, 45 laparoscopic assisted vaginal hysterectomy / LAVH, 23 adnexal operations. Open surgery: 54 abdominal hysterectomy, 27 vaginal hysterectomy, 13 adnexal operations.

Results: In surgery using LigaSure didn't occur severe complications, blood-loss was minimal / occured in few very first operations/, handling of instrument was easy, ergonomic. In LAVH operations after laparoscopic step followed vaginal step, in which after exstirpation of uterus vagina was closured with only one suture (Caprosyn, Vicryl). The average operating time was 55–118 minutes, blood-loss from 150–350 ml and hospitalisation time from 3 to 5 days.

Conclusion: LigaSure technique was excellent in both laparoscopic and laparotomic approach. Using of LigaSure is absolutely safe, it enables doing surgery without classic suturing, LigaSure technique preserves fysiologic anatomy and minimalizes tissue damage. This technique spare operation time and also special surgical materials. Using of LigaSure technique is very perspective in gynaecological surgery.

FC1_18

A Comparison of Veress needle versus direct trocar entry technique in laparoscopy

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Objective: To determine the adherence of operators to the Middlesbrough consensus document and compare the complications between Veress needle and direct trocar entry.

Material and methods: Over a period of 3 years, 104 direct trocar entries and 345 Veress techniques were identified from the hospital data base. 89 sets of notes for direct entry and randomly selected 100

sets of notes for Veress entry were analysed. Main outcomes looked at were the adherence to the consensus and the complication rates for both techniques.
Results: No major injuries or failed laparoscopies were identified in both groups.
3 minor injuries were reported in Veress group. 12% of Veress group and 10% of direct trocar group led to laparotomy for various reasons but they were not due to injuries. Suboptimal documentation was a prominent feature. In this study none of the cases were adhere to the Middlesbrough consensus in regard to pressure reached, alternative entry site or ascertain entry.
Conclusion: Direct trocar entry technique is not widely used in UK. But various case control studies were published from different countries did not show any major hazards with the technique. However they did not analyse the experience of the operator or the case selections. Based on our study, the direct trocar entry is a safe technique for abdominal entry and to achieve pneumoperitoneum.

FC1_19

Conservative laparoscopic treatment of adnexal torsion

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Objective: Adnexal torsion (AT) is a common surgical gynecologic emergency thath should be suspected in any patient presenting with abdominal pain, mainly in the childbearing age group. Ultrasound findings (pelvic mass) and Doppler flow studies may help to achieve diagnosis in addition to the clinical symptoms. Definitive diagnosis would be with laparoscopy or laparotomy examination. We present the first two cases of AT treated at the Hospital de Torrevieja, since its opening in October 2006.
Material and methods: Case report 1 A 15-year-old patient was admitted to the hospital after the onset of right lower abdominal pain in the last 24 hours. There was tenderness on deep abdominal palpation due to a mass depending on right adnexa. A transvaginal ultrasound scan revealed a biloculated cyst of dense content that appeared to depend on the right adnexa. Color and spectral Doppler findings were absence of vascularisation both peripherally and inside the mass. It measured 90x50 mm. An emergency laparoscopy was performed. The examination of the pelvis showed a right AT due to an ovarian haemorragic cyst and a para-ovarian cyst that was removed. After detorsion and cystectomy of the para-ovarian cyst, both ovary and tube were of trophic aspect. **Case report 2** A 29-year-old woman, gravida 2, para 2, presented with lower and right abdominal pain for 6 days, associated with nausea, diarrea, pirexia and abdominal distension in the last day. There was abdominal guarding and ultrasound scan showed a cyst at right adnexa with peripheral vascularisation that was placed upon the uterus. Its size was 47x45 mm. Right AT due to a cyst was found. We achieved laparoscopic detorsion and cystectomy.
Conclusion: AT is considered a surgical emergency to preserve reproductive function. The gold standard in its management is laparoscopy with a conservative approach.

FC1_20

Vaginal myomectomy in surgical treatment of uterine myomas

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Objective: To evaluate the safety and efficacy of vaginal approach in surgical treatment of uterine myomas.
Materials and methods: Retrospective case study of twenty-four patients operated with vaginal approach from April 2004 to March 2009 by the authors. Age of patients was from 24 to 48 years, uterus size from 7 to 12 weeks, diameter of myomas—from 1 to 8 cm, number of myomas—from 1 to 4.
Results: Mean +/− SD operating time, blood loss, and length of hospital stay were 68+/−19 minutes, 230+/−44 ml, and 3.10+/−0.75 days, respectively. Conversion to laparotomy was performed in one case (4,2%), laparoscopic assistance was used in four cases (16,7%).
Conclusion: The results of this study show the feasibility of vaginal myomectomy, using traditional and cheap surgical instruments and thus avoiding the trauma of laparatomy, minimal operative blood loss, reduced operating time and postoperative recovery. In our opinion, vaginal myomectomy could be useful for treatment of selected cases with fundal or posterior wall uterine myomas.

FC1_21

A 15 years experience with the open entry technique

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Objective: Open laparoscopy eliminates blind manoeuvres with needles and sharp trocars that are requested in traditional entry technique, so it is unlikely that rare but serious complications as trauma to great vessels or injury to bowel happen. Hasson in 1974 reported other advantages of the open technique.
Materials and methods: We started our activity in gynaecological operative laparoscopy in 1993 with the traditional blind entry technique. Such method was used in our first 70 operative laparoscopies, and we had no major complications.
From 1996, after adequate training period, we changed the entry method by using the Hasson's technique. After a brief period we standardized the technique which is now a little modified in comparison with original Hasson's report:
-Step 1: Incise the skin (for no more than1,5 cm) starting from the depth of umbilicus in caudal direction: the length of the incision is enough when the knife handle enters easily.

-Step 2: Expose the fascia by blunt dissection with S-shaped retractor with synchronic medium-lateral movements.
-Step 3: Lift the fascia with 2 Kocher clamp, the first cranial, the second caudal, seizing again the fascia for a better and deeper hold.
-Step 4: Incise transversely the fascia lifted by the two Kocher clamps at the maxima elevation.
-Step 5: Enter the peritoneum with the curved Klemmer (or dissector) clamp, in closed position, applying a sharp but controlled movement.
-Step 6: Spread the Klemmer and substitute it with the two retractors.
Step 7: Confirm peritoneal entry. Suture of the fascial edges (cranial and caudal).
Step 8: Insert Hasson Trocar.
Step 9: Fix sutures and insufflate abdomen.
Step 10: At the end of the operation, close the fascial incision using the sutures in place, following the original technique of Hasson.
Results: In our Hospital we perform about 80 laparoscopies a year, from infertility to oncology indications, and we don't remember unsuccessful cases of open entry. In cases of very obese patients a few longer incision may be necessary. In cases of difficulties by entering the peritoneum or identifying the deep fascia, it may be necessary to repeat the steps from the beginning and to confirm the anatomy. Sometimes for the entry of peritoneum it can be necessary to grasp it and to incise with scissors. During one entry a damage happened to the little bowel that adhered to the peritoneum under the umbelicus: This exceptional case has been solved enlarging the incision of the umbilicus and applying stitches to the organ, continuing afterwards the laparoscopic surgery.
From then on we try to use as a routine an ultrasound examination, conceived by A. Fedi (unpublished data), to avoid similar complications.
Conclusion: It is an original diagnostic approach preliminary to the surgery that identifies adhesions under the umbelicus. Using an ultrasound examination we explore the umbelical region in real time inviting the patient to do deep respiratory movements. In this way we can demonstrate the anatomy of the parietal peritoneum under the umbilical region: the free movement of the viscerus underneath the peritoneal membrane suggests the absence of adhesions in this region. The negativity of the test means reassurance. In case of doubts we estimate if it is better to use the technique of open entry with great attention or to use alternative techniques.

FC1_22

Initial experience with a synthetic adhesion barrier SprayShield™ on fertility patients and pelvic pain patients-small prospective study including second look procedures

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Methods: Twelve prospective patients were included.
Materials and method: Three distinct groups. Group one: laparoscopic myomectomy and tubal reanastomosis patients with no initial gynaecological adhesions and with a second look (SLL). (n=3 Study, n=1 Control). Group Two: endometriosis patients with SLL (n=2 Study) and Group Three: laparoscopic adhesiolysis patients for pelvic pain (n=6).
Results: Group One: An average of 13.3 ml's of SprayShield was applied in 2.7 min. Ne Novo adhesions were not present during SLL SprayShield™. De Novo adhesions at the surgical site requiring an additional 15 min theatre time at myoma control SLL. One myoma patient in the SprayShield Study excluded because of pregnancies after the initial laparoscopy. Group Two: Endometriosis stage III (n= 2) 10 ml's in 3.3 min on average of nine adhesion sites. SLL adhesion area reduced 96% in n=1 and severe adhesions reforming as mild. 43% reduction in patient 2 were two severe adhesions were not lysed at first procedure. Group Three: 10 ml's of product on average five sites in 2.6 min. Average time to lyse adhesions 55 min.
Conclusion: SprayShield™ may be applied accurately within a few minutes to multiple site specific ashesiogenic areas usually with only one vial 10 ml. Initial SprayShield™ adhesion results based on SLL appear promising in both preventing De Novo adhesions and in preventing lysed adhesions from reforming.

FC1_23

Prevention and treatment pelvic adhesions

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In gynecology, adhesions can be differentiated on the basis of location as being intraabdominal or intrauterine. Postoperative adhesions may, in addition to infertility, cause chronic pelvic pain and intestinal obstruction. The pelvic adhesions that cause subsequent serious sequelae, including small bowel obstruction, infertility, chronic pelvic pain, and difficulty in postoperative treatment, including complexity during subsequent surgical procedures. Adhesions may affect fertility adversely by distorting adnexal anatomy and interfering with gamete and embryo transport. Adherence to microsurgical principles, minimally invasive surgery, and some peritoneal instillates may help to reduce postoperative adhesions. Microsurgical methods should applied to particularly in infertile patients.
When performing conservative surgery, the gynecologist must avoid using clamps, heavy suspension sutures to obtain visibility; and unnecessary and potentially harmful ancillary procedures. Use of atraumatic technique, irrigation with balanced salt solution such as Ringer's lactate warmed at 35°C, complete excision of the pathologic tissues, meticulous hemostasis, and the precise alignment and approximation of tissue planes are microsurgical principles to be applied irrespective of the access route, laparotomy or laparoscopy.
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FC1_24

Adhesion formation following laparoscopic myomectomy

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Objective: To investigate factors that affect the occurrence and extent of adhesion formation following laparoscopic myomectomy.
Materials and methods: Prospective study including 63 women (aged 26 to 46 years) who underwent laparoscopic myomectomy between 2003 and 2005.. All of them had second look laparoscopy within 2–6 months of the first operation to assess the presence, severity (filmy or dense) and extent of adhesions. The factors analysed included the fibroid size, number of fibroids removed, myoma position, duration of surgery, and blood loss. All cases were performformed by the same surgeon.The statistical analysis was performed using the SigmaStat 2.03 statistical software.
Results: Thirtythree (52.5%) women developed post operative adhesions.The median number of fibroids removed per patient was 2 *(min: 1–max: 4)*. In total 111 fibroids were removed in all patients with a median size of 4 cm *(min: 2 cm–max: 8 cm)*. Neither the size nor the number of the fibroids removed per patient were significantly related to either the presence or severity of adhesions at second look laparoscopy. From the fibroids removed 43 (38.7%) were anterior, 57 (51.4%) posterior and 11 (9.9%) fundal. Following removal of posterior fibroids adhesions were formed in 59.6% (dense in 36.8% and filmy in 22.8%) compared with 54.6% (dense in 27.3% and filmy in 27.3%) after removal of fundal fibroids and 48.8% (dense in 25.6% and filmy in 23.2%) after removal of anterior fibroids. These differences were not statistically significant. The adhesion formation was significantly affected by both the duration ($p=0.028$) and blood loss during the first procedure ($p=0.019$). However, these factors did not affect the severity of adhesions. Finally the organs involved and the topography of adhesions during the second look laparoscopy were not significantly related to their severity, with exception of omental involvement where more dense adhesions were noted ($p=0.004$).
Conclusions: Although laparoscopic surgery is considered less adhesiogenic, over 50% of patients developed post operative adhesions. The most significant factors in our study were duration and blood loss. In our study posterior myomectomies seemed to cause more adhesions but the difference was not significant.

FC1_25

Transvaginal hydrolaparoscopy: investigation of infertile women in a portuguese tertiary referral centre

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Objective: Transvaginal hydrolaparoscopy (TVHL) is a powerful tool in infertility evaluation.
Materials and methods: Clinical files of 104 infertile women in whom TVHL was attempted were reviewed. The indications, clinical findings, therapeutic acts and complications were analysed. When appropriate, pre and post surgery hormonal levels were registered.
Results: From August 2001to June 2009, TVHL was attempted in 104 infertile women and no overt pelvic pathology. Access to the Douglas pouch was not possible in 1, 9% of patients. Complete visualization of the pelvic organs was accomplished in 94, 1% of patients. The most common clinical findings were OPC stigmata (20,1%) tubo-ovarian adhesions (15,7%) and mild endometriosis (7,8%). Adhesiolysis was performed in 2 patients. Hysteroscopy was performed in all women and dye test for tubal patency in 96,1%. There was unilateral tubal occlusion in 16,3% and bilateral in 6,1% of women. Ovarian drilling was performed in all patients with PCOS, with normalization of FSH/LH in most of the women. Spontaneous pregnancy was reported in 14,7% of women. In 6,9% of women, elective operative laparoscopy for endometriosis and/or adhesions was recommended.
Conclusions: TVHL has already found its place amongst other methods of infertility investigation. The combination of different minimally invasive techniques allows a unique and most complete exploration of the reproductive tract while performing some therapeutic acts.

FC1_26

Laparoscopic myomectomies for large fibroids

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Objective: A retrospective study to assess safety and efficacy of performing laparoscopic myomectomy using Harmonic ACE® irrespective of size, number and location of uterine fibroids.
Materials and methods: All laparoscopic myomectomies performed by a single surgeon from March 2005 to March 2009 in a tertiary referral centre for gynaecological oncology and minimal access surgery. A total of 30 non-pregnant women with symptomatic fibroids underwent laparoscopic myomectomy regardless of the size, number, or location of fibroids.

Myomectomies were undertaken using Harmonic ACE®. Selected cases with large fibroids (8/30) were combined with pre-operative uterine artery embolisation (UAE). Two patients had previous UAE with sub-optimal results. Fibroid tissue retrieval was performed with GYNECARE X-TRACT® morcellator. Laparoscopic repair of uterine defect was carried out with sutures in 50% of cases.

Results:

Fibroid Measures	Range	Mean	Median	95% CI
No of fibroids removed	1–10	2.87	2	1.98–3.75
Weight	18–1540 gm	267.8 gm	115 gm	135.3–400.3
Size (largest dimension)	3–20 cm	7.9 cm	6 cm	5.9–9.8
Blood loss	50–1000 ml	146.7 ml	50	51.8–241.5
Operating Time	17–200 min	112.9 min	105 min	93–132

None of the 30 patients suffered organ injury or received blood transfusion. One patient developed wound infection requiring antibiotics. Following an overnight stay all patients were discharged within 24hours. Histology confirmed benign leiomyomas in all cases.

Conclusions: Laparoscopic myomectomy is a safe procedure in experienced hands for removal of large fibroids.

FC1_27

Parasitic disseminated leiomyomatosis: an unusual complication following laparoscopic myomectomy. Report of a case

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Parasitic leiomyomatosis following laparoscopic myomectomy is a very rare condition, characterized by one or more myomas which may have an iatrogenic pathogenesis correlated with the use of an electric tissue morcellator. It is believed that myomatous fragments, if not properly removed, may occasionally lead to peritoneal tumor implants, with further development of one or more leiomyomas in ectopic areas. Very few cases have been described in literature. A case of parasitic, iatrogenic leiomyomatosis, recently diagnosed and treated at the Operating Unit of Obstetrics, Gynecology of the Polyclinic of Palermo, Italy, is here presented. A 41-year-old woman who had undergone laparoscopic myomectomy in 2001, and laparotomic hysterectomy in 2004, was referred to our unit in June 2008 for a control scan. Two oval formations were found in the pelvic area, which were then examined by nuclear magnetic resonance (RMN); this showed 3 unhomogeneous neoformations, a few centimeters in diameter presumed to be leiomyomas. The patient then underwent laparoscopic surgery and the 3 intraperitoneal masses were removed. Histologic analysis identified the excised formations as leiomyomas, with no atypic factors or necroses.

Keywords: laparoscopic myomectomy, parasitic disseminated leiomyomatosis

FC1_28

Retrospective review of 55 cases of laparoscopic sacrocolpopexy: Evaluating the demographics, the operating time, the intra-operative complications and the Hospital stay

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Objectives: This is a retrospective review to evaluate the demographics, as well as the intra and post-operative performance of 55 cases of laparoscopic sacrocolpopexy.

Materials and methods: 55 cases of laparoscopic sacrocolpopexy.

Results: Demographic evaluation showed that the mean age was 53 years (SD+/− 11.3, age range from 44 to 81, median was 61). The mean body mass index was of 29.4 (SD +/- 4.8; range 20 to 42, median was 30). 20 (36.3%) patients had previously had vaginal hysterectomy, 4 cases (7.27%) had had laparoscopic hysterectomy and 18 (3.27%) cases had had total abdominal hysterectomy (not recorded in 13 cases). The mean number of years from hysterectomy was 9.5 years (range: 1 to 35 years). Pelvic floor repair had been performed once in 22 (40%) cases and twice in 3 (5.45%) cases. The mean operating time was 62 minutes (SD of +/− 22 minutes) and a median time of 55 minutes. This was inclusive of pelvic floor repair and TVT-O in 32 and 8 cases respectively. The mean intra-operative blood loss was 175mls (SD of +/− 86mls, median was 200mls range 45 to 300mls). No intra-operative complications were reported. The mean hospital stay was 2.1 days for LSCP alone and 2.5 days (SD of +/− 1 day) with PFR +/− TVO-O (median was 3, range 1 to 5 days).

Conclusions: Laparoscopic sacrocolpopexy is a safe and quick procedure for vaginal vault prolapse.

FC1_29

Training the fellows to the use of PI value: learning curve and pitfalls

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Objective: We previously demonstrated the efficacy of a laparoscopic score to predict optimal cytoreduction in primary advanced ovarian cancer (AOC) patients. The aim of this study was to evaluate the performances of the laparoscopic model when utilized by a fellow in GYO with respect to a senior assistant.

Materials and methods: All patients with suspicious AOC presenting at the Division of Gynecologic Oncology of the University of the Sacred Heart of Rome and Campobasso underwent a staging laparoscopy (S-LPS) by both a fellow and an expert laparoscopist, sequentially. The surgical team consisted of 3 fellows in GYO and 3 senior assistants. They investigated the presence of omental cake, peritoneal and diaphragmatic extensive carcinosis, mesenteric retraction, bowel and stomach infiltration, liver superficial metastasis, to calculate a PIV in each patient. Operative time, complications, PIV, surgical outcome were registered and compared for each procedure. Moreover, discrepancies were pointed out and discussed.

Results: Since May 2009 to July 2009, 15 patients were enrolled in the study. Median operative time was 12 min (range 9–15); one or two

additional trocars were always utilized. PIV concordance between the surgeons was obtained in 11 cases (73.3%); in the remaining 4 discrepant cases, subsequent laparotomy confirmed that the correct evaluation was carried out by the expert surgeon. In particular, major critical points of disagreement were bowel infiltration and diaphragmatic carcinosis. No complications were registered at the end of the procedure. At laparotomy, optimal residual tumour (RT<1 cm) was obtained in 9 of 15 cases (60%).

Conclusions: In this study, the performance of the laparoscopic model achieved by the fellow in GYO corresponds to the score obtained by the senior in a high percentage of cases (73.3%). This result suggests that the knowledge of the natural history of the disease and experience in ultra-radical surgical procedures are the bases to correctly identify by laparoscopy the AOC patients optimally resectable at primary surgery.

FC1_30

Sonohysterography with Constant Infusion Pressure (SHG-CP) as the method of choice in the assessment of free margin of myometrium over the myoma qualified to hysteroscopic myomectomy

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Objective: To compare the three methods of assessment of free myometrial margin over myoma with the evaluation during hysteroscopic myomectomy under control of transrectal intraoperative ultrasonography (TRUS).

Materials and methods: 58 women with submucous and intramural myomas in which hysteroscopic myomectomy under control of TRUS was performed. In all cases the free margin of myometrium over the myoma was measured using USG TV, SHG and SHG-CP (120 mmHg) and this results were compared with intraoperative assessment by TRUS performed during hysteroscopic myomectomy. Statistical analysis: comparison of correlation R and determination R2 indexes.

Results: The median free margin of myometrium over the myoma in assessing by USG TV was 8.91 mm, by SHG 6.9 mm, and by SHG-CP 6.7 mm, however in intraoperative assessment by TRUS was 6.84 mm. The highest correlation with intraoperative result has SHG-CP(R=0.99), high has SHG (R=0.95), and the lowest USG TV (0.67).

Conclusions: SHG-CP gives the results of free myometrial margin evaluation most similar to intraoperative anatomy and prevents qualification to operation the myomas that in reality during action of intrauterine pressure are in contact with perimetrium.

FC1_31

Effects of training the non-dominant upper extremity on laparoscopic performance: a randomized controlled trial

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Objective: Handedness, or hand dominance, is one of the most frequently occurring functional asymmetries. In laparoscopy, where tasks are often more complex than in open surgery, surgeons will execute these complex tasks with less effort by the dominant side. This may lead to a relative overuse of muscles on the dominant side. We hypothesized that training the non-dominant arm would improve skills on that side. As a consequence, a more equal distribution of tasks and decreased work load of the dominant extremity may occur.

Materials and methods: Subject were recruited from surgical departments of the Radboud University Nijmegen Medical Centre. At baseline, all participants performed 3 tasks on a Virtual Reality (VR) simulator (LapSim). After randomization, subjects in the intervention group were assigned training tasks (everyday activities as hand writing, cutting paper en painting pictures). For purposes of this study, a diary was developed in which subjects in the training group had to record or perform the tasks. Both groups were instructed not to practice on box trainers or VR simulators during the study period.

Results: Twenty-six participants were included, 13 in both groups. One subject in the control group was lost to follow-up. At baseline, there were no differences between groups on all tested parameters. Compliance to training tasks was good. After 3 weeks training, subjects in both groups showed similar improvement of skills on the non-dominant side. On the dominant side, however, subjects in the training group showed significant better improvement of skills on 4 out of 8 parameters.

Conclusions: Specific training of the non-dominant upper extremity leads to improvement of skills on the dominant side. In literature, this phenomenon is known as intermanual transfer of skill learning. To improve laparoscopic skills, bimanual training is recommended.

FC1_32

Which way of myomectomy helps on infertility?

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Objective: There is a long-standing debate on the possible connection between uterine fibroids and infertility. The focus of our research was on the connection between the size and position of the myomas and the chosen methods of myomectomy, and on the possible causal connection between uterine fibroids and infertility.

Materials and method: This retrospective study is based on the statistical analysis of a nonrandomized sample of 458 patients underwent myomectomy during a two year period having succeeding two year follow up. 114 of the 458 patient (25%) had their fibroid removed by endoscopic (hysteroscopy, laparoscopy or both) procedure, the rest of the patients (75%) had myomectomy by laparotomy. 55 of the 458 patient suffered from infertility. 31 of them developed pregnancy—13 spontaneously, 18 after infertility treatment (IVF-ET or AIH)—resulting 23 childbirth at term.

The size of the myoma was typically below 60 mm (87.5%) and only one in eight patients had had bigger tumour. Almost half of the myomas were subserous (45%). Nearly one in three were in an intramural position (31%) and 24% were submucous. Among those who became pregnant 24 women (77,5%) went under endoscopic surgery, while 7 (22,5%) had myomectomies by laparotomy.

Results: Our data shows that 56% of the previously infertile patients got pregnant within two years after myomectomy suggesting a close connection between fibroids and infertility.

Conclusions: Endoscopic myomectomy was much more effective in resulting pregnancy than open surgery.

FC1_33

Virtual reality technology in laparoscopic surgical education

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Objective: The purpose of this study was to determine the effectivity of the newely usable computer based virtual reality (VR) surgical simulators and traditional box trainers and also was to compare the VR simulators with the traditional box trainers and determine whether one has advantages over the other.
Methods: Twentyfour novice residents which has no previous laparoscopic surgical experience, randomised into following three groups. LapSim, box trainer and control. After one week didactical laparoscopic surgery and laparoscopic tubal ligation lessons, first group had trainig on the LapSim® and second group on the box trainer for 3 weeks for 60 minutes weekly, and the control group did not had any training. Consequently both groups performed a laparoscopic bilateral tubal ligation under the supervison of the expert laparoscopist. All operations was validated for the global rating scales and operation time.
Results: LapSim group scored significantly higher than the box trainer group on all 5 surgical evaluating tools: respect for tissue, confidence of movement, flow of operation, knowledge of specific procedure, operation time (for all parameters $p<0{,}004$). Box trainer group performed significantly better than control group on all surgical evaluating tolls except knowledge of specific procudere and operation time (for all parameters $p<0{,}004$). Also LapSim group scored significantly higher than the control group on all 7 surgical evaluating tools (for all parameters $p<0{,}003$).
Conclusions: This study demostrated that novice residents trained on a computer based virtual reality simulators performed better live laparoscopic bilateral tubal ligation procedure as compared with those trained with a traditional box trainer. But further trials are needed to determine the adequate time periods for exercises for both trainer methods.
Keywords: Laparoscopy Education, Virtual Reality, LapSim, Simulation, Box Trainer

FC1_34

Ultrasound guided high intensity focused ultrasounds (US-gFUS) therapy for uterine fibroids. A 70 patients series. Evaluation of the results and comparison with other treatments

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Introduction: In the last years, the treatment of the uterine fibroids has experimented an important change. New technologies allows non invasive, or less invasive, approaches. HIFU is an emerging technology for thermal ablation of solid tumors, truly non-invasive, that is developing quickly. It has been used in Western countries to treat uterine fibroids guided with MRI since 2000.
Objectives: We present the preliminary data of our series of uterine fibroids treated with USgFUS, and we evaluate safety issues of the procedure and effectivity. We compare HIFU results with other non-invasive methods, as arterial embolization.
Methods: We included the first 70 patients treated with the HAIFU JC System. Each patient was diagnosed by US and contrast enhanced MRI and all of them were closely followed-up, with a specially designed questionnaire regarding immediate postoperative pain, discomfort and recovery, about the possible discomfort in the first week after treatment, and one month after, this time together with a new UFS-QOL questionnaire, contrast-enhanced MRI and blood analysis.
Results: There were no clinically relevant complications during or immediately after treatment. All treatments were performed at high power with an average of 370 W. The postoperative pain was EVA=0 (at 4 hours) and all patients recovered to their normal life 24 to 48 h after the treatment. The treated area covered more than 80% of the fibroid in most cases .The data shows a significant improvement in the UFS-QOL scores. We found less complications and lower pain scores compared with the data of other treatments at use.
Conclusions: We didn't find any clinically significant complications related to the procedure neither immediately nor in the follow-up. Patients recovered very soon after the procedure. The results at one year are similar to the published data with other devices, but we think a better pre-treatment valorization of the imaging data, the clinics and the type of fibroids will improve the results. Also, the increasing range of therapeutic options requires to refine the selection of the cases to offer the best treatment.

FC1_35

Disclosing the secret. Fertility after myomectomy

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Introduction: Today it remains unclear, how far uterine myomas influence the fertility and whether myomectomy might enhance the fertility outcome. Once a myomectomy has been indicated, the surgical approach becomes subject of discussion.
Patients and methods: In this retrospective, multicenter study, data from 159 patients after laparoscopic, laparotomic or converted surgery for infertility and uterine myomas were evaluated. Patient characteristics, surgical data (i.e. surgical approach, blood loss, number of suture layers, complications) were evaluated from patient files. To assess the fertility outcome after myomectomy, a questionnaire comprising follow-up data was send to the patients.
Results: Patients age ranged from 17–47 years with a mean age of 35.3 years, number of myoma ranged from 1–8 (mean: 2,4 myomas) and mean size of biggest myoma ranged 0.5–20 cm (mean: 6,1 cm). Overall conception rate after myomectomy was 54.8% (26 single, 3 twin pregnancies). The mode of delivery was balanced between vaginal and cesarean, though more than 80% received a cesarean after laparotomy. No patient characteristic nor myoma or surgical characteristic influenced a subsequent pregnancy, instead for postoperative complications. Since this rate was lowest for laparos-

copy, the treatment of choice for infertile women is the laparoscopic myomectomy.

FC1_36

New nomogram for safe laparoscopic entry to reduce vascular injury: MRI guided, BMI adjusted study

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To reduce the risk of vascular injury during laparoscopic entry, a nomogram is developed to determine the length of veress needle that could be safely inserted to achieve pnemoperitoneum. Axial images of magnetic resonance imaging were used to measure the vertical distance between umbilicus and retroperitoneal vessels (STR) and correlated them with body mass index. The fitted equation was STR= 31.6+3.952*BMI with adjusted R-squared=94.5%. The abdominal cavity depth showed a correlation with cavity depth=35.30+ 3.222*BMI with adjusted R-squared 84.2%. This showed a significant relation between BMI and prediction of cavity depth. The resulting nomogram can be readily used to objectively predict the depth of peritoneal cavity in the pit of the umbilicus. We suggest that veress needle should be inserted just enough using the nomogram to pierce the rectus sheath with or without lifting the abdominal wall.

FC1_37

Interstitial Laser Photocoagulation in the Treatment of Leiomyomas

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Objective: To present the evolution and clinical improvement of two patients with uterine leiomyoma treated with a pulsed ND:YAG laser (1064 nm).
Patients and methods: Two patients with diagnosis of moderate sized myomas and menorrhagia, were treated. Before the procedure an ultrasound evaluation (US) and a magnetic resonance, were performed to address its location and vessels. under general anesthetic, with laparoscopy control, a pulsed ND:YAG laser (1064 nm) was used to deliver the laser beam into the tumor using a one millimeter cannula and a 300 um microfiber. The energy was absorbed as heat. It caused localized coagulation without affecting surrounded areas.
Results: Both patients expressed satisfaction with the procedure, recovery, and had no more symptoms immediately after the laparoscopy. the treatment was well tolerated and offered clinical benefits. The near follow up (3 months) with ultrasound and magnetic resonance, showed a shorter size in both cases (almost 50%). Our two patients remained without discomfort up to that time.
Conclusions: This is a simple and safe outpatient procedure for ablating tumors that does not require open surgery. The use of ND:YAG laser under laparoscopy control, could be a useful alternative as a conservative treatment for leiomyomas no larger than 5 cm. More data and follow up is needed in order to address statistics results.

FC1_38

Laparoscopic tubal sterilization with Yoon rings. Immediate complications and effectiveness. A 5-year retrospective study

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Introduction: The application of Yoon´s rings in the isthmial region of the fallopian tube is a method of sterilizing women. The rate of sterilization failure ranges from 0.2/1000–3.3/1000. Is preferable to electrocoagulation, since it avoids the risk of burns, hemorrhage and perforation and offers more chances of reversibility.
Objectives: To determine the complications and effectiveness of tubal sterilizations using Yoon´s rings.
Methods: Authors conducted a retrospective analysis of tubal sterilizations using Yoon´s rings performed in hospital, between 1/ 01/2004 to 31/12/2008, in view of operation time, complications and effectiveness.
Results: 234 tubal sterilizations using Yoon´s rings were performed. All were done through laparoscopy techniques. Average duration of the operation was 32 minutes. 3 cases required laparotomy to control bleeding. Minor bleeding occurred in 10 cases, incorrect placement of a ring in 2, a ring fell into the abdominal cavity in 8, and a 2nd ring was placed on the same tube in 5 cases. 40% of the patients complained of little pain in the 1st 24hours. 2 urinary infection, 1 case of hematoma on the abdominal walls and 1 case of dehiscence suture occurred post-operatively. 2 pregnancy was recorded giving a failure rate of 0.85%.
Conclusions: Our results confirm that celioscopic sterilizations with Yoon´s rings it is easy, effective and devoid of major operative or pos-operative complications.

FC1_39

Getting pregnant after tubal sterilization: surgical reversal or IVF?

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Background: When women regret having had a tubal sterilization, is the pregnancy rate higher with surgical reversal or IVF?
Methods: This retrospective cohort study analyses the delivery rates of 163 patients undergoing IVF treatment (n=79) or surgical reversal (n=84). Pregnancy outcomes were obtained by reviewing medical records or contacting private physicians and patients. The life table method was used to calculate the chance of becoming pregnant and to construct cumulative pregnancy curves. Cumulative pregnancy curves are compared by log rank tests. A P-value of <0.05 is considered as statistically significant. The cost-effectiveness of the two strategies was also evaluated.
Results: Patient characteristics did not differ between the two groups. The cumulative delivery rate during 72 months was 52.0% in the IVF

group and 59.5% in the reversal group (ns). Age was the only factor that influenced delivery rates significantly. The cumulative delivery rate for patients aged <37 years was 52.4% after IVF and 72.2% after reversal (P=0.012), while cumulative delivery rates for patients aged 37 years or older were, respectively, 51.4 and 36.6%, adifference that did not reach statistical significance. The average cost per delivery was 11,707 euros for IVF, compared with 6015 euros for surgical reversal. However, in patients aged 37 years or older the difference in cost was smaller.

Conclusion: Considering the cumulative delivery rates involved, surgical reversal is recommended for patients younger than 37; older patients are advised to opt for IVF.

(*Published in Human Reproduction*)

FC1_40

The role of video tutorials and mental imagery on acquisition of psychomotor laparoscopic skills. A randomized study

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Aim: To evaluate the role of video tutorials with or without mental imagery rehearsals in teaching laparoscopic skills, against the classical textbook-apprentice method.

Background: Training in Laparoscopic surgery is challenging and has a steep learning curve. The reduction in working hours and the risk of litigation necessitates the development of training methods that could enhance or shorten the training period in the pre-clinical phase.

Materials and methods: 57 Medical students were randomly assigned into three different groups of teaching. Group A was trained by a video tutrial, Group B had a video tutorial and a session of relaxation and mental imagery rehearsal just before the final evaluation and group C received the classic textbook teaching with tutor supervision. All three groups performed the same exercise on day 1 and their performance was measured with the ProMIS haptica® stimulators. On Day 2 they received their teaching and practiced for 1 hour and 15 minutes on endosim® training boxes and were re-evaluated on day 3 again on the haptica simulators.

Results: There was significant improvement between first and second evaluation in all 3 groups in all parameters (time, path-length, handedness), and overall scores. No differences were seen on the improvement rates among the three groups, however the mental imagery rehearsal group showed greater improvement on ambidexterity.

Conclusions: Video tutorials can be very helpful in teaching laparoscopic skills when combined with practicing at home with a training box.

FC1_41

Educating patients about adhesions

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Introduction: We know that adhesions, what they are, the problems they cause, what should be done to prevent them and the available treatment options are rarely discussed with patients. What are the reasons for this, what can be done to address this and what is the most effective way of providing information?

Method: Between July and December 2008 we carried out an internet survey on our website www.pelvicpain.org.uk on patients' views about the availability and quality of information about pelvic pain. Of 382 respondents, 183 had had pelvic surgery of which 122 were aware they had adhesions. Our results show that the vast majority of patients had not received any information about adhesions prior to surgery. Patient opinion on the reasons for this lack of information was varied. Those patients that did receive information had mixed views about the quality of it. Almost all patients find it helpful to have an understanding of their condition and many considered it important to receive written information on the risk of adhesions before surgery. In general, respondents were unaware of self-coping strategies and a very small minority of patients were informed about patient support organisations.

Result: Our data and comments received from these patients indicate that increased information is greatly appreciated and that they welcome being better informed by the provision of written information prior to surgery. Patients want to know where they can get information about adhesions. They also want to know what they can do to minimize the risk of adhesion development and to enhance self-management and coping strategies. Patients surveyed found website information and communicating with other patients via the message forum a helpful way to access information and support, in line with previous studies that found that this led to improved health behaviour and outcome.

Conclusion: We suggest that health professionals should be sign-posting patients to sources of information on adhesions prior to surgery. Healthcare professionals therefore need to be aware of written and online sources of information.

Helping patients understand their pain/condition is the first step towards treating it.

FC2_01

Laparoscopic surgery for endoemtriosis: A systematic review

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Background: Endometriosis is a recognised cause of pelvic pain leading to significant mental and physical morbidity. Both surgical and medical management have been devised, tried and trialled. Yet the absolute treatment remains elusive.

Objectives: To assess the efficacy of laparoscopic surgery for endometriosis for the treatment of pelvic pain and improvement of quality of life (QoL).

Search Strategy: Cochrane, MEDLINE, Embase, other scientific databases and grey literature were searched between 1950 and 2007 to identify relevant studies.

Selection criteria: Randomised Controlled Trials (RCTs) and prospective cohort studies comparing the effect of different surgical modalities, alone or in combination with pre-operative medical therapies, on pain and QoL.

Data collection and analysis: The percentage of improvement in symptoms of pain and QoL following surgery was reviewed. Main Results: Four RCTs and two prospective cohort studies provided the information for mean change in pain score from baseline. The percentage improvement in pain symptoms in the treatment arms of included RCTs ranged from 45% to 82%. Similar ranges of improvements were shown in prospective cohort studies, but, over a longer follow-up period. The three QoL analyses also guide in the direction of surgery leading to an improvement in QoL. Important methodological flaws were identified.
Conclusion: Laparoscopic surgery for Stage IV disease improves pain and QoL.
There is inconclusive evidence to support the role of laparoscopic surgery for endometriosis for Stages I–III in treatment of pain and improvement of Quality of Life. It is hoped that this review will stimulate improvements in the quality of the future studies which are needed to optimise the surgical management of endometriosis. It is proposed that perhaps it is time to re-evaluate the type of methodology required to obtain best evidence from studies involving complex surgical interventions. It may require moving away from RCTs and striving towards further improving the quality of prospective cohort studies. On these grounds, this review may be used as a background for setting up future studies.
Keywords: Endometriosis, laparoscopic surgery, quality of life, dysmenorrhoea, dyspareunia, dyschesia, pelvic pain.

FC2_02

A double-blind RCT of surgical excision of endometriosis: Secondary outcomes
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Aim: To report the secondary outcomes of a double-blind RCT assessing laparoscopic excision of endometriosis in women with histologically confirmed disease and pain as their primary presentation.
Methods: A double blind randomised, placebo-controlled, cross-over study. Women were randomised to an immediate or a delayed group. In both groups, women had an in dwelling catheter, a patient controlled analgesia machine for post-operative pain and intravenous fluids. Nursing staff, blinded to the procedure and the patient controlled the timing of removal of each and the time to discharge. Patients: 39 women with histologically confirmed endometriosis.
Results: In the immediate surgery group, 50% had stage I or II disease and 50% stage III or IV disease. In the delayed surgery group, 46% had stage I or II disease and 54% had stage III or IV disease. There was no difference in days in hospital ($p=0.64$) days IDC in situ ($p=0.72$), days IVC in situ ($p=0.09$), or total dose of morphine (mg) delivered by PCA ($p=0.61$).
Conclusion: Laparoscopic excision of endometriosis is truly a minimally invasive procedure, which does not require greater analgesia than a diagnostic laparoscopy when women are blinded to the procedure.

FC2_03

Intra- and postoperative complications associated with two laparoscopic procedures used in the management of rectal endometriosis: giving our patients an informed choice
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Objective: To evaluate intra- and postoperative complications associated with laparoscopic management of rectal endometriosis by either segmental resection or nodule excision. The distinguishing feature of our study is that the choice of the surgical procedure is not related to the characteristics of the nodule.
Study design: During 39 consecutive months, 46 women have undergone laparoscopic management of rectal endometriosis and were included in a retrospective comparative study.
Results: Colorectal segmental resection with colorectal anastomosis was carried out in 15 patients (37%), while macroscopically complete rectal nodule excision was performed in 31 women (63%). No intraoperative complications were recorded. In colorectal resection group 3 women (18%) presented a bladder atony (spontaneously regressive in 2 cases), 4 women (24%) experienced chronic constipation, one presented an anastomosis leakage (6%), while 2 women (4%) presented acute compartment syndrome with peripheral sensory disturbance. In the nodule excision group 1 woman (4%) had developed transitory right obturator nerve motor palsy. On the basis of both postoperative pain and quality of life improvement, all 29 women of the excision group (100%) and 14 women of the colorectal resection group (82%) would recommend the surgical procedure to a friend suffering from the same disease.
Conclusion: Our study suggests that carrying out colorectal segmental resection in rectal endometriosis is associated with unfavourable postoperative outcomes, such as bladder and rectal dysfunction. These outcomes are less likely to occur when rectal nodules are managed by excision. Information about complications related to both surgical procedures should be provided to patients managed for rectal endometriosis, and should be taken into account when deciding on the most appropriate treatment of rectal endometriosis in each case.

FC2_04

Laparoscopic management of endometriosis of bladder
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Aim: To assess the outcomes in patients with endometriosis of bladder who were treated laparoscopically.
Method: Retrospective analysis between 2004 and 2009. Short term and long term outcomes were noted through telephone interviews.
Results: Among 354 patients reviewed, we found 11 cases of bladder endometriosis. Mean age of patients was 33 years. Five patients had a history of infertility. MRI was done in 10 patients and of these nine patients showed bladder involvement. Partial cystectomy was performed in nine and superficial excision in the

remaining two patients. There were no intraooperative complications. Two patients developed vesico vaginal fistulas, which required reoperation. Follow up results showed improvement in symptoms in most patients. One patient developed interstitial cystitis and another patient developed vesico ureteral reflux. There were no other long term complications in any of the other patients.

Conclusion: Deep endometriosis involving the bladder is difficult to treat as they do not respond to medical management and surgical management is often complicated. Most patients require partial excision if there is infiltration into the muscle. Surgical results are extremely good with more than 80% of patients having a favorable outcome in the short term.

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FC2_05

The clinical diagnosis of endometriosis

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The community prevalence of endometriosis is 1.5% (1) and is varyingly reported as between 8–15% in secondary care (2). The diagnostic delay from onset of symptoms to diagnosis is more than 9 years and is associated with multiple clinical attendances, usually more than 11 in the year prior to diagnosis. (3) Both ESRHE and the RCOG recommend that women with deep infiltrating endometriosis should be referred to centres with the expertise to deal with this complex condition.(4–5)

The symptomatology of endometriosis overlaps with other conditions such as irritable bowel syndrome and pelvic inflammatory disease. Clinical examination rarely elicits specific signs with recto-vaginal nodules only being palpated in 43% of women with deep infiltrating disease.(6)

In a cohort of 400 women, data on pelvic pain symptoms and findings on clinical examination were analysed to determine association with findings at laparoscopic assessment. A model was developed using stepwise logistic regression, to predict whether women had endometriosis and specifically whether women had deep infiltrating disease.

None of the symptoms were strongly associated with deep infiltrating endometriosis.

The strongest predictor of endometriosis was tenderness in the posterior pelvic pouch on examination (OR=2.24; 95%CI: 1.2–4.0). Women with deep infiltrating disease were more likely to have uterine fixity (OR 5.0; 95%CI: 2.1–11.6) and posterior cul de sac tenderness (OR2.9; 95%CI: 1.2–4.4). Eliciting these simple clinical signs at the point of primary referral would allow speedier transfer of care to specialised units where the disease could be more accurately staged and treatment planned by the appropriate experts. Detection of these signs would allow for the development of clinical algorithms to improve the diagnosis of endometriosis in both primary and secondary care.

FC2_06

New approaches to increase efficiency of IVF at endometriosis associated infertility

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Introduction: Using testosterone-containing preparation in IVF programs. Definition of level of the general testosterone for the forecast of productivity of IVF program was the research objective and to estimate expediency additional using in IVF cycles of a testosteron-containing preparation at patients with is abnormal lowered (<1 nmol/l) level of the general тестостерона.

Materials and methods: 104 patients have been included in researches with endometriosis, passing treatment in IVF with use of the standard long protocol with agonist GnRg and HCG. At all patients in the past surgical treatment of an endometriosis was carried out. Patients have been distributed in 3 separate groups which in the subsequent were compared among themselves at an estimation of indicators of efficiency of IVF: group A —57 women with level of testosterone ≥1 nmol/l; group B1—24 women with level of testosterone <1 nmol/l testosterone-treated; group B2—23 women with level of testosterone <1 nmol/l which not testosterone-treated.

Results: At an estimation of parameters cycles it is revealed that in group B1 the stimulation period has made 13,9+0,5 days, in group A 12,7+0,5 days and in group B2 12,8+0,6 of days. In group B2 course dose FSH was - 3614+127 ME, in group A—3083+122 ME ($p < 0,05$) and in group B1—3111+134 ME ($p < 0,05$). Frequency of the poor answer in group B1 has made—56,5 %, in group And 21,1 % and in group 33,3 %. Pregnancy rate at patients of group A was 31,6 %, groups B1—25,9 %, group B2—13,0 %.

Conclusion: Low values of the general testosterone (less than 1 nmol/l) at operated in the past concerning an endometriosis of patients leads to deterioration of parametres IVF cycles and to decrease in efficiency IVF. Besides, appointment testosterone in the form of gel the patient with level of the general testosterone <1 nmol/l is capable potential the effect of HCG, providing substantial improvement of parameters IVF cycles and approach of indicators of efficiency IVF to the level registered at patients with levels of general testosterone of ≥1 nmol/l.

FC2_07

Comparison of transvaginal ultrasound (TVS) versus clinical examination (PV) for preoperative diagnosis of deep infiltrating endometriosis (DIE)-a multicenter study

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Background: The aim of this study was to independently compare routine clinical examination (PV) with TVS for presurgical diagnosis of endometriosis.
Methods: One-hundred and fifty-five symptomatic women with symptoms suggestive of endometriosis were primarily included in an international, multicenter setting. Out of these, 129 patients met the inclusion criteria and were prospectively assessed by PV and TVS prior to laparoscopy and radical resection of disease and histological confirmation.
Results: Prevalence of endometriosis on the right/left (r/l) ovary, r/l uterosacral ligament (USL), pouch of Douglas (POD), vagina, bladder, rectovaginal space (RVS) and rectum was 13.9%, 11.6%, 18.6%, 21.7%, 15.5%, 8.5%, 3.1%, 6.9% and 23.3%. Sensitivities, specificities, PPVs, NPVs, positive and negative likelihood ratios (LHR) for PV were 39%/39%, 100%/99%, 100%/88%, 91%/91% and -; 43.56/0.61;0.62 for the r/l ovarian endometriosis; 36%/48%, 89%/85%, 40%/46%, 87%/86% and 3.27; 3.31/0.72;0.61 for the r/l USL disease; 76%, 92%, 64%, 95% and 9.23; 0.26 for involvement of the POD; 73%, 98%, 80%, 98% and 43.27; 0.28 for vaginal endometriosis; 78%, 89%, 78%, 98% and 47.06;0.23 for endometriosis of the RVS; 25%, 100%, 100%, 98% and -;0.75 for bladder involvement; 39%, 98%, 86%, 84% and 19.16;0.63 for rectal endometriosis. Values for TVS were similar with regard to USL, vaginal and RVS endometriosis but were clearly superior in cases of r/l ovarian (78%/100%, 98%/98%, 88%/90%, 96%/100% and 43,56; 56.0/0.23;-) and rectal endometriosis (91%, 100%, 100%, 97% and -; 0.09).
Conclusions: Clinical examination performs similarly to TVS in detecting USL, vaginal and RVS endometriosis but is clearly inferior in cases of ovarian and rectal involvement.

FC2_08

An international survey of surgical techniques used in the treatment of endometriosis

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This formal email survey, endorsed by the ESGE and BSGE and AAGL, organised by the Minimal Access Therapy Training Unit, Guildford UK, was sent out by the societies in Spring 2008. It was designed to produce, for the first time, an international snapshot of the instruments and techniques currently used by gynaecological laparoscopic surgeons to see which ones are favoured and why. There were 369 responses mostly from Europe and the UK. Results show overall, and UK v Europe comparative data. Formal training appears to be common. A "see and treat" approach is carried out in most cases by more than 80%, but is more common in mainland Europe. Electrosurgery is the most common energy source though ultrasound energy devices have increased significantly. For superficial minimal to moderate endometriosis a combined vaporization/excision approach is most common, with excision being the main approach for deep disease. Endometriomas of any size are generally excised, and a conservative approach of trying to avoid opening the bowel is prevalent in recto vaginal disease. Members of societies appear to be following the evidence and the future looks optimistic.

FC2_09

A prospective, randomized study comparing changes in symptoms relief, pain scores and quality of life after laparoscopic ovarian cystectomy versus three stage management in patients with endometriomas

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Introduction: Endometriosis is a common but still enigmatic disorder affecting the 3–43% of reproductive age women. The formation of cyst with ectopic endometrial lining within the ovary represents the 35% of benign ovarian cysts that encountered surgery and is associated with advanced endometriosis that causes painful symptoms with impaired quality of life.
Objective: To assess two different laparoscopic treatment methods on the presenting symptoms, pain scores and the quality of life in patiens suffering from ovarian endometriosis.
Patients and methods: In this prospective trial, 37 consecutive women of reproductive age with endometriomas fulfilled the inclusion criteria. Of these 20 accepted to participate and were randomly assigned to undergo either laparoscopic cystectomy-stripping (group I) or the three step procedure (group 2): laparoscopic diagnosis with drainage of endometrioma, 3 months GnRH–a administration and finally second operation with laparoscopic laser ablation of the inner lining. Preoperative and six months after surgery all patients self-completed a preoperative questionnaire of presence and severity of dysmenorrhoea, dyspareunia, dyschezia and non menstrual pelvic pain with the use of visual analogue scale as well as the EQ-5 Dindex (mobility, self care, usual activities, pain/discomfort and anxiety/ depression) quality of life form.
Results: In the cystectomy group all symptoms were better improved ($p=0.016$) in comparison with the ablation group. Furthermore, after separate evaluation of the forementioned four components of endometriosis related pelvic pain, it was found that dysmenorrhoea was predominantly regressed ($p=0.03$) among the patients in the cystectomy group. Also, this was in accordance with the reported significant changes ($p=0.001$) of its mean values based on the visual analogue scale pain score. On the other had, the symptom of dyspareunia was significantly alleviated ($p=0.008$) among the patients in the laser ablation group and this was also in agreement with the important reduction ($p=0.005$) of the recorded mean values that observed in this group, despite its significant ($p=0.009$) preoperative higher baseline values in relation to those recorded in the cystectomy group. Finally both laparoscopic approaches demonstrated comparable improvement in all five parameters of assessing the quality of life.
Conclusions: The treatment of patients with endometriomas should be individualized according to the predominant type of pelvic pain,

although larger studies with longer follow up are necessary to be conducted in order to determine the exact role of each laparoscopic modality in relieving symptoms and improving the quality of patients' life.

FC2_10

Superficial endometriosis: coagulation or excision?

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Approximately one woman in ten suffers from endometriosis. Although light to mild forms are the most common, these still strongly affect the quality of life through symptoms like dysmenorrhea, dyspareunia, dyschezia, and subfertility.

Objective: We compared the effectiveness of two laparoscopic therapy methods for light to mild endometriosis, excision versus coagulation.

Design: In a retrospective analysis we evaluated the postoperative follow-up of 79 patients, aged 16 to 42 with superficial manifestation of endometriosis (median rASRM score 9,2). Of these 79 patients, 43 were treated with electrocoagulation and 36 underwent sharp excision. In fall 2008 the therapy success was evaluated by using a questionnaire (mean follow-up 29 months). Hereby the treated patients were interviewed about their endometriosis associated pain (dysmenorrhea, dyspareunia, dyschezia) and eventual further medical treatment after surgery.

Setting: All laparoscopic procedures were performed in the department of gynecology and obstetrics at the university hospital of Jena.

Main outcome measure: We evaluated the number of histologically provenrelapses overall and questionnaire results using a pain score on an ordinal scale for the three categories dysmenorrhea, dyspareunia, dyschezia.

Results: Both methods showed convincing results concerning the number of recurrences (18.6% excision; 2.8% coagulation group) as well as inpostoperative discomforts. However, significant lower recurrence rates were seen in the coagulation group ($p=0.001$). This group also showed a significantly lower post operative pain score in our follow-up ($p=0.0067$).

Conclusion: In cases of superficial endometriosis, laparoscopic surgery achieves convincing results, with small recurrence rates and a good subjective outcome. In comparison of the two surgical techniques, sharp excision versus bipolar electro -coagulation, the latter achieved better results regarding post-operative symptoms as well as relapses with need for surgical re-intervention.

FC2_11

Quality of life, fertility and complications following laparoscopic anterior rectal resection for endometriosis; results from 100 consecutive cases

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Introduction: Cases series from multiple centres have demonstrated the feasibility of laparoscopic segmental rectal resection for deep infiltrating endometriosis of the rectum. These answer the question of can it be done. In the absence of an adequately powered randomised controlled trial however, the question of *should it be done* remains. This follow up study provides data on 100 cases of anterior rectal resection from one centre. This information will aid clinicians and women with this disease when deciding whether to undergo this potentially complicated surgery.

Methods: Retrospective chart review to collect data on complications including incidence of fistula, stricture, anastomotic leak, stoma, urinary tract injury and repeat operation. Follow up questionnaires assessing quality of life, pain scores and fertility outcomes were used at median follow up of 21 months.

Quality of life scores are compared with those from a normal population.

Complication rates are compared with those in the literature.

Results: Pending

FC2_12

The role of MRI reporting in severe rectovaginal endometriosis

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Objective: To evaluate the accuracy of MRI reporting for severe rectovaginal endometriosis.

When multidisciplinary surgical input is required for severe rectovaginal endometriosis, the accuracy of the preoperative investigations play a significant part in the success of surgical outcome. Among the various cross sectional imaging modalities used for the diagnosis of endometriosis, such as ultrasound scanning and Computed Tomography (CT), MRI has acquired an important role due to its higher degree of soft tissue resolution, which increases its capacity to detect various subtleties of endometriotic tissue. We undertook a retrospective review of the accuracy of MRI reporting and analysed it in the light of the type of bowel surgery undertaken and the histology obtained.

Materials and methods: A retrospective review of 15 cases of varying grades of rectovaginal endometriosis was undertaken. All patients with a clinical diagnosis of severe rectovaginal endometriosis undergoing planned laparoscopic surgery were referred to the radiology team with a special interest in endometriosis for an MRI of the pelvis. The gynaecology team and the radiology team undertook a multidisciplinary retrospective review of the outcome of surgery. The Team assessed the accuracy of MRI reporting in light of the surgical procedure undertaken and histological findings.

Results: 15 cases with varying degrees of rectovaginal endometriosis were reviewed. MRI diagnosis of presence or absence of bowel involvement was correct in all cases. There was a disparity between the degree of bowel involvement reported and the type of surgery undertaken in three of these cases. On all three occasions the disease was over-diagnosed. The MRI report stated deep disease whereas surgical treatment undertaken was skinning in one case and excision of septum in 2 cases. In the remaining 12 cases, 3 were reported as no bowel involvement and did not have any bowel surgery, 3 were reported as superficial involvement and had bowel skinning in 2 cases and excision of septum in 1. 6 cases were reported as deep disease, and of these, 2 underwent disc resections and 4 segmental resection and ileostomies. Hystological evidence was consistent with the type of surgery.

Conclusions: MRI has high accuracy in the detection of severe rectovaginal endometriosis with bowel invasion. When complemented with an accurate reporting system, this retrospective review has assisted us to develop clear criteria, where selected MRIs will be reported in an agreed format to improve surgical planning. A prospective study has been set up to analyse the feasibility of this reporting technique.

FC2_13

Immunological markers in endometriosis: a case-control comparative study

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Objective: The diagnostic of endometriosis requires invasive procedures. Several non-invasive explorations were proposed: ultrasound, CT/MRI, or serological markers. We analyze the value of some serological immunological markers in a prospective case-control study.
Material and methods: This study was carried out in a gynecological hospital of Iasi, Romania. The clinical and paraclinical data from patients were collected, and after confirmation by laparoscopy, we determined CA-125, IL-6, IL-8, and TNF alpha. As controls, patients with no endometriosis submitted to laparoscopy were assessed for the same markers. The data were evaluated using statistical analysis, including Student test and CI95 for t-value of null hypothesis (if 0 value included, the groups are similar).
Results: The 24 cases of endometriosis were distributed in stage 1 endometriosis: 12.5%, stage 2:16.7%, stage 3:58.3%, and stage 4: 12.5%. The age distribution in both endometriosis and control groups was similar, CI95 of t-value: 5.4 to 11.3. The CA-125 was increased-mean value of 67.5 versus 11.8, with 13 cases (54%) over 34 mUI/ml; in the control group only 2 cases (8%) were above. However, the statistical significance was not so important, with CI95 of t-value from 55.8 to 52. The IL-6 value was increased in both groups above the normal 2 pg/ml in 17 cases (70.8%) versus 21 cases (87.5%), and the CI95 of t-value was between 0.1 and 9.2. The other markers were not statistically different.
Conclusions: No serological marker was relevant for discriminating endometriosis from other diseases. Larger studies should be proposed to verify these conclusions.

FC2_14

Laparoscopic treatment of diaphragmatic endometriosis

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The diaphragmatic endometriosis is one of the most rare localization of the pathology, compared to the presence of the lesions in the lower abdominal regions.
The incidence of this disease is of 0,34%.
Even if the causes of diaphragmatic endometriosis are not so clear today, one theory seems to explain the origin exactly: the theory of retrograde menstruation.
The main feature of the disease is the prevalent localization of the lesions on the right-side of the diaphragm.
This asymmetry may be attributed to the clockwise of the ascitic fluid. The cells arrive to the subphrenic region and are there blocked by the presence of liver legament, an anatomic barrier that obstructs the crossing of cells to the left-side of diaphragm explaining well why the biggest frequency of lesions on the right-side of the diaphragm. The diagnosis and the surgical approach is laparoscopic, for treating permanently patients with right arm and shoulder cronic pain.

FC2_15

Pelvic endometriosis: integrated therapy in the prevention of recurrences

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Objective: The purpose of this study was to analyze the postoperative risk of endometrioma and pain syntomatology recurrence in women using oral contraception.
Study design: After laparoscopic excision of ovarian endometriomas, a cyclic, low-dose, monophasic oral contraceptive pill (an association between ethynilestradiol 15mcg e gestodene 60mcg) was offered to women not seeking pregnancy. One month after surgery, and every six months afterward, the patient underwent clinical and ultrasonographic assessment.
Results: Of the 74 patients who entered the study, 62 used oral contraceptive pill (OCP) for 12 months or more and 12 used OCP for less than 12 months. The crude recurrence rate was 3% (2/62) in the farmer group and 25% (3/12) in the latter.
Conclusion: Regular postoperative use of OCP effectively prevents endometrioma recurrence.
Keywords: endometrioma, oral contraceptive pill, recurrence.

FC2_16

Laparoscopic approach to right diaphragmatic endometriosis with argon laser: a case report

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Objective: Diaphragmatic endometriosis is an unfrequent entity which is very seldom presented as a voluminous endometriotic cyst.
Materials and methods: We present a case of a 29-year-old Caucasian nulligravid woman with a 3 year history of right sided chest pain that increased with her menses. Abdominal ultrasound revealed a hypoechoic collection sized 6x3 cm in the upper right hypocondrium, The MRI showed a tumor at the lateral right hemi-diaphragm, consistent with an endometriotic cyst. No penetration of the liver was observed and no extension into the pleural space, pneumothorax or hemothorax was detected.

Laparoscopy was performed under general anesthesia with continuous ventilation monitoring. Upper abdomen and diaphragm were examined finding typical endometriotic lesions in the right hemidiaphragm. Fibrous adhesions were present at the anterior surface of the right lobe of the liver mimicking the macroscopic appearance of Fitz-Hugh and Curtis Syndrome. Adhesiolysis was performed allowing the exposure the anterior surface of the liver, which showed no sign of infiltration. Intraoperative ultrasound was performed after introduction of a tip of a surgical glove filled with serum, which was placed in direct contact of the lesion with an atraumatic forceps. This maneuver permitted to document the topography and limits of the cystic lesion. An incision was performed using cold scissors at the caudal part of the lesion and endometriotic fluid drained through the hole. The incision was widened and a wedge resection of the cyst wall was performed under strict monitoring of the intrapulmonary pressure. The inner part of the cyst wall in was coagulated using an argon beam laser set at low power (*Valleylab Inc, CO, USA*). No mesh was used in order to reinforce the diaphragm as no intraoperative signs of perforation were detected. An absorbable oxidized regenerated cellulose mesh (*Interceed, Ethicon Inc, USA*) was placed at the area of the lesion. After extubation of the patient, a reduction in the mobility of the right hemithorax was detected with an absence of breath sounds. A chest X-Ray confirmed the presence of a right pneumothorax and a chest tube was placed immediately.

Results: Radiologic control 48 hours postoperatively confirmed the complete resolution of the pneumothorax and the patient was discharged uneventfully on the third day after surgery. Patient was placed under GnRH analogue therapy for 3 months and remains asymptomatic at 6 month follow up.

Conclusions: Laparoscopic approach to diaphragmatic endometriotic cyst is feasible and effective. Using argon beam to ablate the inner cystic wall seem to be safe and may prevent recurrence of the disease at the same site.

FC2_17

Clomiphene induced catamenial pneumothorax; successful pregnancy following combined thoracoscopic and laparoscopic one stage radical surgical treatment of endometriosis

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We present the first reported case of a 33 year old nulliparous woman who presented with primary infertility, and had four episodes of catamenial pneumothorax while treated with Clomiphene. Visual material from the combined procedure and a review of the current literature regarding diagnosis and optimal treatment strategy is presented.

A joint gynaecological laparoscopy and thoracoscopic procedure was performed. During Video Assisted Thoracic Surgery (VATS) five endometriotic implants were identified on the central diaphragmatic tendon. Diaphragmatic defects were covered with Bioglue and pleurodesis was performed. Gynaecological laparoscopy revealed evidence of endometriosis on the posterior aspect of the right ovary, left pelvic side wall and uterovesical peritoneum which were excised and/or ablated.

Following an uneventful recovery from the procedure, the patient had one cycle of IVF and two grade one embryos were transferred. No further episodes of pneumothorax were encountered during the ovarian stimulation or during the pregnancy Subsequent ultrasonography showed a singleton pregnancy. No antenatal problems were identified encountered and fetal growth was normal. The patient had a ventouse delivery of a live male infant at term. There were no recurrences of pneumothorax during pregnancy or the postpartum period.

Despite the fact that Clomiphene is an estrogen antagonist, in responsive patients it may induce a flare-up through follicular estrogen production. Postoperative treatment with combined estrogen/progesterone is associated with 50-100% recurrence rate while treatment with GnRH analogues is associated with significantly less recurrence episodes.

FC2_18

Sonovaginography for the study of bladder endometriosis

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Urological endometriosis as the primary and sole form of presentation is rare and the most common site of involvement is the urinary bladder (1–2). It may be very aggressive in terms of ingrowth and fibrosis of the ureter, periureteral structures and bladder leading gradually to nephrologic complications (3). Therefore, timely diagnosis to prevent irreversible deterioration in renal function is essential. We studied three patients in fertile age with dismenorrhea and hematuria. Transvaginal ultrasonography was negative for adnexal pelvic pathologies. Thus we performed sonovaginography that demontrated the presence of bladder endometriosis confirmed by further histological examination of the biopsy done under cystoscopic guidance. All three patients underwent laparotomic partial cystectomy and now are free from disease and asymptomatic.

The sonovaginography examination consists of transvaginal ultrasonography combined with the introduction of saline solution to the vagina (4). The patient is asked to partially empty her bladder, thus leaving a small amount of urine within to enhance visualization of the anterior vaginal wall and of the vesicovaginal septum during the procedure. A 24-mm Foley catheter then is introduced into the vagina, and its balloon is inflated using 5–6 mL of saline solution. The operator inserts the transvaginal probe into the vagina, using the right hand to handle the probe. The operator closes the vaginal channel with the left hand, narrowing the minor labia with the dorsal surface of the forefinger and the middle finger. This is necessary to prevent the reflux of saline solution from the vagina. The assistant operates the ultrasound machine. The solution, once in the vaginal channel, creates an acoustic window between the transvaginal probe and the surrounding structures of the vaginal channel. Moreover, the saline solution exertes a pressure in the vaginal channel that distendes the vaginal walls, permitting enhanced visualization of the vaginal walls, vaginal fornix, uterosacral ligaments, pouch of Douglas, rectovaginal septum, and vesicovaginal septum. The transvaginal probe is not in

contact with the portio but is placed in a position different from that of the traditional transvaginal scan, thus allowing the operator to analyze the structures between the probe and the acoustic window created. The operator obtaines ultrasound scans by moving the transvaginal probe back and forward, longitudinally and transversally, with up, down, and angled movements around the portio, which is used as a reference point. With this technique, endometriotic lesions are detected as hypoechoic, irregular structures at the level of the vaginal wall; they often infiltrate the surrounding structures and the uterosacral ligaments. Once an endometriotic lesion is detected, its location, size, extension, and infiltration are evaluated.

Sonovaginography is a reliable and simple method for the assessment of bladder endometriosis and provides information on location, extension, and infiltration of the lesions, which are important factors in selecting the kind of surgery.

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FC2_19

Deep endometriosis requires expertise and decision making during surgery

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The surgical treatment of deep endometriosis requires a complete excision of all endometriotic lesions. This requires expertise to recognise the lesion, while surgical decision making may be challenging.

To illustrate this we report a 35 years old woman who underwent previously a hysterectomy with right adnexectomy for pain. Since the pain persisted, she was referred. She complained of dysmenorrhea 2/3, chronic pain 3/3, deep dyspareunia 1/3, dyschezia 3/3 and dysuria 0/3. The hypogastric pain radiated perineally. At clinical examination the posterior vaginal vault was painful. Magnetic resonance was negative while vaginal ultrasound revealed dilatation of the left tube with attachment to the Douglas. Therefore a laparoscopy with full bowel preparation was planned revealing extensive adhesions fixing the left ovary and tube to the side wall and to the Douglas. Following adhesiolysis and careful dissection of the ureter, the left tube was removed. Careful inspection did not reveal any endometriosis. Some distortion of the rectosigmoid, preventing the rectal probe to pass was considered fibrosis of previous surgery. Considering that the pathology found could not explain the dyschesia and the perineal pain radiation and considering the importance of the induration the decision was taken –after some discussion- to take the calculated risk to explore the 'fibrosis' of the rectosigmoid with an estimated risk of 50% to open the bowel. Dissection initially revealed fibrosis, then some minor endometriosis which turned out to be a ramification of a deep nodule of 2 cm diameter. Guided by visual inspection, tactile feeling and the rectal probe a full excision was achieved leaving a muscularis defect of 5 by 5 cm, and a mucosal opening of 1 cm. The rest of surgery and of postoperative management was standard, i.e. a double layer running suture with of polyglactin 3*0, a negative pneumatic test, antibiotics, 2 drains and nil by mouth for 7 days.

In conclusion this confirms our repetitive experience that following previous surgery with adhesions it can be almost impossible to identify deep endometriosis of the bowel without taking the risk of surgical exploration. This obviously requires experience in endometriosis to judge symptoms and expertise in bowel surgery in order to take the adequate surgical decision.

FC2_20

Bowel resection for endometriosis: outcome and complications

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Introduction: Treatment of deep endometriosis involving the bowel is still debated and varies from discoid resection to segmental bowel resection. In a recent review of over 10.000 segmental bowel resections, for other indications than endometriosis, it was shown that low rectum resection are associated with a high long term complication rate for bladder, bowel and sexual function.

Aim: To review segmental bowel resections for endometriosis. We specifically scrutinized the indications and the complications according to the level of resection and the volume of the nodule.

Method: Review of all published articles on segmental bowel resection for endometriosis identified through the MEDLINE in the period 1997–2009.

Results: Twenty-eight articles were identified describing 1104 bowel resections. The indications to perform a bowel resection were generally vague and difficult to retrieve exactly. Size and localization of the endometriotic lesions were poorly reported. Pain relief was systematically reported as excellent during the first year after surgery. Recurrence of pain was reported in 45/121 cases; recurrence requiring reintervention occurred in 37/239. Recurrence of endometriosis was reported in 8/241 cases. Complications' rate was high, i.e. 25%. Data on sexual function were not available.

Conclusions: In most articles the indication to perform a segmental resection instead of a discoid resection is poorly documented. There are no data relating indication nor outcome to localization, extend or diameter of the endometriotic nodule. In over 90% segmental resections were rectum resections and the postoperative complication rate was high and comparable to the resections for other indications than endometriosis. Sexual dysfunction was not evaluated.

FC3_01

Pain relief for hysteroscopy in outpatient setting- a metanalysis

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Objective: Hysteroscopy is increasingly conducted under an office setting. The primary reason for failure of office hysteroscopy is pain.

There are no published guidelines and therefore no clear consensus upon the routine use of analgesia during office hysteroscopy. The aim of the review was to compare the effectiveness and safety of different types of pharmacological interventions for pain relief in patients undergoing diagnostic hysteroscopy.
Materials and methods: A search of medical literature databases including PubMed, EMBASE, PsychInfo and CINHAL was conducted. Randomised controlled trials investigating the pharmacological interventions for pain relief during hysteroscopy were identified.
Results: Eighteen RCTs were identified as eligible. Results of meta-analysis were sub grouped into mean pain score during the procedure, up to 30 minutes after the procedure and more than 30 minutes after the procedure. Four RCTs found evidence of benefit for any analgesia in comparison to placebo for pain relief during hysteroscopy. Overall, there is evidence of benefit of using any analgesia compared with placebo for pain relief during the procedure [mean difference of −1.12 (95% CI −1.90, −0.35)), particularly in terms of non opioid analgesics, including local anaesthetics (mean difference of 1.31 (95% CI −2.23, −0.40)]. There is evidence of benefit of using local anaesthetics upto 30 minutes of hysteroscopy. However, there is little evidence of benefit in terms of pain relief of any of the interventions considered in this study more than 30 minutes after hysteroscopy.
Conclusion: In conclusion, this systematic review and meta-analysis suggests that there is sufficient evidence to recommend the use of local anaesthesia for pain relief during office hysteroscopy.

FC3_02

The role of hysteroscopy in the early diagnosis and classification of endometrial cancer

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Objectives: To demonstrate the resolutive and exclusive role of the diagnostic hysteroscopy and endometrial biopsy in the early diagnosis and classification of endometrial cancer and its precursors.
Materials and methods: The authors show the guidelines of several national scientific society (SEGI, S.I.G.O., P.N.L.G. and I.T.T.) and scientific works to confirm their theories: they demonstrate and criticize the poor diagnostic value of methods such as Pap test, endometrial citology, D&C, blind endometrial biopsies (fig. 1, 2) pelvic ultrasound. The authors underlines the very high sensitivity and specificity, P.P.V., N.P.V. of the diagnostic hysteroscopy and aimed/directed endometrial biopsy (fig. 3, 4, 5, 6) in the early diagnosis and classification of endometrial cancer and its precursors such as E.I.N. (fig. 7, 8, 9, 10), referring to his own clinical cases in over 7.500 hysteroscopies. The authors describe obsolete and not very reliable techniques of endometrial biopsy and on the other hand illustrates the aimed/directed techniques and instruments that they use such as Mazzon's and Ricciardi's clamp (fig. 5) office hysteroscope using continuous flow method in the operative canal.(fig. 4, 6).
Results: Sensitivity and specificity of 100% of diagnostic hysteroscopy and aimed/directed endometrial biopsy.
Conclusions: Diagnostic hysteroscopy and aimed/direct endometrial biopsy done with Mazzon' and Ricciardi's clamp and using the office hysteroscope are the "gold standard" in the early diagnosis and classification of endometrial cancer and its precursors.

FC3_03

The post-traumatic pathologies of the endometrium

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Objectives: The authors through the analysis of international scientific works and their personal clinical cases show the essential role of diagnostic and operative hysteroscopy in the diagnosis and treatment of uncommon diseases such as the retention of chorionplacental residues, hematometria and Asherman Syndrome.
Materials and methods: The study includes 60 young women in reproductive age, haveng undergone several D&C's because of postpartum haemorrhage, Abnormal Uterine Bleeding in puerperium or after spontaneous abortion, V.T.P. in wich, after pelvic transvaginal scan and diagnostic hysteroscopy, there has been noted the presence of endouterine chorionplacental residues (fig.1,2) hematometria, I.U.A. (intra uterines adhesions) type I–IV of the classification of the European Society of Hysteroscopy.(fig.3,4,5,6,). The authors illustrate the causes, mechanisms of formation, incidence and diagnosis of those diseases, the role of several and inappropiate D&C's, medical therapies and late diagnosis and demostrate with use of films the correct surgical technique hysteroscopic based on lysis and resection intrauterine adhesions. The study end with the description of possible complications and the results of international scientific literature about the reappeararance of menstrual flows, fertility and the pregnancy rate and techniques used to avoid recurrence and prevent these diseases.
Results: Reconstitution of a regular uterine cavity in all cases, normal menstruations in all cases also in those with amenorrea of more than 18 months durations, 1 pregnancy with spontaneous delivery and 2 present pregnancies in the 3 patients who were wanting a child.
Conclusions: Early hysteroscopic diagnosis of Abnormal Uterine Bleeding during post partum and after a miscarriage, limited D&C's and correct hysteroscopy are the basies for cure and prevent the menstrual disorders, Intra Uterine Adhesion and infertility.

FC3_04

Hysteroscopic endometrial resection in diagnosing and treating atypical endometrial hyperplasia

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Objective: To evaluate in women with atypical endometrial hyperplasia (AEH), the usefulness of hysteroscopic endometrial resection (HER) in evaluating the coexistence of endometrial carcinoma (EC) and the rate of AEH progression to EC.
Methods: HER was performed from January 2000 to March 2007 on 35 post-menopausal women with a previous histological diagnosis of AEH [16 cases of complex (CAH) and 19 simple (SAH) atypical hyperplasia] on samples collected by office hysteroscopy. We did a clinical protocol consisting of assessment of endometrial cavity by

transvaginal ultrasound and hysteroscopy 6 and 12 months after HER, and then yearly, for at least 5 years, with endometrial biopsies performed by hysteroscopy every 12 months.
Results: After HER the first diagnosis was confirmed in 20 out of 35 patients (57.1%): SAH was found in 16 women out of 19 (84.2%); CAH in 4 out of 16 (25.0%). In the remaining 15 patients, CAH was co-associated with EC in 12 (12/16; 75.0%) and, SAH with EC in 3 (3/19; 15.8%) patients, in whom hysterectomy with bilateral salpingo-oophorectomy (HBSO) and lymphadenectomy was performed. After HBSO EC was still found in 8 out of 14 women (57%), all belonging to the group of CAH: no EC was found in the remaining 7 women (43%), of whom 3 had the first diagnosis of SAH and 4 of CAH.
Of the 20 AEH confirmed after HER (SAH: n=16; CAH: n=4), 8 (all in the group with confirmed SAH) requested HBSO, and histological report did not found any evidence of pathology. Only 12 patients (8 with SAH and 4 with CAH confirmed after HER) choose to be subjected to the clinical follow-up: 8 women (with previous confirmed diagnosis of SAH) are currently in good health, whilst the remaining 4 patients (with previous confirmed diagnosis of CAH) developed after 12, 16 (2 cases) and 60 months, respectively, EC.
Conclusions: HER may have several important benefits in the diagnostic and therapeutic approach to AEH, predicting preoperatively patients at higher risk of EC.

FC3_05

Does intrauterine balloon stenting affect the fertility and pregnancy outcomes following hysteroscopic septum division: a randomized comparison

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Aim of the study: To evaluate the benefit of intrauterine Foley balloon after hysteroscopic septum division on fertility and pregnancy outcomes.
Design: Prospective randomized controlled pilot trial (Canadian Task Force Classification I).
Setting: University affiliated teaching hospital.
Patients: 28 women with infertility and/or adverse pregnancy outcomes diagnosed with intrauterine septum.
Intervention: After ethics approval and informed consent the women were randomized into having a No. 14 Foley balloon for 5 days (n=13) vs. no balloon (n=15) following hysteroscopic septum division. None of the patients received pre-operative endometrial thinning, antibiotic prophylaxis or adjuvant hormone therapy. All septa were divided under general anesthesia using a 26 F (9 mm) resectoscope with a monopolar electrical knife utilizing 1.5% glycine solution and 120 w of power of low voltage (cut) waveform.
Measurements and main results: The median (range) age was 29 yr (23–38) and 32 yr (22–40), respectively. There were no intra- or post-operative complications. At 3 months, hysterosalpingogram (HSG) was done in 10 and 13 women respectively, the results of which were normal. At 12 months, 1 women in the balloon and 3 in the control group were not trying to conceive and 1 in each group had not conceived. Of the remaining women, 11 (92%) in each group had conceived and outcomes included spontaneous abortion 3(25%) v. 4 (33.3%), ectopic pregnancy 0 v. 1, second trimester loss 1 (8.3%) v. 0 and term pregnancy 8 (66.6%) in both groups.
Conclusions: Following hysteroscopic septum division with monopolar knife electrode, splinting the uterine cavity with a Foley catheter provided no advantage in septum reformation, clinical pregnancy rate and pregnancy.

FC3_06

Recurrent implantation failure: why should we perform an office hysteroscopy?

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Introduction: In assisted reproductive technologies (ART), implantation failure is owed in 2 cases out of 3 to a uterine functional or morphological abnormality. Some abnormalities are not detected by hysterosalpingographia or ultrasound. Office hysteroscopy is the gold standard for successful diagnosis of intra abnormality uterine. It is a safe, painless and quick examamination. Our study aims to estimate the rate of abnormalities detected, the rate of treatments realized after an office hysteroscopy and to determine future results in terms of the fertility of patients with implantation failure.
Material and methods: We carried out a retrospective study from the period of May 1994 to October 2006 using a collection of computerized medical data from the office hysteroscopies at the SIHCUS-CMCO hospital (Strasbourg, FRANCE). Criteria for inclusion were infertility and implantation failures (after at least 2 attempts of IVF, ICSI or intra uterine insemination). We studied the etiology of infertility, age, weight, including the number of attempts before hysteroscopy, the rate of abnormal hysteroscopy, the rate of treatment induced and fertility after the hysteroscopy procedure.
Results: Out of the 4867 patients who took part in the office hysteroscopy, 546 of them had a hysteroscopy for implantation failure. There was a primary infertility in 90% of the cases and a secondary infertility in 10% of the cases. The etiologies of infertility were male in 42% of the cases, mixed in 21%, tubal in 20%, idiopathic in 6%, cervical in 3%, endocrine in 2%, on endometriosis in 2%, and on HIV in 1%. Office hysteroscopy was abnormal in 31% of the cases, among which a hyperplasia or a polyp (10%), a uterine deformation (4%), an endometritis (5%), a cervical abnormality (2%), an adenomyosis (1%), one synechia (1%), a myoma (3%), a uterine atrophy (1%) and trophoblastic rests (1%). The office hysteroscopy was not possible in 5% of the cases (cervical stenosis, pains), which led us to conclude a hysteroscopy under general anesthesia. 19% percent of patients will finally have treatment (medical for 8% and surgical for 11%). We find 4% of endoscopic resection of polyp, 2% of curettage, 1% of hysteroscopic resection of myoma and 1% by laparatomy, 1% of resections endoscopic of septas, 5% of antibiotic treatments, and 3% of hormonal treatments. The number of insemination, FIV or ICSI attempts, before the realization of the hysteroscopy does not influence the rate of abnormal hysteroscopy. However, the rate of abnormalities detected in the hysteroscopy increases with age (OR=1.6 significant) and weight (OR=1.6, not significant), and decreases significantly when the cause of the infertility is of male origin (OR=0.55). With an average 7 years and 11 months feedback, we observed that patients with a pathological hysteroscopy had significantly less pregnancies and births. This difference is not significative any more after a

logistical regression on age. We find more abnormal hysteroscopy for the patients included in FIV than for the patients in ICSI.
Conclusion: Office hysteroscopy in repeated implantation failure allows us to dertermine uterine pathology in 31% of the cases, and to propose a treatment in 19% of the cases. Fertility of patients with an abnormal hysteroscopy is lower than the fertility of a patient with a normal hysteroscopy.

FC3_07

Hysteroscopy of menstruation
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Our concept of the physical changes associated with menstruation has been deduced from observation of static histological and electronmicroscopic appearances. The classic studies Such traditional methods have provided much information since first described by Novak and Te Linde in 1924. These data are built on information from static images. Menstruation is, however, a highly dynamic process with continuous changes in morphology. Recent advances in hysteroscopy make it is possible to observe the uterine cavity and the surface endometrium in considerable detail and at all stages of the menstrual cycle.The hysteroscopic appearances have not yet been formally documented. We were interested to use this diagnostic modality to document the dynamics of endometrial shedding and repair in order to improve our understanding of this fundamental physiological process. This paper describes the hysteroscopic appearances of the various stages of menstruation and correlates these with concurrent scanning electron microscopic and histological appearances. The results suggests that currently accepted theories regarding the mechanisms of menstruation are incorrect and that new models of this most fundamental physiological process are needed.

FC3_08

Essure® and Hydrothermablator: feasibility and results at 3 months
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Objective: To evaluate feasibility and outcome at 3 months of Essure sterilization associated with Hydrothermablator.
Method: Observational unicentric study was conducted from 1/7/2005 to 1/2/2009 among 17 women requiring endometrial treatment for functional menometrorrhagia and tubal sterilisation with Essure for personal choice. Patients underwent combined hysteroscopic sterilisation with Essure and hysteroscopic endometrial treatment with Hydrothermablator.
Results: Essure placement was successfully performed bilaterally followed immediately by Hydrothermablator in all cases. No adverse event was reported. Adequate bilateral occlusion was confirmed for all patients by X-ray (17 cases) or hysteroscopy (1 case) at a 3-month follow-up. Furthermore, 82%(14/17) of these patients were satisfied with the result of Hydrothermablator on functional menometrorrhagia.
Conclusion: Combining Hydrothermablator and hysteroscopic sterilization with Essure seems to be feasible and efficient in patients with functional menometrorrhagia.

FC3_09

Treatment of symptomatic submucous fibroids in a true office setting: enucleation of fibroids in focal local anaesthesia. A report on 401 cases
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Gynaecology departments experience increasing demands for surgical treatments of menstrual disorders in office or day care settings . At the same time, as a consequence of the retirement of gynaecological surgeons and diminishing training opportunities for coming specialists, departments have access to a decreasing number of gynaecologists with sufficient hysteroscopic skills to undertake traditional fibroid resections under local anaesthesia in such low technology environments. Consequently, there is a need to develop new treatment modalities which can be performed safely and effectively by less experienced medical or nursing staff. From 2003 to 2009 four hundred and one fibroid enucleations were performed in a private practice with no access to any anaestesiological support and with the assitance of one ordinarily trained nurse only.The first 369 treatments were performed in a deep cervical block, the last 32 has been performed with a microhysteroscope without dilatation of the cervical canal and under a focal local anaesthesia where only the base of the fibroid has been anaesthesitized. Data from this investigation show that submucous fibroids of type 0, 1 and 2 up to 25 mm i diameter can safely be enucleated and left to dissolve in the uterine cavity. By applying this technique the risk of complications such as perforations and fluid absorption even in the hands of staff not trained in traditional TCRM is negligable. The focal application of a minimum of local anaesthetic means the avoidance of the pain associated with placing the deep cervical block, it offers sufficient anasthesia in areas of the uterine cavity not reached by the cervical block and finally it allows the technique to be used in patients which do not tolerate larger amounts af local anaesthesia. The presentation stresses the need for the development of surgical equipment which supports the development and refinement of treatment modalities such as the one presented.

FC3_10

A combination of Misoprostol and Estradiol for pre-operative cervical ripening in postmenopausal women: a randomized controlled trial
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Objectives: To compare the impact of 1000 micrograms of self-administered vaginal misoprostol versus self-administered vaginal placebo on preoperative cervical ripening after two weeks pretreatment with estradiol vaginal tablets in postmenopausal women prior to day-care operative hysteroscopy.
Design: Randomised double blind placebo controlled sequential trial. The boundaries for the sequential trial were calculated on the primary outcome of a difference of cervical dilatation ≥1 mm, with the assumption of a type 1 error of 0.05 and a power of 0.95.
Setting: Norwegian university teaching hospital.
Population: Sixty-seven postmenopausal women referred for day-care operative hysteroscopy.

Methods: The women were randomised to either 1000 micrograms of self-administered vaginal misoprostol or self-administered vaginal placebo the evening before day-care operative hysteroscopy. All women had administered a 25-microgram vaginal estradiol tablet daily for 14 days prior to the operation.
Main outcome measures: Primary efficacy outcome: preoperative cervical dilatation at hysteroscopy (difference between misoprostol and placebo group). Secondary efficacy outcomes: difference in dilatation at recruitment and before hysteroscopy, number of women who achieve a preoperative cervical dilatation ≥5 mm, acceptability, complications and side effects.
Funding sources: No pharmaceutical company was involved in this study. Research grants from the regional research board of Northern Norway and Eastern Norway Regional Health Authorities funded the study.
Results: The mean cervical dilatation was 5.7 mm (SD 1.6) in the misoprostol group and 4.7 mm (SD 1.5) in the placebo group, the mean difference in cervical dilatation being 1.0 mm (95% CI 0.2–1.7). In the misoprostol group, 88% achieved a cervical dilatation of ≥5 mm compared with 59% in the placebo group. The cervix of one woman who received misoprostol was difficult to dilate, as compared to seven in the placebo group. In the misoprostol group, 13 women (39%) reported mild to moderate lower abdominal pain, compared to 8 women (24%) in the placebo group. Two women in the misoprostol group (6.1%) experienced light preoperative bleeding. Most women did not experience misoprostol-related side effects. All the women managed to take the estradiol tablets and misoprostol capsules as prescribed. The majority (91%) of women found self-administered vaginal misoprostol the evening before day care hysteroscopy, after pre-treatment with vaginal estradiol tablets for 14 days, to be acceptable. There were two peroperative complications (uterine perforations), one in each treatment group.
Conclusions: One thousand micrograms of self-administered vaginal misoprostol 12 hours prior to day-care hysteroscopy, after 14 days pre-treatment with vaginal estradiol, has a significant cervical ripening effect compared with placebo in postmenopausal women. Self-administered vaginal misoprostol of 1000 micrograms at home the evening before day care hysteroscopy is safe and highly acceptable, although a small proportion of women experienced lower abdominal pain. There is a risk of lower abdominal pain and light preoperative bleeding with this regimen, which is inexpensive and easy to use.
Keywords: Cervical ripening, misoprostol, postmenopausal, estradiol, sequential trial.

FC3_11

Essure placement and IUD: a challenge?

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Introduction: After placement of the newly introduced device for hysteroscopic sterilisation, Essure® on has to use any contraceptive until the confirmation test after three months has proven the success of the sterilisation procedure. Most patients prefer to continue their used contraceptive method; patients with an IUD can be advised to remove their IUD any time before the procedure in order to facilitate the hysteroscopic surgery. Leaving the IUD in situ can be an advantage for the woman, to rely on her well trusted method during that period. The hypothesis is that Essure sterilisation can be hampered by the intra uterine device.
Study set up: Surgeons, experienced with Essure sterilisation, registered their experiences with the placement with this Eassure while the IUD was left in situ. Data collection was done from 2005 till 2009.
Procedures were done in 5 regional training centers throughout France and the Netherlands.
112. patients have been included.
Outcome: 2 Sterilisations were done with general anaesthesia. One Procedure with local and 11 procedures with iv sedation; 98 women did got only premedication .VAS to register the pain was 3.7 . In 11 out of 112 procedures the IUD had to be removed during placement of the device in order to succeed the procedure. No failures of placement were registerd in this group. Confirmation test at three months were Xray in 51, HSG 33 and ultrasound in 77 women.; combination tests were done in 44 women.
No complications occurred in this group.
Conclusion: Despite the hypothesis that an IUD could hamper the Essure placement, our study proved that the placement failure was even higher than the overall placement rate in literature; even pain score list did not differ with the general published pain neither did we had more complications. Most confirmation test were X ray or ultrasound; HSG was needed in 30%. An IUD can be left in place in order to offer the woman to rely on her usual contraceptive during the waiting period of three months.

FC3_12

Clinical outcomes and costs with the hysteroscopic (Essure®) or laparoscopic (Filshie®) tubal sterilisation

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Background: Female sterilization has undergone changes during the last decade. Besides laparoscopic tubal occlusion, the hysteroscopic Essure® System is now a viable option. There is limited data about costs of these options but there are no studies were also the effectiveness is taken into account.
Objective and hypothesis: The objective of this study was to evaluate the costs and effectiveness of hysteroscopic office Essure® System and laparoscopic Filshie clips®.
Methods: A retrospective cohort study including all sterilisations in Hyvinkää Hospital between 2006–2007 (120 women with Essure®, 104 women with Filshie®). Data on effectiveness (health- related quality of life, pain, bleeding profile, vertigo, emesis, infections) were obtained from questionnaires. Data on direct costs including use of hospital services (procedures, outpatient visits, complications) and medication, and on indirect costs including sick leave days were obtained from medical records and the questionnaires.
Results: Essure coils were successfully placed in 102 of 120 women (85%), 10 women required laparoscopic Filshie and 8 wanted to have some other contraception after Essure attempt. All 104 laparoscopic sterilisations were completed on the first attempt, one laparatomy after

one day because of bleeding and haematoma. The groups were similar according to the demographic factors and there were no pregnancies during the follow-up. The total costs for the 120 women in Essure group were €1340 per women and respectively in Filshie group €1604. In the EQ-VAS score there was no statistical difference between the groups and the satisfaction with the procedure was similar (96%). There were significantly more postoperative pain (same day (p=0.03), during the first week (p=<0.001)), vertigo (p= 0.005), headache (P=0.05) and infections (0.04) in Filshie group than in Essure group. More women in Filshie group reported irregular menstrual bleeding (p=0.05) and increased menstrual blood loss (p=0.03).

Conclusions: The hysteroscopic Essure® System in an ambulatory setting is more cost-effective than laparoscopic Filshie®. Although our results reflect the introduction of the new method with only 85% of women successfully sterilized with Essure, the total cost saving per intended sterilisation with Essure is €264 per case (the sick leave days included). The clinical outcomes (postoperative symptoms and menstrual bleeding) were in favour of Essure.

FC3_13

3D vaginal ultrasound. A reliable confirmation test after Essure® hysteroscopic sterilization. A prospective single-center study

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Objective: To validate 3D ultrasound for the localization of Essure® micro-inserts after hysteroscopic sterilization.

Design and methods: Prospective single-center study. Between April 2006 and february 2009, all patients undergoing ambulatory hysteroscopic sterilization were assessed using 3D Transvaginal ultrasound and plain pelvic X-ray three months after surgery. Five positions of the micro-inserts crossing the utero-tubal junction were described by 3D ultrasound: I, II, III: ideal position. II, III: distal but good position. I, II: proximal position. I: intrauterine position. III: distal tubal or intraperitoneal position.

Results: During the study period, 118 patients were included. The mean age was 41.3 years (range, 30–48 years). All the procedures were ambulatory. 12 procedures (10.2%) and 106 procedures (89.8%) were performed with and without general anaesthesia respectively. All procedures were uneventful. 87 patients which had bilateral tubal successful placement of the micro-inserts and 3D US confirmation test were assessed. The mean operative time was 10.2 minutes. Laparoscopic tubal ligation was proposed In case of failure of the procedure or in case of abnormal USD position (I, I,II and III). The mean number of coils visualised by hysteroscopy was 3.9 on the right side and 3.6 on the left. Transvaginal 3D ultrasound imaging successfully demonstrated adequate placement of the micro-inserts within the uterine mucosal and cornual portion to the proximal fallopian tube. 3D ultrasound performed three months after surgery showed coils positions I, II, III or II, III in 79 cases (98%) on the right side and in 83 cases (95.4%) on the left. Pelvic X-ray performed three months after surgery confirmed the intrapelvic placement of the implants without further description. One pregnancy was reported in our series with a secondary intra-uterine migration of the implant (I, II US position). In this case, tubal obstruction was suggested after HSG.

Conclusion: Transvaginal 3D ultrasound performed 3 months after hysteroscopic sterilization may be used as a first line confirmation test after Essure® sterilisation. It seems more reliable than HSG to confirm adequate position and efficiency of Essure® micro-implants.

FC3_14

Spontaneous abortion in singleton pregnancies after IVF/ICSI in women before and after hysteroscopic resection of a uterine septum compared to normal controls

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Objective(s): To evaluate the effect of hysteroscopic resection of a large uterine septum (Class V according to the American Fertility Society (AFS) classification) and of a small partial uterine septum (Class VI according to AFS classification or arcuate uterus) on the abortion rate in singleton pregnancies after IVF and ICSI.

Study design: The retrospective matched control study included 31 women who conceived following IVF or ICSI before hysteroscopic resection of a large (12 women) or small partial (19 women) uterine septum and 106 women who conceived following IVF or ICSI after hysteroscopic resection of a large (49 women) or small partial (57 women) uterine septum. For each singleton pregnancy with positive heart beat on the first ultrasoud control in the study group, we found two consecutive pregnant control women from the IVF/ICSI registry who had a normal uterus and were matched for age, BMI, stimulation protocol, the use of IVF or ICSI and for various infertility causes. The abortion/pregnancy rate was the main outcome measure. Data on the septum length were obtained during hysteroscopic resection by comparing the length of the 1.4 cm long yellow tip of the electric knife to the length of the resected septum.

Results: The abortion rate before hysteroscopic metroplasty was significantly higher, both in women with a small partial septum (78.9% before resection vs. 23.7% in the normal controls, OR 12.08) and a large septum (83.3% before resection vs. 16.7% in normal controls, OR 25.00) compared to women with a normal uterus. After the surgery, the abortion rate was comparable to the abortion rate in women with normal uterus: in both women with a small partial and women with a larger septum.

Conclusion(s): Septate and arcuate uterus represent an important and hysteroscopically preventable risk factor for spontaneous abortion in pregnancies after IVF and ICSI.

FC3_15

A retrospective review of patient outcomes comparing Novasure and Microwave Endometrial Ablation

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Objective: To compare the outcomes of two popular second generation endometrial ablation techniques; Novasure and Microwave Endometrial Ablation (MEA).

Materials and methods: 60 patients with Dysfunctional Uterine Bleeding (DUB) who underwent Novasure or MEA between 1/1/2008 to 31/12/2008 were retrospectively reviewed at 6 months, 30 patients in each sample group. Data was collected by telephone questionnaire. Subjective menstrual loss and pain, pre and post procedure, were rated on a scale of 1–10. Patient satisfaction, amenorrhoea rates, procedure recommendation and complications were also recorded.
Results: Menstrual loss improvement was reported in 87% (26/30) of the Novasure group compared with 73% (22 of 30) of the MEA group. 70% (19/27) of patients with dysmenorrhoea in the Novasure group noted an improvement compared with 60% (15/25) in the MEA group. Worsening of pain post procedure was reported in 7% (2/30) in the MEA group. There were no major complications reported in either group, however, endometritis developed in 2 patient who underwent MEA and 1 who had undergone Novasure. Post procedure hysterectomy rate was 7% (2/30) in the Novasure group compared with 10% (3/30) in the MEA group. Amenorrhoea rate was comparatively higher in the Novasure group at 37%(11/30) versus 10% (3/30). Of those who underwent a Novasure 83% (25/30) would recommend this procedure to a friend compared with 57% (17/30) of those who underwent MEA group.
Conclusions: Novasure appears to out perform MEA in reducing menstrual flow and dysmenorrhoea, with markedly higher patient recommendation rates. Of note, the number of patients reporting amenorrhoea was almost four times higher in the Novasure group.

FC3_16

The SECURE study: ultrasound evaluation of the caesarean scar

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Objective: In the Netherlands, the caesarean section (CS) rate has increased from 7.4% in 1990 to 15% in 2005. However, the gynaecological side effects of this procedure are poorly studied. Recently, some attention has been devoted to the presence of a niche at the site of a caesarean scar. A niche is defined as a triangular, anechoic area at the presumed site of incision. The main purpose of the SECURE-study (Scar Evaluation after Caesarean by Ultrasound REgistration) was to assess the prevalence and appearance of a niche, and to evaluate the relation with abnormal uterine bleeding.
Design & methods: An observational prospective cohort study was performed between October 2007 and May 2009. All (225) women were consecutively included and examined with two-dimensional (2D) and three-dimensional (3D) gel instillation sonohysterography (GIS) 6 to 12 months after CS to detect a niche. A questionnaire about the menstrual cycle was completed and women were asked to keep record of their bleeding pattern for a period of 2 cycles. As part of the follow up, the questionnaire will be repeated every year for the next 5 years.
Results: The presence of a niche could be demonstrated with GIS in 117 (56%) out of 209 women. In 16 women distension was insufficient for accurate assessment. Most niches had a semicircular (48.7%) or a triangular shape (31.6%). Examples of different types of niches (2D/3D) will be shown. In the group of women with niche the prevalence of intermenstrual bleeding was 30% compared to 11% in the group without a niche 11% (p=0.002).
Conclusions: A niche can be seen in 56% of women with a caesarean scar, and mostly has a semicircular or triangular shape. Intermenstrual bleeding is significantly associated with the presence of a niche.

FC3_17

Combined hysteroscopic findings and 3D reconstructed coronal view of the uterus to avoid laparoscopic assessment for inpatient hysteroscopic metroplasty.

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Objective: To assess the value of the combined use of intra-operative hysteroscopic findings and 3D reconstructed coronal view of the uterus to differentiate between septate and bicornuate uteri in order to avoid laparoscopic assessment for inpatient hysteroscopic metroplasty.
Design: Prospective clinical study.
Setting: Academic infertility clinic.
Patient(s): Fifty-nine patients affected by recurrent abortion with hysteroscopic diagnosis of double uterine cavity and 3D-sonographic diagnosis of septate uterus undergoing inpatient hysteroscopic metroplasty.
Intervention(s): Inpatient hysteroscopic treatment of septate uterus without laparoscopic confirmation of the diagnosis. In addition to the sonographic conclusion, two intra-operative hysteroscopic findings (visualization of the muscular fibres and blood vessels of the myometrium) were used to further differentiate between septate and bicornuate uteri.
Main outcome measures: Operative parameters (operative time, fluid absorption), complications (incomplete resection, uterine perforation), need for second intervention and shape of the uterine cavity at 3 months hysteroscopic follow-up.
Results: In 56 (94.9%) of 59 patients, intervention was performed without complications, whereas in 3 cases was suspended because of the suspect of bicornuate uterus based on the hysteroscopic appearence. These three patients underwent laparoscopy which confirmed the diagnosis of septate uterus, and in all cases the incision performed was considered as sufficient. Post-operative diagnostic hysteroscopy showed a normal shaped cavity in all patients (fundal notch less than 1 centimeter).
Conclusions: Combined use of hysteroscopic parameters and 3D sonography seem to be a reliable and simple technique to characterize the presence of a septate uterus and to perform an inpatient metroplasty without laparoscopic visualization of the uterine fundus.

FC3_18

Office hysteroscopic procedures in the endouterine pathology

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Project: To review office hysteroscopic procedures.
Methods: Hundred and sixty-four patients with hysteroscopic procedures, septum incision in 102 (62.2), myoma resection in 28 (17.1), polypectomy in 27 (16.5) and synechiolysis in 7 (4.2) cases.

Results: The mean value of age is 35.2 years (range 21–49).
Preoperatively all patients were underwent to an ultrasound examination. No more than 4 hours after operation all patients went home. Hysteroscopic procedures were with i.v. anesthesia.
Conclusion: In selected cases office hysteroscopic septum incision, myoma resection, polypectomy and synechiolysis is feasible and safe procedure.
No surgical or general complications were encountered.

FC3_19

Two cases of rare complications post Essure® application
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Essure- hysteroscopic sterilization is rapidly replacing interval laparoscopic tubal sterilization. Essure is regarded as a highly successful procedure, with a 5-year effectiveness rate of 99.8%. Very few unintended pregnancies were reported in the past following Essure application. In all cases, patients' noncompliance, physician noncompliance or misinterpreted HSG or X-ray 3 months following the procedure were the reasons for those pregnancies. The pregnancies were reported for the years1998 though 2007. The FDA-MAUDE—(Manufacturer and User Facility Device Experience) reported only 5 cases of pregnancies from January 2004 through January 2009. This was attributed to the improved compliance with the recommended protocol that reduced unintended pregnancies significantly. Attention to timing with respect to the menstrual cycle and performing the procedure in the proliferative phase to eliminate luteal phase pregnancies. Proper interpretation of the HSG further reduced unintended pregnancies.
We report a case of intrauterine pregnancy which appeared one year after successful bilateral application of Essure. The patient underwent 3D Ultrasound 3 months following the procedure, which demonstrated proper bilateral placement of the Essure. This patient underwent termination of pregnancy.
In an additional patient, after 3 months follow-up, HSG demonstrated passage of contrast media thought the left tube. Diagnostic hysteroscopy revealed spontaneous expulsion of the coil from the left tube to the uterine cavity. This patient was a grandmultipara, who had an anatomical variation of the left tubal ostia. An additional Essure coil was applied to block the left tube. We conclude that surgeons'experience as well as improved 3D ultrasonography skills and strict patient selection are dominant factors in avoiding such complications.

FC3_20

Essure®—The Jewish Perspective
Ariel Revel
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Worldwide, tubal sterilization is the most commonly chosen form of contraception by women who have completed their desired childbearing. In the United States, it is chosen by more married or formerly married women than any other method. Sterilization has enjoyed increasing popularity primarily owing to technologic advances and increasing social acceptance. Improvements in technique and technology have rendered it a very safe, effective, and cost-efficient outpatient procedure.
Essure has been offered in Israel since early 2007. Nevertheless, it appears that the demand for this procedure is lower than other countries. The major reason is that Essure is not included in Israel's health basket. Thus, patients have to privately cover this expensive (>1,000 euro) procedure. We also noted that the vast majority (55%) of our patients are grand multipara [women who had given birth 5 or more times]. Moreover, the majority of Essure patients were either orthodox or ultra-orthodox Jewish couples. This is much more than their relative portion in the Israeli society.
Sterilization ought to be considered in the context of medical, biological, social, and marital implications. Since the infertility resultant from sterilization is shared by both marriage partners, both must share in the decision. For many people, religion plays a significant role in influencing decisions about birth control use. The knowledge of contraception has been accounted for, since early times. Religious views on birth control vary widely. Even religions that seem to be opposed to birth control have traditions that allow the use of contraceptives. There can be economic, moral, medical, or social grounds for sterilization. Various religions allow sterilization in some situations and not in others.
Ultra-orthodox Jewish couples routinely also ask for consent from their Rabbi prior to many decisions and certainly when contemplating sterilization. The specific circumstances of each couple are central for the recommendation decision by a Rabbi or other meaningful religious authorities. Destruction of reproductive organs is prohibited by Jewish Law. There is a distinct commandment, based on Leviticus 22:24, forbidding sterilization of both people and animals. The prohibition is considered a biblical commandment. Thus, castration of either humans or animals is strictly forbidden. The prohibition for men is stronger than that for women. Vasectomy is therefore not permitted. A Rabbi may however permit tubal ligation in extreme circumstances, where other methods of contraception cannot be used and pregnancy would be a serious health concern.
Sterilization differs from other forms of contraception because it is irreversible. If it were reversible, even in theory, it would be easier to permit. Therefore, when choosing the method of tubal destruction, the rabbi may prefer the use of plugs or clips over cautery or other methods of direct destruction. Essure, in this sense is complex since it is less reversible; however, tubal destruction is less direct. Interestingly, Essure's mechanism of action has religious implications which are pertinent to the Rabbi's decision. This is due to the rule of 'Grama'. A 'Grama' in Jewish law is something that was caused by something else but whose outcome is not guaranteed. For example, if somebody caused financial harm to somebody else via an action that was not guaranteed to harm them, the person cannot be forced by a court to pay, although he might be morally obligated to. The permission by many Rabbies was based on the gradual tubal closure over a few weeks to result in tubal blockage. This 'Grama effect' is what makes Essure preferable to tubal ligation, which is a direct and immediate procedure of sterilization.
We conclude that since grand multiparity is much more common in Israel (~15%) as compared to many developed countries and since many of these grand multiparous patients consult with a Rabbi prior to Essure instalation; it is helpful if the physician explain the Essure's

mechanism of action in light of the 'Grama' effect. This approach may enable Jewish orthodox multiparous women to obtain permission from their Rabbi to install Essure.

FC3_21

Satisfaction of hysteroscopic tubal sterilization with essure microinserts

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Objective: To assess the satisfaction at short, medium and long term of women after hysteroscopic sterilization with Essure® device in our Hospital.
Materials and methods: Hysteroscopic sterilization is applied in our unit since 2003, and 3,200 women have undergone this procedure. Four focus groups were conducted with users of different features for their thoughts on the process. Transcribed the contents of the groups and the views were grouped into thematic ad hoc. We used open-ended questions to explore topics relevant to women. We validated a questionnaire and it was answered by telephone.
Results: They are still under study.
Conclusions: Waiting for results.

FC3_22

Prevalence of intrauterine pathologies after early instrumental revision of uterine cavity after spontaneous delivery—hysteroscopic assessment

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Objective: To evaluate with office hysteroscopy the prevalence of intrauterine pathologies (intrauterine adhesions and placental remnants) after the early instrumental revision of the uterine cavity after a spontaneous delivery.
Material and methods: We included subsequent 48 patients after a spontaneous delivery who underwent instrumental revision for various reasons: unsuccessful removal of the placenta (n=38; 79.2 %), serious postpartum bleeding (n=10; 20.8 %). All women had a ultrasound scan with vaginal probe at 6 weeks and all were scheduled for office hysteroscopy during another 6 weeks. According the ultrasound examination we divided patients into 3 groups: Group A—negative: homogenic endometrium less than 5 mm; Group B—suspicious: non-homogenous endometrium 5 to 10 mm with negative colour Doppler; Group C—positive: hyper-echogenicity more than 10 mm with positive colour Doppler.
Results: We have found adhesions, residua or both in 31 (64.5%) patients. Placental remnants (histological verification) were found in 43.7% of all patients. All positive findings were hysteroscopically treated at the same session.8 patients (16,7%) underwent the procedure under general anaesthesia—only one of them due to pain.
In group A (n=26; 54.1 %) 13 patients (50%) had a positive findings. 12 patient had mild complication (n=7; 27% adhesions ESGE I-II; n=3, 11.6% small residua; n=2; 7.7% both). In one patient we detected and treated severe adhesion—ESGE III. In group B (n=11; 22.9 %) 8 patients (72%) had a positive findings. 7 patients had a mild complications (n=5; 45.5% small residua; n=2 ; 18.2% had residua together with mild adhesions-ESGE I-II) In one case we detected and resected large residua. In group C (n=11; 22.9%) 10 patient (91%) had a positive findings. Mild adhesions n=2 (18.2%); small residua n=2 (18.2%) and severe residua n=6 (54.6%).
Conclusions: Revision of the uterine cavity after delivery carries a subsequent risk of further intrauterine pathologies. This study shows that the number of the pathologies—64.5% is very high. It might justify providing routinely office hysteroscopy in all patients after early postpartum revision of uterine cavity.
This study was supported by the Grant Agency of the Ministry of Health of the Czech Republic, grant NR 10576-3.

FC3_23

Spinal dysraphism in an early missed abortion: embryofetoscopic diagnosis

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Objective: We describe a case of spinal dysraphism in a early missed abortion, diagnosed by means of embryofetoscopy, in a 31-year-old woman with a history of previous miscarriage diagnosed with a missed abortion at 11 weeks of pregnancy.
Materials and methods: Since the trans-vaginal ultrasound image appeared unclear, a trans-cervical embryoscopy with targeted tissue biopsies was performed. The endoscopic morphologic examination focused on a remarkable dorsal cystic formation covered by a blood clot, suggesting meningocele or myelomeningocele. A selective tissue biopsy of the cystic lesion confirmed the presence of meningeal tissues, such as a meningocele.
Results: According to the literature, the upper neural tube defect may provide a causal explanation for this early missed abortion. The neural tube defect was not visible using trans-vaginal sonography.
Conclusions: To answer to specific questions of parents as to probable cause of embryonic death, embryofetoscopy could be used to supplement the traditional sonographic method.

FC3_24

The impact of prophylactic antibiotics on infectious complications in outpatient office operative hysteroscopy: a prospective randomized study

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Objective: In this study we investigated the necessity and the impact of prophylactic antibiotics on infection rate after office operative hysteroscopy (OOH).

Materials and methods: We enrolled 886 women undergoing OOH for benign intrauterine pathologies (polyps and myomas). Thirty minutes before surgery, the A group (n=445) received cefazolin 1 g, while B group (control group: n = 441) received a 10 mL solution of isotonic sodium chloride. All procedures were performed using an Office continuous-flow operative hysteroscope "size 4" and a bipolar Twizzle electrode, through the vaginoscopic approach, without anaesthesia. The intrauterine pressure was constantly maintained at around 30–40 mm/Hg. Patients' characteristics and office operative outcomes were compared. The overall infection rate was 1.3% (0.5% in A group and 1.4% in B group).
Results: No significant difference in the infection rate was found among groups. No risk factors, possibly contributing to infective complications, were detected. The infection rate after OOH is very low if some precautions are followed. In our study, the incidence of post-operative infection rate is very low. Such a result could be related to the maintaining of a constant intrauterine pressure at around 30–40 mm/Hg, thus avoiding the over-distention of the muscle fibers and hence patient discomfort, as well as preventing tubal spillage.
Conclusions: The OOH, through the vaginoscopic approach, without anaesthesia, is effective and safe in preventing infectious morbidity and it can be performed without any antibiotic treatment.

FC3_25

Hysteroscopic identification of hydatidiform mole

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Objective: The hydatidiform mole, a form of abnormal conception, affects 1 to 3 women in every 1000 pregnancies. In perimenopausal age, it represents a rare cause of abnormal uterine bleeding (AUB). In these patients, the diagnosis is often casual after curettage performed for AUB or thickened endometrium at trans-vaginal ultrasound scan (TVS). Very few reports describe the hysteroscopic detection of such uncommon lesion.
Materials and methods: We report a case of a 51-year-old multiparous woman, who was referred to our department with severe AUB for 10 days. TVS showed a grossly abnormal endometrial echo pattern, measuring 50 mm. The patient underwent office hysteroscopy with vaginoscopic approach using a 5-mm continuous-flow office hysteroscope. Multiple lesions of gelatinous consistency and vesicular feature were detected and the vesicles were 2–3 mm sized and filled with color-less fluid. Multiple targeted biopsies were performed by means of 5F grasping forceps.
Results: Histology revealed hydropic villi with cisterns and trophoblastic cells, confirming the clinical suspicion of complete hydatidiform mole. The patient underwent surgical evacuation under general anaesthesia. After the operation, b-human chorionic gonadotropin decreased to negative levels in 7 weeks and remained negative for 10 months.
Conclusions: The knowledge of the hysteroscopic pattern in case of hydatidiform mole seems to be important, as an increased incidence of such a pathology has been reported at the extremes of reproductive age, when hysteroscopy is usually performed with other diagnoses in mind.

FC3_26

Endometrial polypectomy: outpatient versus inpatient treatment

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Objective: The aim of our study was to compare outpatient with inpatient hysteroscopic polypectomy (HP).
Materials and methods: Sixty patients, diagnosed with endometrial polyps by means of office hysteroscopy (OH) were divided into 2 groups: 30 women (A group) underwent a outpatient HP using an Office continuous-flow Operative hysteroscope, equipped with bipolar electrodes and grasping forceps, through the vaginoscopic approach, without anaesthesia; the other 30 women (B group) underwent an inpatient HP by means of a monopolar resecting loop under general anaesthesia. All patients underwent a 6-month.follow-up OH. Our results showed no difference in term of effectiveness of procedure among groups. No failures or complications occurred in both groups. The mean intra-operative Visual Analogue Scale (VAS) (0–100 mm) pain score during outpatient HP was 19.3 mm (0–75). The day of the intervention, 83.3% of A group versus 23.3% of B group reported no discomfort; 10.0% of A group versus 43.4% of B group complained of discomfort; 6.7% of A group versus 33.3% of B group reported moderate pain. The day after the intervention, all A group reported no discomfort compared with only 56.7% of B group.
Results: At 6-month follow-up, no recurrence/persistence of the pathology occurred in both groups.
Conclusions: Currently, miniaturized hysteroscopes, equipped with bipolar electrosurgical systems, allow surgeons to perform HP safely and successfully in the office-based setting, without anaesthesia, while offering significant cost advantages as well as patients' preference.

FC3_27

Operative hysteroscopy: prevention and management of complications

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The operative hysteroscopy has significantly reduced the use of invasive procedures in the treatment of uterine disorders. Although the safety of this technique is widely documented, its increasing use requires a careful assessment of possible intra-operative or delayed complications Among these the most serious are the perforations, the gastrointestinal and genitourinary injuries, bleeding, the intravasation of liquid distending media. The uterine wall can be perforated in the course of cervical dilatation or insertion of resettoscopy, even when using thermal loop. The thermal damage may also involve the neighboring organs, including bowel or large vessels. The study of the drilling must be performed under direct endoscopic vision in order to define location and entity ; in case of perforation from thermal loop is necessary to ensure the integrity of the pelvic organs. Risk of

perforation from thermal loop is higher in course of endometrial ablation, miomectomia (especially for miomas voluminous or intramural), adhesiolysis, metroplasty or when acting at the cornual region. Possible complications of this surgical procedure are quite rare and sometimes serious, but they must be carefully known as treatable and preventable. Therefore careful preoperative assessment, adequate monitoring during the intervention and, above all, knowledge of issues and possible accidents that this type of surgery may be necessary.

FC3_28

Two minute thermal balloon endometrial ablation (thermablate) with and without concomitant hysteroscopic tubal occlusion (essure)

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Objective: To determine feasibility, safe and efficacy of the 2 minute Thermablate balloon to treat menorrhagia with and without concomitant hysteroscopic fallopian tubes microinserts (Essure).
Materials and methods: Prospective multicentre cohort trial (Canada Task Force Classification II-2) including 120 women with menorrhagia. Procedures were performed under general anesthesia (n=36), or conscious sedation with or without paracervical block (n=84). Preoperative patient assessment included Papanicolau smear, endometrial biopsy and transvaginal sonography with or without intrauterine saline or gel infusion and/or hysteroscopy. Intra-operative assessment included pelvic exam and uterine sounding to confirm uterine position and cavity length followed by cervical dilatation to 6–7 mm and hysteroscopy prior to Thermablate balloon insertion. The new Thermablate controller/balloon system delivered preheated (~170°C) glycerin solution and sustained intra-balloon pressures at ~220 mmHg for 30, 30 and 60 sec treatment cycles. Post-treatment hysteroscopy was performed in all patients and micro-inserts (Essure) were inserted in 15 women. In 10 women the micro-inserts were placed prior to and 5 after Thermablate balloon ablation.
Results: There were no intra- nor post-operative adverse events. At 3 to 12 months (median 9) patients reported amenorrhea-30%, spotting/hypomenorrhea-53%, eumenorrhea-7%, menorrhagia-10%, sand overall satisfaction rate of 85%.
Conclusions: All micro-inserts were placed successfully and at 3–6 months all tubes were obstructed.

FC3_29

Feasibility of out-patient operative hysteroscopy

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Objective: To evaluate the feasibility of operative hysteroscopic operations in an IVF unit we registered the complication rate, the pain score and patients satisfaction rate.
Materials and methods: Prospective online registration. The IVF unit, located in the polyclinical tract of the hospital, is equipped with a high tech operation room (Storz OR1), no specific recovery room, only interventions under sedation or local anaesthesia are performed and the IVF organisation provides a delay of 5–10 minutes between procedures with a maximal post operative stay of 1½ hour per patient. Patient selection was performed on the base of an ASA score of less than two and the expected operation time who should not exceed 30 minutes. All interventions where performed with saline as distention medium using the Hamou flow- pressure control pump unit. Both the Betocchi operative hysteroscope (3.4 mm) as the bipolar resectoscope (9 mm) was used. (Karl Storz endoscope). A questionnaire was given immediately after the operation by one of the nurses. Patients fill in if they felt pain during or after the operation, if they were satisfied and if they would agree to repeat the procedure in the same way.
Results: From January 2007 till October 2008, 445 therapeutic hysteroscopy's were performed. 213 (47.8%) patients suffered from abnormal uterine bleeding, 130 (29.2%) were infertility patients, 34 (7.6 %) had an abnormal endometrium on ultrasound and 68 (15%) had other indications. Following procedures where performed: 163 polyp resections, 67 diagnostic procedures, 40 resections of residual throphoblastic rests, 35 myoma resections, 35 endometrial ablations, 35 septum resections, 23 treatments of Ashermann syndrome and 13 hysteroscopic removals of intrauterine device. Two complications where registered, in one myoma resection the 30 minutes surgical time was exceeded and one uterine perforation occurred during resection of placental rests. Both patients received observation in a recovery unit. The questionnaire showed a very high patient satisfaction rate with 94% of the patients being very satisfied and agreed to repeat the procedure in the same way.
Conclusions: Sedation seems to be an excellent way for pain relieve and also post operatively only few patients reported pain. Therapeutic hysteroscopic operations can easily be integrated in an out patient IVF operation unit. With proper patient selection there is a very low complication and high patient satisfaction rate.

FC3_30

Hysteroscopy combined with laparoscopic metroplasty for the treatment of complete bicornuate uterus-two cases report

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Objectives: To evaluate the safety and efficacy of hysteroscopy combined with laparoscopic metroplasty for the treatment of complete bicornuate uterus.
Materials and methods: Case 1, Liu, 32 yrs. Spontaneous abortion 3 times. Complete bicornuate uterus was shown by B ultrasonography and hysteroscopic examination. Hysteroscopy combined with Laparoscopic metroplasty was performed under general anesthesia at December 2006. Case 2, Zhou, 41 yrs. Spontaneous abortion 3 times. Complete bicornuate uterus was found for 7 years and suffered from diabetes mellitus. Hysteroscopy combined with Laparoscopic metroplasty was performed under general anesthesia at May 2007. Surgery was performed under hysteroscopy first. Uterine fundus was resected and perforated horizontally by needle electrode. Secondly laparoscopic suture was sewed on the uterine wall vertically. There are 5 sutures in all. Contraception should be following for 1 year.
Results: Case 1 delivered a girl by CS at 36 W gestations, weight 2650gm. Case 2 delivered a girl by CS at 39 W gestations, weight 3600gm. Both mother and baby are healthy.

Conclusions: Hysteroscopy Combined with Laparoscopic metroplasty for the treatment of complete bicornuate uterus is mini-invasive, safe and effectiveness. It is best alternative of metroplasty by laparotomy.

FC3_31

Hysteroscopy findings in women evaluated for infertility: retrospective analysis of 953 patients

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Objective: To describe the hysteroscopy findings in infertility women.
Materials and methods: Retrospective series of consecutive patients. Setting: Tertiary care university hospital and private office**.** Patients: Nine hundred and fifty three patients with infertility diagnosis analyzed by hysteroscopy during June 1993 and December 2004. Intervention: Hysteroscopies were performed using 2.9 mm or 4 mm telescopes employing CO_2 or saline as the distension media. Biopsies were performed with a 5 mm grasper or with a Novak's curette.
Main Outcome Measure(s): Hysteroscopic findings and histological analysis of biopsies.
Results: Abnormal findings were the most frequent hysteroscopic finding and it was diagnosed in 517 (54.2%) cases included: intrauterine synechiae in 185 patients (19.4%), endometrial polyps in 115 (12.1%), endocervical polyps in 66 (6.0 %) submucosal myomas in 47 (4.9%), endometrial hyperplasia in 39 (4.1%), adenomyosis in five (0.5 %), endometritis (with histopathologic confirmation) in four (0.4%), endometrial osseous metaplasia in two (0.4 %) and endometrial cancer adjoining a submucosal myoma in one case (0.1%) of. Morphological and functional uterine alterations represented 5.6% of the cases including: uterine malformations in 32 (3.4%), and isthmocervical incompetence in 21 (2.2%). Normal uterine cavity and endometrial biopsy was finding accounting for 436 (45.8%) cases and was more frequent in primary infertility women and none or one abortion ($p<0,05$).
Conclusions: Intrauterine synechiae were the most frequent abnormal findings in patients evaluated for infertility, but in large number of cases the uterine cavity was found to be normal.
Keywords: Infertility; Hysteroscopy; Intrauterine synechiae; Endometrial polyps; Histopathology.

FC3_32

Hysteroscopic findings in patients prior to IVF-treatment

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Objective: Recurrent implantation failure may be due to unrecognized uterine pathology. Hysterosalpingography, transvaginal ultrasonography, saline infusion sonography and hysteroscopy are the tools to assess the inner architecture of the uterus. Hysteroscopy is considered to be the gold standard. In the present paper we evaluate the incidence of intrauterine pathologies in a population prior to in vitro fertilization (IVF) treatment.
Materials and methods: All patients requiring an IVF treatment were scheduled for office hysteroscopy prior to start the IVF. Ultrasound showed no obvious pathology. Between January 2007 and December 2008 260 hysteroscopy's were performed. A 2.9 mm diagnostic hysteroscope was used (Storz).
Results: In 65 of the 260 procedures an abnormality was found (25%). Failure rate was 0,8%. Abnormalities were classified in: cervical and endometrial or cavity abnormality. A cervical abnormality was found in 19 patients. In 39 patients endometrial lesions were described: polyp (38%), hypervascularisation or strawberry pattern (38%). In 37 patients an abnormality of the cavity was present: submucous myoma (11%), T-shaped uterus (24%), uterus arcuatus or uterus subseptus (32%) or Ashermann (8%).
Conclusions: Systematic performance of a hysteroscopy prior to an IVF treatment revealed presence of pathology in 25% of the patients. More attention should be paid to the systematic evaluation of the uterine cavity to exclude pathology possibly interfering with implantation.

FC3_33

First time evidence for increased placental growth factor mrna in endometrium of patients with successful implantation

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Objective: The aim of this prospective study was to analyze the in vivo vascularisation of the endometrium as described at hysteroscopy and to determinate a possible relationship with angiogenic factors and the implantation rate.
Materials and methods: Consecutive infertile patients with a planned hysteroscopic and evaluation for infertility were asked to participate in the study. The study protocoll was approved by the local ethical committee. All patients had a preoperative transvaginal sonography (TVS). To evaluate the vascularisation of the endometrium at hysteroscopy the procedure was performed in the second part of the menstrual cycle. The surgeon was blinded to the TVS-findings. The endometrium quality was evaluated according to the Masamoto grading ("good" vs. "poor") at the time of hysteroscopy and an endometrium biopsy was taken at the end of the procedure. The data were analyzed in order to find a possible relationship between the vascularisation of the endometrium, the implantion rate (spontaneous pregnancy, intrauterine insemination by husband and IVF/embryo transfer) and several angiogenic factors (quantitative mRNA analysis of the endometrium biopsy). For statistical purpose a Student t test was used.
Results: One hundred sixty-two infertile patients with a median age of 36.4 years (range 26–43) were included in the study. One hundred eight (66.7%) were classified endoscopically as having "good" mid-secretory endometrium and 54 patients (33.3%) as "poor". There were no differences in the distribution pattern of the infertility causes between these two groups, the age of the patients and the delay of infertility. The overall pregnancy rate was 37.0% (60 patients). The histological sample of the endometrium biopsy of 16 patients with a successful pregnancy and a "good" endometrium (group 1) were

compared with 10 patients with a "bad" endometrium and without pregnancy (group 2). The patients of the group 1 had a significantly higher concentration of Placental Growth Factor (PlGF) in the histological sample, $P=0.0184$.

Conclusions: This in vivo study demonstrates for the first time that the PlGF in the endometrium biopsy together with the hysteroscopic appearance of the endometrium vascularisation might be an important prognostic factor to evaluate the success rate of a fertility therapy. Our results need a larger number of patients in order to confirm this hypothesis.

FC3_34

Out patients thermablate EAS. A global thermal endometrial balloon ablation for menorrhagia. A retrospective review

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Objective: To determine the feasibility, safety and efficacy of Global endometrial ablation technique using thermal balloon endometrial ablation system (Thermablate-EAS) for treating intractable menorrhagia in the outpatient setting.

Materials and methods: Two year retrospective review of seventy pre-menopausal women who underwent outpatient endometrial ablation (EA) using Thermablate EAS for intractable menorrhagia between March 2005 and November 2006. The exclusion criteria for Thermablate included women requesting general anaesthesia, major structural abnormality and known pre-malignant conditions. Thermal balloon endometrial ablation with Thermablate EAS—by MDMI. It is one of the 3 rd generation endometrial balloon ablation systems, which combines a quick two minutes and eight seconds treatment time with automatic controls of the treatment parameters of temperature and pressure, without the need for prior endometrial preparation. For analgesia women were given oral 100 mg Diclofenac sodium pre operatively & also intra-cervical block with 4% Prilocain and intra cavitary Lidocaine gel. The primary out come measure was the effectiveness of endometrial ablation as indicated by patient satisfaction, with reduction in menstrual loss to a manageable period (eumenorrhoea) and to identify the variables. The secondary outcome measures were inability to complete the procedure, intra operative complications, post operative admission and speed of recovery.

Results: All the patients except one were reviewed 4 months post operatively. 60% of patients (42/70) had noticed improvement with heavy menstrual bleeding and 40% did not notice any improvement. Amenorrhea or oligomenorrhoea was achieved in 39% (27/70) and eumenorrhoea in 21% (15/70). Nearly two thirds of patients (63%) noticed improvement with dysmenorrhoea. 93% were happy to have the procedure again if required and 88% were happy to suggest the procedure to friends. The total time the patients were in the clinic averaged 90 minutes. All the patients managed to return to normal activity within 2 days and 55 (78%) of them returned to work the following day. In this study we did not find any of the independent variables such as age, parity, uterine size or volume and small fibroids having any bearing on the out come of endometrial ablation. No case was abandoned due to inability of the patient to tolerate the procedure. No patient received any rescue analgesia or had to be admitted for observation over night. There were no intra operative complications. The majority of women rated the pain as none to mild and only a few said it was severe. There were no readmissions.

Conclusion: Thermablate EAS system is an effective thermal balloon device for treating menorrhagia in an outpatient setting under local anesthesia with a high patient acceptability, no intra operative complications and minimum morbidity.

Keywords: Menorrhagia, Thermablate EAS, Endometrial ablation, Eumenorrhoea, out patients

FC3_35

Local anaesthesia for pain control during outpatient hysteroscopy: a systematic review and meta-analysis

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Objective: To compare the effects of various local anaesthetic techniques for pain control during outpatient hysteroscopy.

Materials and methods: Systematic review and meta-analysis of randomised controlled trials (RCT's). Outpatient hysteroscopy clinics. Partecipants: Women undergoing diagnostic or operative hysteroscopy in the outpatient setting (i.e. without general anaesthesia). Study selection criteria: Medline, Embase, CINAHL, the Cochrane library and reference lists of relevant studies. Two reviewers independently selected trials. Data were abstracted on quality, characteristics and results.

Results: There were 20 trials (2851 participants). Data from 15 of these were meta-analysed in subgroups. Intracervical (Standardised Mean Difference −0.36, 95%CI −0.61 to −0.10, $I^2=0\%$) and paracervical (SMD −1.28, 95%CI −2.22 to −0.38, $I^2=97\%$) injections of local anaesthetic were found to significantly reduce the pain of outpatient hysteroscopy, whereas transcervical (SMD −0.11, 95%CI −0.31 to 0.10, $I^2=27\%$) and topical application (SMD −0.32, 95%CI −0.97 to 0.33, $I^2=90\%$) were not. Paracervical injection was superior to the other anaesthetic modalities ($p=0.048$). Use of local anaesthetic did not have a significant effect on the incidence of vasovagal episodes ($p=0.09$).

Conclusions: For pain control during outpatient hysteroscopy a paracervical local anaesthetic injection should be preferred over other methods of local anaesthesia.

FC3_36

Asherman syndrome: scissor adhesiolisys

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Objective: We show the utility of continuous flow hysteroscopy with scissors in the treatment of uterine sinequias.

Material and methods: Our experience since 1st january 2000 to 31th december 2008 with 153 patients treated is presented.

Results and conclusions: Continuos flow hysteroscopy is an ideal procedure that can be performed in an outpatient consultation to resolve uterine sinequias. It can be made without anestesiae. The use

of a thin optical scissors allows fine and controlled cut. A control hysteroscopy must be done the month after. There is no evidence that any postsurgery treatment is necessary. The results are highly satisfactory.

FC3_37

Observer reproducibility in the evaluation of the uterine cavity by hysteroscopy in asymptomatic infertile women

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Objective: Hysteroscopy is known as the most accurate test for diagnosing intra-uterine pathology. The aim of this study was to assess the intra- and interobserver agreement in evaluation of the uterine cavity using video recordings of hysteroscopies in asymptomatic patients prior to IVF.

Materials and methods: Hysteroscopy examinations in asymptomatic women prior to IVF were recorded on DVD. The hysteroscopy performer and three other experienced gynaecologists independently assessed all recordings on the appearance of predefined *minor* intra-uterine abnormalities (polyps, myoma, adhesions, septa). To calculate the intra- and interobserver agreement,kappa statistic was used; a measure of agreement above or below what is expected to be the agreement by chance. A κ-value of <0.40 indicates poor-fair agreement, 0.41–0.80 intermediate-substantial agreement and 0.81–1.00 excellent agreement.

Results: 103 hysteroscopies were recorded. Intraobserver agreement on the appearance of any of the predefined minor intra-uterine abnormalities was substantial (κ: 0.71), interobserver agreement was intermediate (κ: 0.46). Perfect agreement occurred in 75,4% of cases.

Conclusions: Intraobserver agreement for evaluation of the uterine cavity using video recorded hysteroscopies was found to be satisfactory. Interobserver agreement appeared to be disappointing. This may have implycations for the diagnostic accuracy of screening hysteroscopy prior to IVF.

FC3_38

Outcome of outpatient hysteroscopy in patients with suspected cancer in a district general hospital

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Objective: To assess the outcome of Outpatient Hysteroscopy (OPH) in patients with symptoms suspicious of cancer.

Materials and methods: Data was collected prospectively over 5 months.

Results: 141 patients underwent OPH. Mean age was 55.5 years. 71 patients underwent OPH due to post menopausal bleeding (50.4%), 24 had menorrhagia (17%) and 23 had irregular perimenopausal bleeding (16.3%). 6 menopausal patients had incidental finding of thickened endometrium. 47 women had a normal OPH (33.3%). 46 women had polyps diagnosed (32.6%) and 31 underwent polypectomy during OPH (67.4%). 32 women had inpatient hysteroscopy (IPH) (22.7%) due to discomfort, cervical stenosis or large lesions. 9 endometrial cancers were diagnosed (6.4%). 77 patients were discharged following OPH (54.6%).The rest underwent IPH, treatment for cancer or needed follow up for coincidental pathology. 2 patients had perforations during OPH and were treated with antibiotics.

Discussions: OPH is a developing field and retrospective reports demonstrate its effectiveness and safety[1]. It is an acceptable procedure to women. Our data confirm the high proportion of women who can be assessed, treated and discharged after OPH. This results in less need for hospital beds hence reducing costs. Complication rates following OPH also appear to be very low. A significant proportion of women needed IPH in this group. This may be explained by the recent set up of this clinic and use of new equipment and personnel. We anticipate fewer IPH in the future with increasing experience and advances in operative hysteroscopic equipment.

FC3_39

Essure® permanent birth control: worldwide experience 2000 to 2009

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Objective: To review worldwide experience with the Essure permanent birth control system and compare feasibility and effectiveness outcomes with pivotal trial data.

Materials and method: Hysteroscopic sterilization using the Essure® permanent birth control system has revolutionized female sterilization and is replacing traditional transabdominal approaches. Compared with other forms of female and male sterilization evaluated in CREST, Essure, with a 5-year effectiveness rate of 99.7%, represents the most effective of all male or female sterilization methods. Increasing use of the technique in routine clinical practice provides the opportunity to compare extensive worldwide commercial experience with original trial data regarding safety, feasibility, patient satisfaction and effectiveness.

A literature review of >180 publications on Essure use retrieved from a PubMed literature search (through June 2009) and data from the 2008 Conceptus PMA Annual Report to the US FDA.

Results: As of June 31st, 2009, >305,000 Essure kits have been distributed worldwide including >101,000 outside the U.S. Following CE mark and FDA approval in November, 2002 until December, 2008, 260,000 Essure kits were distributed worldwide. During this time 305 pregnancies were reported including 51(17%) reports of pregnancies outside of the U.S. and 254(83%) in the U.S. The majority of pregnancies occurred due to lack of patient (96; 31%) or physician (38; 12%) compliance or to misread/misinterpreted confirmation tests (91; 30%). Worldwide published data consistently reports high levels of feasibility (bilateral device placement rates (95–99%) patient satisfaction (96%–100%**)** comparable to data from the pivotal clinical trials (bilateral device placement rates 95%, satisfaction rates (96%–99%).

Conclusions: The Essure permanent birth control system is safe, feasible, effective and associated with high levels of patient satisfaction in routine worldwide clinical practice. These data derived from nine years of commercial experience establish Essure as the benchmark of excellence for hysteroscopic sterilization.

FC3_40

Clinical evaluation of long term safety and effectiveness of GYNECARE THERMACHOICE III (TCIII) Uterine Balloon Therapy (UBT) system for menorrhagia

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Introduction: Primary outcome compared rates of post-ablation amenorrhea (TCIII) to first generation (TCI) thermal UBT system at 36-month post ablation. Amenorrhea was defined as the complete lack of bleeding at 36-month follow-up.
Methods: 250 premenopausal female patients at least 30 years old with menorrhagia, were enrolled in a prospective, randomized, multicenter, controlled study. Patients were assigned randomly to post procedure curettage (PPC) or no post procedure curettage (NPPC) to assess their outcomes. Incidence of amenorrhea was assessed at 12 months using individual success defined by a pictorial blood loss assessment chart (PBLAC) score of 0; 24-and 36-month follow-up by patient's response on a 5-point scale (amenorrhea, spotting, light, normal, or excessive bleeding).
Results: At 36 months post ablation, Intent to Treat (ITT) population, amenorrhea rates were 26.8% (TCIII) compared to 13.0% (TCI) and 29.8% (NPPC group) compared to 23.8%
(PPC group). No unanticipated adverse events were reported throughout the 36 month follow-up.
Conclusion: TCIII was shown to be safe and more effective than TCI. As NPPC and PPC groups had similar outcomes, we would discourage PPC.

FC3_41

Office hysteroscopy for uterine intracavitary pathologies: "*see and treat*" approach

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Objective: To study the efficacy of a "*see and treat*" hysteroscopic approach for the diagnosis and treatment of uterine intracavitary pathologies.
Methods: 2515 patients underwent hysteroscopy (Gynecare, Ethicon), without anesthesia, because of abnormal uterine bleeding and thick endometrium at transvaginal ultrasonography from 2007 to 31 july 2009. A 10-cm visual analog scale (VAS) was used to rate patients' pelvic pain. Polipectomy was performed by grasping forceps or hysteroscopic scissors.
Results: 706/2515 (28.07%) women had endometrial polyps (653 endometrial polyps, 53 endocervical polyps); 107/2515 (4.25%) had myoma (97 submucous myomas, 10 intramural myoma); 510/2515 (20.28%) endometrial hyperplasia; 1007/2515 (40.04%) normal uterine cavity; 12/2515 (0.48%) endometrial carcinoma; 33/2515 (1.31%) uterine cavity not technically evaluable; 4/2515 (0.16%) acute endometritis; 13/2515 (0.52%) chronic endometritis; 8/2515 (0.32%) endocervical hyperplasia; 40/2515 (1.59%) atrophic endometrial mucosa; 22/2515 uterine sinechiae (0.87%); 15/2515 (0.60%) arcuate uterus; 21/2515 (0.83%) septate uterus; 7/2515 (0.28%) subseptate uterus; 5/2515 (0.20%) unicornuate uterus; 5/2515 (0.20%) bicornuate uterus. In 96/706 (13.60%) polyps we did not perform polypectomy because we judged it unresectable. VAS scores were significantly lower in parous versus nulliparous patients (2.4± 1.7 vs. 4.5±1.5). The only adverse event was vasovagal reaction in 24/2515 (0.95%) patients (none undergoing polypectomy).
Conclusions: Office hysteroscopy is a ease and acceptable tool for the study of the uterine cavity. "*See and treat*" polypectomy, without anesthesia, was effective in 610/706 (86.40%) cases. Successuful resection can be performed in office in most endometrial polyps' cases and represents a safe and effective alternative to resectoscopic polypectomy.

FC3_42

Perforation of an intra uterine device in a cesarean section scar

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We present a case of a perforation of a levonorgestrel releasing intra uterine system in a patient with a cesarean scar defect.
A 28 years old patient, para 3 did have a cesarean section 3 years ago. She had a cesarean section because of fetal distress due to an intra-uterine infection. Afterwards she delivered two times vaginal of healthy babies at term.
Two months after her last vaginal delivery she received a LNG –IUS. The uterus was in retro versio flexion. By transvaginal ultrasound there were no abnormalities. At control 6 weeks later the LNG –IUS was lying intracervical and removed. A new LNG –IUS was placed blind after ambulatory hysteroscopy. There were no abnormalities seen by hysteroscopy beside a concave gap at the presumed site of the cesarean section in the anterior wall of the uterus. 6 weeks later at trans vaginal ultrasound the LNG-IUS was lying intra cervical. At renewed hysteroscopy the LNG-IUS was seen in the cesarean scar in the anterior wall of the uterus. The LNG-IUS was removed and placed hysteroscopic in the uterus cavity.
It is known that the post partum period is a risk factor for perforation of an intra-uterine device. There is no literature on perforation of intra-uterine device and cesarean scars. We know that there are up to 60% scar defects after a cesarean section resulting in a weak place in the uterine wall.
With this case we show that hysteroscopic placement of a intra-uterine device can be an option.

FC3_43

Essure® tubal sterilization: the Tuscan experience

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Essure is a new medical device for hysteroscopic tubal permanent sterilization.
The Essure permanent birth control system is designed to provide a nonincisional alternative for women seeking sterilization. The Essure micro-insert is a dynamically expanding micro-coil that consists of a

stainless steel inner coil, a Niticon expanding, super elastic outer coil, and polyethylene terephthalate (PET) fibers. The PET fibers are wound in and around the inner coil. The effectiveness of the Essure micro-insert in preventing pregnancy is believed to be due to a combination of the space filling design of the device and a local occlusive benign tissue response to the Pet fibers. It's an easy procedure, the patient is awake and the procedure takes approximately 15 minutes and patient can go home within an hour's time. A plain abdominal X ray (ISG) is prescribed for the 3- month confirmation visit. The pregnancy rate after correct position of Essure micro-insert is 7–14 times lower than the others tubal sterilization methods.
In owner study 142 women has been candidate for this procedure, age from 29–45 years old (39 media) in a range of 4 years (from June 2005 to June 2009) accessed to the Free Standing-Palagy, Day Surgery Endoscopic Gynecologic Surgery of Florence. Tree different expert operators practiced the procedure. 12 womens are still under follow up. In 2 cases has been impossible to perform the procedure and in 1 case the expulsion of the dispositive from the tube was occurred. The tubal sterilization with Essure represent a valid and alternative solution to the abdominal sterilization approach and a real prospective to the mininasive therapy.

FC3_44

"In Toto" G2 hysteroscopic myomectomy: long term follow-up

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Objective: To assess long-term efficacy and safety of hysteroscopic Litta's technique in the resection of G 2 submucous fibroids.
Materials and methods: Seventy symptomatic women submitted to "in toto" hysteroscopic resection of G2 submucous myomas in the Department of Gynecological Sciences and Human Reproduction, Padua University. Operative date were recorded. Long-term follow-up evaluated efficacy of surgery in term of disappearance of menometrorrhagia and women's satisfaction rate.
Results: Ninety-two myomas were resected. Fifty-nine (84%) patients presented single myoma, 11 (16%) presented two or more myomas. Mean operative time was 19.8±12.6 min, in 14 (20%) cases a second step was needed. In 3 cases we assisted at fluid intravasation more than 2000 cc, without other complications. At a mean 52±16 months follow-up, 60 (85.7%) patients reported resolution of menometrorrhagia, in 10 (13.3%) cases we had failure with persisting AUB; two (2.8%) patients underwent D&C, 2 (2.8%) patients underwent a new hysteroscopic myomectomy, 6 women were submitted laparoscopic hysterectomy.
Conclusions: "in toto" G2 hysteroscopic myomectomy is a safe and highly effective procedure in a long term period, with low complication rate and good satisfaction of the patients.

FC3_45

A new device for hysteroscopic sterilisation

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Hysteroscopic sterilisation is now established as an alternative to laparoscopic tubal ligation for women who are seeking permanent contraception. The most widely used method with FDA approval is Essure. However, the device has shortcomings. Placement can be difficult and there is a learning curve. Part of the implant remains in the uterine cavity. However, the main disadvantage is that the effect is not immediate and alternative contraception must be used for the first three months after insertion.
The new device has been designed to overcome these problems. The implant used is a stainless steel rod with a guide tip. The implant has two wings which are deployed to fix the device in the Fallopian tube, achieving instant occlusion. The wings anchor and stabilise the implant thus minimising the risk of expulsion. We present a study of this new device which initially was performed on a porcine uterus model. This study demonstrated good total tubal occlusion. Phase 2 of the study was a refinement of the technique using a post hysterectomy *in vitro* model. Following hysterectomy for benign disease (n=7) hysteroscopy was carried on the removed uterus, the device was deployed into the Fallopian tubes to achieve occlusion, confirmation was by methylene dye intrauterine injection. Phase 3 is a study of device insertion in the uterus pre hysterectomy currently under way.

FC3_46

Fast-release orodispersible tramadol tablet as analgesia for hysterosalpingography: a randomised placebo-controlled trial

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Introduction: Although hysterosalpingography (HSG) is an integral part of the infertility workup and can be painful, there is a wide variation in current clinical practice in terms of timing and nature of pain relief (Duffy J. *et al.*). A recent Cochrane review concluded that there was little evidence of benefit in terms of pain relief of any of the interventions during and up to 29 minutes after HSG. (Ahmad G. *et al.*). Intravenous opioid receptor agonist remifentanil administration proved to reduce the pain significantly (Cengiz M. *et al.*). However, side effects such as apnoea and the need for intravenous access make this technique unsuitable for outpatient use. In recent years, a new galenic form of tramadol, a μ-receptor agonist, has been developed. This new formula allows tramadol to be administered as an orodespersible tablet aimed at fastening its analgesic effect. This study evaluates the analgesic effect of this new galenic form of tramadol during HSG. A randomized double-blinded, placebo-controlled trial of oral fast-release orodispersible tramadol was conducted in women undergoing a HSG.
Material and methods: The study was performed at a single-centre university hospital. We randomly allocated patients scheduled for HSG to receive either placebo or 50 mg of fast-release tramadol 30 minutes before the procedure. The primary end point was degree of pain documented via 10-cm visual analogue scales (VAS). Pain scores were registered by the patient at five specific time points during hysterosalpingography (speculum application, cervical instrumentation, uterine filling, tubal spillage, removal) and also 6 and 24 hours after the procedure. Secondary end points included pain as assessed by the physician during the procedure, side-effects, and patients' discomfort. All procedures were performed by the same physician with the use of a metal canula. General Linear Model Analysis of variance (GLM ANOVA) with repeated measures was used to detect VAS pain score differences between the placebo and the tramadol

group. The within subject factor was time. Full factorial models were fitted.

Results: A total of 51 patients were included in this study, 23 in the placebo group and 28 in the tramadol group. There were no significant differences between the placebo and the tramadol group for mean age (34.9 vs. 33.8 years) or factors that may potentially influence pain sensation, e.g. parity or uterine surgical history. No difference was seen in diagnostic findings such as uterine abnormalities or tubal obstruction. The self-reported VAS pain scores (standard error) at the time of speculum application, cervical instrumentation, uterine filling, tubal spillage, and removal were 0.9 (0.3), 3.1 (0.5), 5.5 (0.6), 6.9 (0.5), and 1.4 (0.5) in placebo control group *versus* and 0.9 (0.4), 2.4 (0.4), 4.0 (0.4), 5.0 (0.5) in the active treatment (tramadol) group, respectively. For these self-reported VAS scores GLM ANOVA with repeated measures showed statistically significant differences between the placebo and the tramadol group with a between-group P value=0.015, and according to the time points during hysterosalpingography with a within-subjects P value = 0.006. Similar and even more pronounced findings in favour of tramadol were observed for the VAS scores as perceived by the physician performing the hysterosalpingography (between-group P value <0.001; within-subjects P value < 0.001). In each group only 1 woman complained of nausea and/or vomiting. After hysterosalpingography there were no between-group differences for the VAS scores.

Conclusion: During and after hysterosalpingography this fast-release orodispersible tramadol reduces self-reported pain and pain as perceived by the physician without increasing side-effects. These first promising results may lead to a wider use of this new, galenic form of tramadol as an analgetic to improve patients comfort during this potentially painful procedure.

FC3_47

Hysteroscopic contraception is an option to IVF patients with hydrosalpinges

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Objective: To report the first26 cases of successful placement of uni and bilateral micro-insert ESSURE as treatment of Hidrosálpinx in different centers of endoscopic training.

Design: Reported cases.

Materials and methods: Placement of Essure micro-inserts in different endoscopic centers, followed by a hysterosalpingogram (HSG) 3 months post-procedure, in 26 women ages 32–41 years.

Results: Vaginohysteroscopic bloqued tubaric was performed in 26 women. Six patients were sedated.The left ostium was easier to access than the right ostium, which made the deployment faster. Average time of the whole procedure was6 minutes. The percentage of confirmed devices in situ was 100%.

Conclusions: Essure is a safe procedure that adds to minimally invasive surgery, achieving patient acceptance that does not require anesthesia or hospitalization.

Numerous reports have demonstrated a lower IVF success rate in patients with hydrosalpinges visible on ultrasound,because the tubal fluid can have a direct toxic effect on embryos and a negative effect on the endometrium, flush out both the embryos and the implantation factors, and prevent normal endometrial apposition. There is a general agreement that the success of IVF is improved with surgical intervention of the tubes, Essure micro-inserts could be an option to IVF patients with hydrosalpinges, without the negative effect on ovarian response to stimulation observed after the tube removal, ligation or disconnection from the uterus.

FC3_48

Resectoscopic treatment of "Isthmocele": "Isthmoplasty"

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Objective: The "isthmocele" (as we defined it) is a diverticulum on the anterior wall of the uterine isthmus or of the cervical canal at the site of previous cesarean delivery scar. This defect may be symptomatic in some women and may be responsible for relatively common gynaecologic and reproductive disturbances, such as post-menstrual abnormal uterine bleeding (PAUB), heavy menstrual bleeding (HMB), suprapubic pain, and secondary infertility. Others possible more uncommon complications are placenta previa or accreta/increta/percreta, uterine rupture, and ectopic pregnancy in caesarean scar. The "isthmocele" can be diagnosed by hysteroscopy and by transvaginal sonography. The possibility of have recourse to resectoscopic surgery ("isthmoplasty") to treat conservatively this defect only recently emerged.

The aim of our study was to evaluate the effectiveness of "isthmoplasty" in treating the "isthmocele" and in eliminating the related disturbances.

Materials and methods: This study was conducted prospectively at the Hospital "Madre Fortunata Toniolo" and at the Department of Gynaecology and Obstetrics of the University Hospital S. Orsola-Malpighi in Bologna.

Our 78 study patients, aged 28 to 45 years, who previously underwent cesarean section deliveries (the number of previous cesarean deliveries ranged from 1 to 3), were studied from January 2001 through January 2009 because of PAUB (100% of patients), HMB (9/78 cases, 11.5%), suprapubic pain (45/78 cases, 57.7%), and secondary infertility (13/78 cases, 16.7%).

All patients were examined with office CO2-hysteroscopy, which allowed us to exclude intrauterine abnormalities, responsible for referred symptoms, and to identify the presence of a "niche" ("isthmocele") mostly in the superior third of the cervical canal and in isthmic part, but also in lower sites (medium-inferior third). Before the operation, we measured by sonography the thickness of the residual myometrium over the niche ground.

All women underwent resectoscopic treatment (which we defined as "isthmoplasty") by one experienced hysteroscopist surgeon. After positioning of vesical catheter and filling with methylene blu, we performed a further diagnostic hysteroscopic evaluation to avoid the risk of false ways during cervical dilation by Hegar's dilatators until n°10. We used the 9-mm resectoscope (Karl Storz), unipolar electrical current, and sorbitol-mannitol solution as a medium of distension instilled with pressure of 110 mmHg. We performed a resection of inferior and superior edges of defect using an angled loop and pure

cutting current. The scar tissue was completely removed using resectoscopic loop until the muscular tissue below was evident. Finally, the bottom of the pouch was treated using an aimed and punctiform electrocauterization with a monopolar roller-ball 3-mm and cutting pure current, so as to induce a cicatrical retraction of the pouch. The operation was conducted under visual examination without need of the intraoperative ultrasound valuation, modulating the technique in according to the defect site and to muscle free margin, evaluated by ultrasound.

Results: We had not any intraoperative complications or post-surgical adhesions (Ashermann's Syndrome). The histological study of the obtained samples diagnosed: chronic inflammatory infiltration of endocervix (79,5%), scar tissue (16,7%), and adenomiosis (7,7%). The office hysteroscopic with CO2 follow-up two months after the operation, confirmed the success of the surgical procedure in correcting the anatomic defect. The clinical outcome was the resolution of PAUB, HMB, and pelvic pain in all cases.

Nine out of 13 patients (69,2%) with secondary infertility became pregnant spontaneously between 16 and 23 months of follow up. All women delivered at term by cesarean section without any complications.

Conclusions: For several years, sonographic and hysterosalpingographic patterns referable to defect of cesarean section scar were widely reported in literature. Nevertheless, despite the numerous articles about the complications derived from this defect, most authors did not consider how to treat it or how to prevent it. Only recently, a conservative surgical treatment of "isthmocele" was proposed and described by some authors, including ourselves.

In conclusion, the office hysteroscopic examination allows us to identify the described isthmic-cervical defect. The resectoscopic surgery ("isthmoplasty") represents the choice treatment of the "isthmocele", allowing not only the resolution of symptoms but also the prevention of possible complications and secondary infertility due to unknown consequence of the caesarean delivery scar.

FC3_49

Hysteroscopic guided transvaginal ultrasound tubal catheterization - A novel office procedure

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Tubal catheterization is usually reserved for infertility treatment in selected cases of pure bilateral proximal tubal occlusion. As the incidence of pure proximal occlusion is limited to approximately 10-20% of women with mechanical infertility, there is a lack of data in the literature concerning the best therapeutic approach for these patients. The gold standard for evaluation of the uterine cavity is diagnostic hysteroscopy. It has long been considered that it would be ideal to assess the uterine cavity concurrently with tubal patency. This paper describes a novel office procedure which combines uterine cavity investigation through an office hysteroscope, and assessment of tubal patency using a tubal catheter and transvaginal ultrasound.

27 patients with proximal tubal occlusion underwent the procedure. Nine (33.33%) patients suffered from primary infertility while 18 (66.66%) were secondary infertility. There were no intra or post procedure complications in any of the twenty seven patients. No patient required any anesthesia. Ten (38.4%) of 26 patients conceived either spontaneously or with ART. One patient was lost to follow-up. The median time to from treatment to conception was five months (range 4-17). These results demonstrate the feasibility of hysteroscopically and ultrasonically guided tubal catheterization. The 38.4% pregnancy rate is similar to that reported by others. Hysteroscopically guided transvaginal ultrasound tubal catheterization should probably be considered as the treatment of choice for diagnosis of tubal patency, and for the treatment of patients suffering form proximal tubal occlusion.

FC4_01

Epoophoro remanent tumor of the fallopian tube-teratoma

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Benign teratoma of the fallopian tube is very uncommon. Currently only about 50 cases have been reported in the literature until 1998 (1, 2). The pathogenesis of the teratoma is not clearly understood. It is believed that fallopian tube teratomas arise from cells that were migrating from the yolk sac to the primitive gonads, but failed to reach their destination. Reviewed the literature, Walter (3) report that the first case of teratoma of the Fallopian tubes were described by Eden and Locker in 1965. And there is a close relation with ectopic pregnancy (1, 2, 3, 4, 5). The present case belongs to a 15 years old female, who came to the office presenting lower abdominal difusse pain during her menstrual period (dismenhorrea ++/++++), hipermenhorrea, and opsomenhorrea (45 days between her periods). A pelvic sonogram revealed the presence of a irregular, predominantly hyperechoic mass measuring 55x41 mm in the left adnexal. The MRI of the pelvis showed in the left ovary , the presence of a irregular neoplasic mass of 6 cm in diameter. We performed a diagnostic laparoscopy founded a normal right ovary, Fallopian tube and uterus and an abnormal mass of 7 cm. in diameter depending from the firmbrial end of the left fallopian tube and a normal left ovary.

Keywords: Fallopian tumors, epooforo remaining tumor, teratoma, ovarian tumor.

FC4_02

Factors influencing adhesiolysis during gynecological laparoscopic surgery for patients with previous laparotomy

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Aim: To evaluate factors influencing a need for adhesiolysis during laparoscopy for patients who have undergone previous abdominal surgery.

Material and method: From January 1998 to December 2008, three hundred and fifty-eight patients with previous laparotomies and planned laparoscopic surgery. The patients underwent procedures via

either the 9th intercostal space or posterior vaginal fornix as an alternative primary approach. Intra-abdominal adhesions were lysed during laparoscopic surgery if necessary. Factors influencing of the need for adhesiolysis during laparoscopic surgery were analyzed by logistic regression.

Result: Intra-abdominal adhesions were found in 211 patients (58.9%). Adhesiolysis was required to accomplish laparoscopic surgery in 160 patients (abdominal wall adhesions, n=40; intra-pelvic adhesions, n=74; both types of adhesions, n=46). Patients who underwent adhesiolysis for intra-pelvic adhesions had a significantly longer operative duration and more blood loss. A history of abdominal myomectomy was significantly associated with a need for adhesiolysis (p=0.005, Exp(B)=2.236, 95%CI=1.268–3.946). A history of other types of surgery and of pediatric surgery was significantly associated with a lower requirement for adhesiolysis (p=0.002, Exp(B)=0.239, 95%CI=0.096–0.596; p=0.03, Exp(B)=0.281, 95%CI=0.092–0.862, respectively).

Conclusion: A history of abdominal myomectomy influences the results of gynecological surgery due to intra-pelvic adhesions. Because the results of gynecological laparoscopy can be influenced by intra-abdominal adhesions forming after previous laparotomy, the feasibility of laparoscopy requires pre-operative evaluation of factors influencing postoperative outcomes and a safe primary approach.

FC4_03

Surgical approach to the management of ovarian cyst larger than 8 cm: a retrospective study

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Introduction: Laparoscopy has become an accepted method of management for ovarian cysts. Large ovarian cysts (≥8 cm) (LOC), however, have traditionally been and continue to be treated by laparotomy. We studied the laparoscopic approach for large ovarian cysts in our centre (Clermont-Ferrand, France).

Objective: To demonstrate the feasibility of a laparoscopic approach for LOC.

Patients and methods: A retrospective study of women who underwent laparoscopic surgical treatment for LOC between January 2004 and December 2008. Clinical, ultrasonographic, therapeutic and histological data were analysed.

Results: Fifty-one patients were included in the analysis. Nine patients (17%) had undergone previous gynecologic surgery. A preoperative ultrasonographic scan was performed in all patients and the mean size of the cysts was 11.8 cm. Pneumoperitoneum was insufflated at the left subcostal border (Palmer's point) in 68% of the cases and the laparoscope was placed at the umbilicus in 51% of the cases. Exclusive laparoscopic management was feasible in 35 patients (67%) after laparoscopic guided aspiration in 83% of the cases. Frozen section intraoperative examination revealed 30 benign tumors (59%), 9 borderline lesions (18%) and 12 malignancies (23%). There was no false negative diagnosis of malignancy after association of ultrasonography, laparoscopy and intraoperative frozen section. Two patients presenting borderline tumors underwent a second laparoscopic procedure for cancer staging. Among patients with adenocarcinoma, two (16%) were operated exclusively by laparoscopy.

Discussion: We report one of the largest series using the laparoscopic approach for LOC. The arguments against this approach are technical difficulties and the possibility of underestimating malignancy. In this series, the diagnosis of malignancy was always established by the association of ultrasonography, laparoscopy and intraoperative frozen section. Laparoscopic surgery reduces morbidity and improves postoperative recovery in these patients. No case of intraoperative accidental rupture of adenocarcinoma occurred. The most important issues to consider are not the size of the tumor, but preoperative selection of the patients, surgeon's experience, basic principles of oncological surgery and availability of intraoperative frozen section examination. The strongest argument for this laparoscopic approach is the possibility to reoperate a patient very quickly after laparoscopy. The diagnosis (including initial histology) could easily be done in a non reference centre then the patient could be readdressed and reoperated one week later in an oncological center.

FC4_04

Impact on quality of life after laparoscopic approach to different types of deep infiltrating endometriosis

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Objective: To describe the quality of life and symptoms after laparoscopic treatment of rectovaginal endometriosis.

Materials: We revised the cases of 21 women affected of AFSR stages III-IV rectovaginal endometriosis. We study the quality of life after the intervention.

Results: 21 patients with rectovaginal disease were studied at our department in the period 2007-2009. Results were analysed in relation to the predominant site of the deep infiltrating disease: Rectovaginal nodule (n=6), uterosacral nodular infiltration (n=8), deep peritoneal endometriosis (n=5), bladder endometriosis (n=1) and ureteral endometriosis (n=1).

After adhesiolysis, resection of the endometriotic nodules or endometriomas, or peritonectomy, where suitable, we found pain symptoms improved in all patients on visual analog scale, with a mean decrease of 4.04/10. Dyspareunia was found in 20% of the patients, and dysuria and dischezia in 6.7% of the patients. All of them reported improvement in their quality of life.

Conclusions: Deep endometriosis is frequently associated with worsen of quality of life. Laparoscopy is the most suitable approach to different types of the disease, allowing excision of deep lesions. This procedure diminishes symptomatology and improves the quality of life of these patients.

FC4_05

Robotically assisted laparoscopic microsurgical tubal reanastomosis: A retrospective study

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Objective: To evaluate the pregnancy and delivery outcomes of robot-assisted tubal reanastomosis.

Materials and methods: A retrospective cohort study. Ninety seven patients with available follow-up who underwent tubal reanastomosis by robot-assisted laparoscopy, with a median age of 37 years (from 24–47). To analyze the distribution of time to conception and to estimate the crude pregnancy and birth rates at two years.

Results: The overall, pregnancy and birth rates were 71%, (95% CI: 61%–80%) and 62% (95% CI: 52%–72%). Ninety-one percent (95% CI : 76%–98%) of patients less than 35 years of age became pregnant and 88% (95% CI: 72%–97%) delivered at least once. The corresponding pregnancy and delivery rates were 75% (95% CI: 57%–89%) and 66% (95% CI : 47%–81%) between 36 and 39 years of age, 50% (95% CI 25%–75%) and 43.8% (95% CI 20%–70%) between 40 and 42 years of age, 33% (95% CI 10%–65%) and 8.3% (95% CI <1%–38%) after the age of 43 years.

Conclusions: This study reports satisfactory birth rates after tubal reanastomosis by robot-assisted laparoscopy in patients aged 40 years or less.

FC4_06

Herlyn-Werner-Wunderlich syndrome: A case report

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Objective: A sixteen-year-old girl presenting with irregular menses and dysmenorrhoea was admitted at our emergency department. These symptoms had begun three years before, shortly after menarche, and had been recently exacerbated with menorrhagia.

While the physical examination showed no apparent abnormal findings, further evaluation with 3D ultrasound and magnetic resonance imaging suggested that we were faced with a case of bicornuate bicollis uterus with an obstructing hemivaginal right septum and an associated ipsilateral renal agenesis.

Materials and methods: The patient was subjected to a diagnostic laparoscopy followed by a vaginal intervention, which confirmed the presence of two completely independent hemiuterus accompanied with multiple foci of vesicular endometriosis, two cervixes and a mixed longitudinal/transverse vaginal septum which was blinding the right cervix. The patient was discharged on the following day symptom-free.

Results: Herlyn-Werner-Wunderlich syndrome is a rare congenital defect that combines the presence of a uterus didelphys with a hemivaginal septum and ipsilateral renal agenesis. Symptoms usually begin shortly after menarche and may include progressive or remittent pelvic pain, irregular menses and a palpable pelvic mass due to hematocolpos.

Conclusions: As symptomatic relief can only be achieved by surgical treatment, a high level of suspicion is not only the key to diagnosis but also to prevent further complications.

FC4_07

Uterine Sacculation - a new syndrome of abnormal uterine bleeding after Caesarean section

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Background: Uterine sacculation is an iatrogenic structural defect. It denotes a weakness in the myometrium replaced by scar after Caesarean section. We describe the condition, estimate its prevalence, and discuss its diagnosis and management.

Methods: Premenopausal patients presented to flexible hysteroscopy outpatient clinic with chief complaint of abnormal uterine bleeding. Several women underwent uneventful laparoscopic hysterectomy, the pathology is discussed and saggital view of histological specimens is presented.

Conclusion: Flexible hysteroscopy not only allows differential diagnosis of abnormal uterine bleeding in premenopausal women, but also enables correct management of structural abnormality associated with abnormal bleeding in younger women.

Sacculation is a structural defect rather than dysfunctional uterine bleeding arising from a normal cavity. Local medical treatments such as the Mirena® (levonorgestrel containing intrauterine device) may be of limited benefit. Success of ablative treatments are also likely to be reduced as these are directed mainly at the uterine cavity and there is a higher risk of potentially serious complications, such as injury to the bladder and perforation.

If appropriate, a total hysterectomy should be considered as an option. This can be carried out vaginally or laparoscopically. The latter can be performed as a day case or extended day case procedure (under 24 hr stay). This offers curative treatment and intrafascial dissection of the cervix should minimise inadvertent bladder trauma. Subtotal laparoscopic hysterectomy could not guarantee removal of the sacculation as it would be difficult to ascertain the exact level of the defect on the external aspect of the cervix therefore precluding removal and there is a chance of persistent cyclical bleeding.

FC4_08

Spontaneous cornual pregnancy following homolateral salpingectomy for a prior tubal pregnancy: A case report and literature review

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Cornual pregnancy is a rare pathological condition with severe prognosis if not adequately recognized. Ipsilateral salpingectomy represents an unique risk factor to this clinical entity. This lecture reports the first case of a laparoscopically treated spontaneous cornual pregnancy after homolateral salpingectomy for a prior tubal pregnancy in a condition of hemodynamic instability due to cornual rupture. In reviewing medical and surgical approaches, we point out that laparoscopy in expert hands and under specific conditions is nowadays the gold standard treatment for cornual pregnancy, also because of the implementation by different techniques to minimize the blood loss in case of ruptured cornual nidations and therefore hemodynamic instability. Some of the new treatment options combining medical and surgical tools are also described with specific attention to their impact on future fertility and on risk of uterine rupture in a future pregnancy, underlining however that because of paucity of data existing in literature it is not possible to recommend one of these treatment options rather than an other.

FC4_09

"Extra amniotic band syndrome". Uterine synechiae and development of early pregnancy

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Curettage, uterine surgery or puerperal interventions, can cause synechiae. Synechiae vary in consistency (flimsy, intermediate or strong), position (cervical, fundal) and area engaged. Synechiae can disappear or remain during pregnancy. Flimsy and intermediate adhesions will stretch/ break, whereas strong synechiae force the amniotic sac around it, creating an amniotic fold. Entrapment of the fetus can be seen by ultrasound. Severe deformation of the amniotic sac can influence fetal development. Those deformations show resemblance with abnormalities as seen in amniotic band syndrome.

No theories concerning amniotic band syndrome (ABS) can explain all features. We hypothesise that in case of development of the fetus between strong, multiple and conglomerated synechiae, occurring fetal deformities can mimic features as seen in ABS. Arguments and animations are demonstrated to support this hypothesis.

FC4_10

Clinical presentation of pudendal nerve pathology

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Pudendal Neuralgia refers to pain in the distribution of the pudendal nerve. The pudendal nerve has three terminal branches: the perineal, the rectal and clitoral (penile) branch. The pudendal nerve is unique in a sense that it is involved in many bodily functions: genital, urinary and intestinal. In addition the pudendal nerve has all three neural components: sensory, motor and visceral.

The most common cause of pudendal nerve pain is due to end-organ pathology. In its simplest form, a bacterial or viral infection of the vaginal mucosa or perineal/peri-anal skin will cause pudendal neuralgia. Some forms of end-organ pathology are less well known and thus overlooked, such as myalgia. In addition gynaecologists will often miss pathology of the urethra or the anal canal, haemorrhoids being the most common one in this category.

Pudendal neuralgia can also be caused by entrapment of the trunk of the nerve or one of its branches. When the nerve is 'entrapped' a special type of symptom is created, due to aberrant signalling at the level of the increased pressure. The most typical of such symptom is inappropriate arousal.

Referred pain will occur in the distribution of the dermatomes of S2 and S3, corresponding to the segments, from which the pudendal nerve arises.

FC4_11

Non-surgical (alternative) treatment of pudendal neuralgia

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From the outset, it is assumed that end-organ pathology such as dermatitis, hemorrhoids and so on, is treated appropriately.

Should symptomatology persist, the following lines of conservative treatment can be considered:

Skin: vestibulitis can be treated with serial infiltrations, behavioural therapy and physiotherapy. Some patients with Lichenoid skin changes are difficult to identify and may benefit from corticosteroid treatment.

Muscle and fascia: Myalgia is a generic term referring to pain upon palpation of a muscle when contracting. This can be addressed with physiotherapy and Botox infiltrations. Myo-fascial trigger points, which are characterized by pain on digital pressure, can be addressed by physiotherapy and trigger point injections, sometimes with the assistance of acupucture.

Pudendal Nerve Block: The PN Block is an essential tool in the work-up of pudendal neuralgia. In some patients such block can lead to a substantial reduction of symptoms. There may also be a place for serial injections.

Medical management: in some patients, chronic pain will lead to substantial re-modeling of the transmission of impulses along the spine. These individuals do need medical management. Should chronic pain medication also be considered, medications such as Tramadol and Brunorphen are preferred long term opioids.

FC4_12

Endoscopic surgical procedures for pelvic and perineal pain

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An accurate diagnostic for pelvic and perineal pain can lead to many procedures (vestibulectomy for vestibulitis, conservative approaches or hysterectomy for uterine adenomyosis, ilio inguinal or internal obturator endoscopic neurolysis for neuropathic pain, resection of external deep endometriotic lesions for endometriosis,

etc). Pudendal nerve endoscopic decompression is a model for such pain management.

Pudendal nerve surgery should not have any other aim than a complete decompression of the nerve in order to obtain a significant reducing of the pressure in the Pudendal canal.

Reaching this « high pressure enclosure » is possible via a superior route: the laparoscopic approach [1], an inferior route: the perineal approach described by Shafik [2,3], a posterior route: the trans-gluteal (TG) approach described by Robert [4] or **an endo-pelvic route: The trans-ischio-rectal (TIR) approach [5,6] under retroperitoneoscopic control**.

Each of these approaches might be efficient in opening the enclosure and reducing the pain, but the posterior (TG) and the endo pelvic (TIR) approaches, reaching all the sites of entrapment, are giving the most complete decompressions.

We have been using the laparoscopic, perineal and trans-gluteal approaches from 1997 to 1999. Since 1998 we perform the Pudendal surgery using the trans-ischio-rectal (TIR) approach which is more likely to follow the requirements for the Pudendal nerve decompression.

This procedure seems to give better rates of improvement and recovery on pain: 80% and 63% at one year of follow up [7] without any dissection of the nerve itself. This reduces the risk of post-op aggravating pain.

Conclusion: Pudendal decompression is indicated when Pudendal neuralgia is due to Pudendal troncular nerve entrapment and when the first stage conservative traitement failed. Non-entrapment issues of Pudendal neuralgias have to be eliminated. Pudendal nerve entrapment (PNE) is always due to a retraction of the sacro-spinous ligament and/or of the Falciform process. Trans ischio rectal (TIR) route is an effective approach to open the sites of entrapment, to avoid musculoskeletal adverse effects and to improve results on pain.

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FC4_13

Diagnostic criteria for pelvic and perineal pain

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The use of diagnostic criteria for Pudendal neutalgia (Aix criteria) is useful in the evaluation of pelvic and perineal pain (1,2). Other criteria (Nantes criteria) can focus on pudendal neuralgia due to entrepment (3).

Aix-en-provence criteria for Pudendal Neuralgia Diagnosis Diagnostic score: 2 major criteria / or 1 major criterion and 2 minor criteria / or 4 minor criteria (86,7% sensitivity & 91,2% specificity)**

MAJOR CRITERIA:

1- Pain in the territories of at least 2 of the 3 terminal branches of the Pudendal nerve (IRN, PN, DNC/P).
2- « Sexual Arousal Syndrome ».
3- Positive Tinel sign (Trigger zone at the ischial spine or Alcock canal reproducing the pain).
4- Positive block injection test (>36 hours).

MINOR CRITERIA:

1- Neuralgic type of the pain (Positive DN4 questionnaire*)
2- Pain in the territory of only one terminal pudendal branch.
3- Aggravating pain with sitting position / during the day. improvement in orthostatism / during the night.
4- Lateralization of the pain.
5- Positive trigger zone (≠Tinel sign) at the ischial spine or the Alcock canal (comparing to the opposite side).
6- Abnormal EMG results (Sacral reflexes, Motor nerve latencies).
7- Abnormal Colour-Duplex-scanning flux of Pudendal arteries (**).

(*) Bouhassira D et al. Pain 2004; 108 (3): 248–57

(**) Mollo M, Bautrant E et al. Pain 2009; 142 (12): 159–163

Nantes criteria for Pudendal Neuralgia due to nerve entrapment

1- Pain is predominantly experienced while sitting
2- The pain does not wake the patient at night
3- Pain with no objective sensory impairment
4- Pain relieved by diagnostic pudendal nerve block

Other criteria are reported in order to relate the pelvic pain to:

- vulvar vestibulitis (4)
- uterine adenomyosis (5)
- myo-fascial perineal muscles syndromes (6)
- interstitial cystitis (7)
- pelvic varices (8)

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FC4_14

Patient awareness of post-operative adhesions: results from a multi-centre study and online survey

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Background: Adhesions are recognised as an important cause for patient morbidity but complications related to adhesions occur relatively late after the original operation. Therefore the information provided to patients may not adequately reflect the proportions of the problem. Here we examine the patients' perspective of post-operative adhesions.
Methods: In the first part of the study, 175 patients admitted for intra-peritoneal operations at three hospitals were prospectively interviewed at the bedside. The surgeons involved in the care of these patients were blinded to the objectives of our study. In the second part of the study, the 382 responses to an online survey conducted at the website of the Pelvic Pain Support Network were analysed.
Results: Out of 175 interviewed patients 28% remembered being told about adhesions. 14% replied that they were given detailed information regarding adhesions. 10% were given information regarding how often adhesions occur. 8% were given information regarding the complications potentially caused by adhesions. 9% had previously heard of adhesions before their admission to hospital.
Conclusions: The information provided to patients regarding adhesions does not reflect the magnitude of adhesion-related problems. We offer suggestions how clinical practice could be adapted to better support potentially affected patients.

FC5_01

Total laparoscopic hysterectomy without general anesthesia

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Introduction: For approximately twenty years laparoscopy has been established as a minimally invasive and safe surgery that avoids laparotomy in most cases of hysterectomy. However, till recently, to carry out this less invasive surgery, general anesthesia was necessary. Therefore, patients with clinical problems to general anesthesia, the very ill ones, could not benefit from this technique with less postoperative morbidity.
Objective: To demonstrate the technical feasibility of total laparoscopic hysterectomy without general anesthesia.
Patient and method: A 54 years old woman, pre menopausal, needs hysterectomy due to uterine leiomyomas and anormal uterine bleeding. She cannot undergo general anesthesia due to cardio pulmonary problems.
A total laparoscopic hysterectomy was performed under spinal anesthesia without sedation. The surgery was carried out with T2 level spinal block and CO2 pressure of 8 mmHg. The operative time was 1 hour and 15 minutes.
Results: The surgery was eventless; the patient was awake and talking. She did not refer any discomfort during surgery. She stayed in hospital for 36 hours and the postoperative period was uneventful. In our knowledge this is the first case already reported about total laparoscopic hysterectomy and spinal anesthesia, without general anesthesia.
Conclusion: The possibility to perform laparoscopic hysterectomy under spinal anesthesia opens new horizons in the indication of this technique that can also be used in patients who cannot undergo general anesthesia. A procedure like this requires a well trained team experienced in laparoscopic hysterectomy, as it is carried out under low abdominal pressure and cannot last very long, limitations of spinal block.

FC5_02

Establishing Total Laparoscopic Hysterectomy (TLH)! "Feasible and Safe in United Kingdom *NHS* District General Hospitals"

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Objective: To report the feasibility and safety of Total Laparoscopic Hysterectomy (TLH) when introduced into routine practice at a National Health Service (*NHS*) District General Hospital.
Design and methods: Cases series reviewing 35 successive Total Laparoscopic Hysterectomies. Over 18 months performed by single newly appointed consultant.
Results: 35 TLH's where performed between 1/11/07 to 30/4/09. This route accounted for 85% 35/41 of all hysterectomies were over same time period. Operation time ranged from (45–175 mins) average 78 mins, estimated blood loss ranged from (25–200 mls) average 59mls, hospital stay ranged from (18–54 hours) average 34 hrs, uterine weight ranged from (62–575 gms) average 169gms. All parameters above improved with experience. There were 8 (22%) large

myomatous uteri, moderate to dense adhesions complicated 9 (26%) of operations, 9 patients (26%) had a previous caesarean sections. Most TLH's in are now carried out within 1 hour and patients discharged by 24 hours. Primary and secondary assistants were junior in terms of laparoscopic experience. There were no major complications in terms of vessel, bladder, ureteric or bowel injury. One patient developed a port site hernia and one urinary retention, which resolved after 24 hrs catheterisation.

Conclusions: After appropriate experience and training in Total Laparoscopic Hysterectomy, this operation can be carried out safely in a *NHS* District General Hospital setting, with a junior team of assistants. Complication rate is very low. Most TLH'S are now performed within 1 hour and discharged within 24 hours.

FC5_03

Extreme TLH—New approaches for challenging cases

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Introduction: Hysterectomy is one of the most frequently performed operations in gynecology. Anatomy orientated procedures facilitate the possibility to perform minimally invasive surgery for challenging and sometimes extreme total laparoscopic hysterectomies.

Methods: Since 1999, we have performed 2053 cases of our TLH. Our technique is easily adaptable for huge fibroids as well as cases with cervical fibroids and severe endometriosis cases.

Procedure: Our basic concept is to access and isolate the ureter at the initial stage for safety and to secure anatomical orientation by tracking the umbilical ligament cephalad. Our anterior approach begins with the development of the retroperitoneal space after the incision of the bladder peritoneum. After ligation of the transection of the uterine artery, the ureter was identified and isolated. The coagulation and transection of the round and adenexal ligaments follows. After exposure of the cardinal ligament this ligament is suture-ligated and coagulated on the medial side of the suture and then transected. The vaginal is then transected using a vaginal fornix delineator. Occasionally we need to perform a myomectomy for the extrication of the uterine body as this could be an obstacle to the following stages of the procedure.

Results: After shifting my focus to only minimally invasive techniques, 97% of benign cases were performed either laparoscopically or vaginally (only 3% via abdominal hysterectomy). The uterine specimen weight ranged from 75 g to 3100 g. The biggest cervival fibroid was 13 cm in diameter. The number of cases requiring a conversion to laparotomy was 4, vaginal conversions, 2.

The reason of conversion was severe or extensive adhesion and a huge intraligamental fixed fibroid and excessive bleeding. Serious postoperative complications requiring reoperation stands at 10- 5 cases of ureteral stenosis that required ureteroneocystostomy (4 of these cases were operated laparoscopically without laparotomy). Another 4 cases encountered bowel injury (2 bowel obstruction and 2 bowel perforation). 1 case suffered from postoperative bleeding which was managed with laparoscopic hemostasis. Only 2 cases underwent blood transfusion. Duration of the procedure ranged from 38 to 365 minutes. Generally the procedure takes 70 minutes.

Discussion: In this congress I will present 3 difficult cases. Our pelvic anatomy oriented hysterectomy is useful for challenging cases as it minimizes intraoperative injury to vital organs and helps the surgeon recognise anatomical structures clearly even with distortion. It is possible to expand the scope of the operation to take in more complicated procedures like huge fibroid or deep endometriosis.

FC5_04

Laparoscopy in patients older than 75 years old: yes, we should

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Introduction: Laparoscopic surgery in patients older than 75 years (P>75yo) is still not frequently performed. We studied this approach in this group of patients in our centre at Clermont-Ferrand, France.

Objective: To demonstrate the feasibility of laparoscopy in P>75yo.

Patients and methods: This retrospective study involved P>75yo who underwent laparoscopic surgery between March 1993 and July 2008.

Results: 94 women were included in the analysis with a mean age of 78.6 years [75–95]. 65.6% had a previous history of abdominal surgery, of which 30% by vertical laparotomy. 58% were ASA class 2 and 20% were ASA class 3. 30% underwent surgery due to a malignancy. The mean operative time was 102.6 min [10–360]. 46% underwent hysterectomy with adnexectomy, and 27% isolated adnexectomy. Conversion to laparotomy was required in 12%, and in thirty cases minilaparotomy was used for extraction of the surgical specimen. In only 2 cases was the conversion motivated by anaesthetic conditions (subcutaneous emphysema with increased capnometry). All other cases of conversion were due to surgical conditions (carcinomatosis, volume of the tumour/mass…). One patient died after reoperation (laparoscopy converted to open surgery) to repair a digestive fistula. Mean hospitalization time was 6.5 days [1–18]. 72% of the patients were discharged directly home. During this period, 84% of abdominal surgery was carried out by laparoscopy and 60% of surgical operations (vaginal, laparotomy, laparoscopy) were by laparoscopy.

Discussion: The laparoscopic approach is the same for P>75yo and for younger patients. Minimally invasive surgery seems to play an important role in convalescence: more than 70% of the patients did not require admission to an inpatient rehabilitation program and could be discharged directly home after a short hospital stay. Therefore, laparoscopy seems to be the preferable surgical approach in this special group of patients after proper evaluation of the surgical indications.

FC5_05

Robotic hysterectomy versus conventional laparoscopic hysterectomy preliminary results of a randomized controlled trial

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Background: With increasing use of robotic technology safety and feasibility of robot-assisted procedures in Gynecology are well

documented. Presumable technical benefits of this latest innovation in the field of minimal invasive surgery are often cited but so far prospective trials comparing outcome, benefits and cost effectiveness of robotic and conventional laparoscopic procedures are lacking. Objective: The aim of this randomized controlled clinical trial is to compare the outcome of robot assisted (da Vinci®) with conventional total laparoscopic hysterectomy.

Methods: 32 Patients with benign gynecological disease were randomized to receive either conventional or robot assisted (da Vinci®) total laparoscopic hysterectomy if vaginal hysterectomy was considered difficult due to large uterus size or nulliparity. Data on operating times, intra- and postoperative complications, hospitalization, quality of life and return to activities or work were recorded.

Results: Preliminary results for the first 32 patients out of 100 calculated patients are given. There were no conversions to abdominal or conventional laparoscopic hysterectomy and no intraoperative complications. Operating times for the robot-assisted hysterectomy group were significantly longer than for the laparoscopic group (112.2± 25 min vs. 72.7±17 min p.3) or uterus weight 309 ±161 g vs. 240±169 g or length of hospitalization (3.3±0.8 days robotic group vs 2.9±0.6 days) or return to activities/work (21.4±10 days robotic group vs.22.3± 11 days). Quality of life index (QoLI) for both groups was 0.79 preoperatively. One week and six weeks after surgery the quality of life index showed no significant difference between the robotic group (QoLI 1 week:0.80±0.12) and the conventional group (QoLI:0.72±0.19, p=.331; respectively QoLI 6 weeks:0.91±0.9(robotic) and 0.86± 0.21; P=.776).

Conclusion: Our preliminary results show that robotic and conventional laparoscopic hysterectomies seem to have the same outcome regarding quality of life, hospitalization time, return to normal activities and quality of life. The significant longer operating times in the robotic group after over 50 cases might still be explained by the learning curve and hopefully will improve with even more experience. For simple procedures like laparoscopic hysterectomy the robot does not seem to demonstrate any benefit. Maybe for advanced cases like cancer or prolapse surgery robotic surgery will be able to show more significant advantages.

FC5_06

Total laparoscopic hysterectomy: learning curve at Clinica del Prado, Medellin, Columbia

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Objective: To compare the learning curve in Total laparoscopic Hysterectomy (TLH), the number of surgeries needed to achieve a 90 minutes mean operative time and the number needed to diminish laparoconversión and complication rates of four gynecologists.

Study type: Cohort study. Evidence level II-2.

Methods: 628 patients were analyzed. There were four groups as follows: Group 1: 200 patients (The first 50 patients operated by each of the four gynecologists included). Group 2: 158 patients (The second 50 patients of three of the gynecologist and 8 operated by the fourth). Group 3: 150 patients. (the third 50 patients operated by each of three gynecologists who reached this number). Group 4: 120 patients (the fourth 50 patients operated by two of the gynecologists and 20 operated by the third).

Each group was compared with others to analyze when the learning curve was reached.

Main outcomes: Surgical time, complication rates, laparoconversión rate.

Results: Mean surgical time of 93 minutes is achieved within the first 50 procedures. After 50 surgeries the major complication rate is 3%. Performing between 50 and 100 TLH diminishes the laparoconversión rate from 4,5% to 1,3%. Performing between 100 and 150 procedures lowers the minor complication rate from 13,7% to 6,7%. Performing between 100 and 150 operations lowers the total complication rate from 16,4% to 8,6%.

Conclusions: After performing 50 TLH, a normal surgeon can achieve: surgical time of 90 minutes, acceptable laparoconversión and total complication rates. To achieve maximum experience it would take between 100 and 150.

FC5_07

The result of the analysis of laparoscopic hysterectomies carrying in civic Hospital № 2 of Municipal Public Health Institution during last 10 years

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Objective: Laparoscopic access during hysterectomy is one of the alternative operative treatment method on the contemporary stage of operative women diseases treatment development. The problem of operative treatment cases amount (total and subtotal hysterectomy) is actual till now. Thereupon, we analyses operative treatment cases during last 10 years to specificate the optimal amount advisability.

Materials and methods: In Krasnodar Clinic Center For Women №2 laparoscopic hysterectomies have been carrying from 1996.During last 10 years we have been carried more than 7000 hysterectomies, among those 24 % of overvaginal uterus amputation and 60% of uterus extirpation. In 2002 laparoscopic hysterectomies compose 17% of all the carried hysterectomies, in 2008 are reported already 64%. All women passed through total clinical examination, concluding hysterescopy with different diagnostic uterus curittage with further tissue histological examination and colposcopy.

The age range of operative women is between 41–76 years, who have uterus sizes range from 8 till 22 weeks, where the crucial moment is not the size of the oncoma, but its changebility, malignant symptom absence, the character of extragenital pathology.

Laparoscopic overvaginal uterus amputation was carried to patients age till 45 with absence of cervix uterus pathologic changes, cervix uterus erosion in anamnesis, negative markers of papilomavirus infection, as well as woman's will to keep the cervix uterus. In 20% of cases the laparoscopic hysterectomies were carried together with front and back colporrhaphy, perineolevatoroplasty.

Results: Clocking study was carried to precise the time required for operation. According to the result the duration of laparoscopic hysterectomies ranges between 28 and 102 min, in average 44 min. The time optimization was acquiring thanks to active assistance, standardization of certain stage of operation, using of vaginal keying device, practically excluding of aquacurator out of the operative process.

Conclusions: Thus, we suppose, that laparoscopic hysterectomy is the choice for the women with innocent uterus oncoma, as being less accidental and minimizing financial losses thanks to reducing of medical supplies usage and time for staying in hospital from 7–10 till 3–5 days.

FC5_08

Recommendations to prevent urological complications during laparoscopic hysterectomy: A systematic Delphi procedure among experts

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Objective: The laparoscopic hysterectomy (LH) may be associated with urological complications, such as bladder and ureter injuries. Evidence or consensus on this issue are lacking. As the required sample size in clinical studies in low-frequent complications is extremely high, the subject is suitable for a consensus procedure. The DELPHI technique, where the experts give their recommendations anonymously, has been demonstrated to be an effective consensus tool.
The aim of this study is to reach consensus among experts on uniform recommendations on prevention and early detection of urologic complications during LH.
Materials and methods: Experts were selected according to standard criteria with regard to surgical experience and research. Twenty out of 40 experts were willing to participate. Based on a systematic literature review, recommendations were formulated in the first questionnaire. Based on the opinions of the experts, two additional questionnaires were sent and answered.
Results: 14 experts completed the third questionnaire of which 13 completed all three questionnaires. In 40 of 65 proposed recommendations consensus was achieved. Consensus was achieved with respect to required education, learning curve, equipment, restoration of distorted anatomy and on ways to early recognize urological complications.
Conclusions: The Delphi technique is a good consensus tool regarding complications in LH. Recommendations may serve as a basis for further research and the development of educational programs.

FC5_09

Should laparoscopic hysterectomy replace vaginal surgery?

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Objective: Ninety percent of hysterectomies are performed for benign patologies.
Materials and methods: Hysterectomy could be performed by abdominal (AH), vaginal (VH) or laparoscopic approach (LH). AH is the traditional method, but nowadays is indicated only for oncological patologies, deep endometriosis or enlarged uteri. VH was initially introduced for pelvic organ prolapse, but actually is the first choise for dysfunctional uterine bleeding in normal size uteri. VH is less invasive than AH, with less febrile morbidity after surgery, requiring of blood transfusion and risk of ureter injury. Disadvantages are more bleeding complications during the surgical procedure and more bladder injuries. LH is spreading due to the possibility to recognize and treat concomitant unknown pelvic disease (for example endometriosis), the facility to remove ovaries, the careful haemostasis for direct vision of the surgery field and the shorter recovery time.
Results: LH has statistically significant advantages over AH, such as fast return to normal life with early discharge, less pain, less infections, smaller drop in haemoglobin, in spite of longer operating time and more risk of urinary tract injuries. Disadvantages of LH compared to VH are longer operating times, more bleeding, greater use of drugs for postoperative pain, higher cost and more urinary tract injuries.
Conclusions: VH should be used as much as possible. In the cases VH is not feasible, LH should be performed in preference to AH, despite longer operating time.

FC5_10

Total laparoscopic hysterectomy for large uteri

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Objective: To study the feasibility and results of total laparoscopic hysterectomy (TLH) in patients with large uterus weighting more than 500 g.
Materials and methods: 378 patients who underwent TLH for benign conditions during the period 2000–2008 were classified according to the uterus weight, between 100–499 g. (Group A, n=306) or uterus over 500 g. (Group B, n=72).
Results: Both groups were comparable in terms of age, parity or previous surgery. The operating time was significantly higher in the group with a uterine weight of over 500 g. (139 min vs 107 min; $p< 0.01$). There were no significant differences in hospital stay or in mean haemoglobin drop. Conversion rate to laparotomy was significantly higher in group B (6.9% vs 1%; OR: 7.5; $p < 0.01$), due to technical difficulties and limited access but not to intraoperatory complications. A reintervention was not necessary in any patient with a uterine weight of more than 500 g., while 7 patients (2.3%) with a uterine weighted less than 500 g. required a reintervention.
Conclusions: TLH is a feasible and safe procedure even in very large uteri. Operative time and risk of intraoperative conversion to laparotomy increases in uterus weighting more than 500 g. Meanwhile, patient recovery or rate of complications are not modified by the uterus weight.

FC6_01

Management of borderline tumors by laparoscopy. Conservative treatment

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Objective: To assess the efficacy and safety of laparoscopy sugery in the management of adnexal tumors with no sign of malignancy.
Design: Retrospective study.

Materials and methods: A total of 2.450 adnexal tumors were removed by laparoscopy from 2.171 women. The mean age was 39.1 years (range: 17–79 yrs.).
Results: The procedures performed were total cystectomy, and ovariectomy or adnexectomy in those beyond menopause. Preoperative assessment was the same as for as conventional surgery. Transvaginal ultrasonography was performed to evaluate the size and internal characteristics of masses to exclude malignancy, also was evaluate the IR by Doppler-colour. Serum CA 125 and CA 19.9 level was measured in all women at diagnóstic laparoscopy, visual inspection, cytologic examination, and if necessary, biopsy and frozen section were performed. If cytology of the frozen section indicated malignancy, the procedure was converted to laparotomy. Fourteen patients (0.64%) required conversion to laparotomy because of unexpected malignancy, and from seventeen patients (0.78 %) that had a Borderline tumors, six were stadificated by laparoscopy due to the results of pathology study one week later.
Conclusions: Laparoscopic management of adnexal tumors is a safe and beneficial method in selected patients when are performed by experienced laparoscopic surgeons. The approach to complex ovarian masses is possible in most patients, however, it should be performed only in centers where an oncologic back-up is immediately available.

FC6_02

Effectiveness of standard laparoscopic pelvic lymphadenectomy procedure in gynecologic malignancies

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Objective: To illustrate the effectiveness of a standardized procedure performed, being laparoscopic pelvic lymphadenectomy in patients with certain gynecological malignancies.
Methods: Our study includes cancer treated patients between January 2008 and March 2009. 34 women underwent pelvic lymphadenectomy for primary gynaecologic pelvic malignancy, of which 21 patients were diagnosed having cervical cancer and 13 patients were diagnosed having endometrial cancer, all of them were retrospectively analysed. Laparoscopic pelvic lymphadenectomy was part of the following surgical procedures: trachelectomy in (n=2), laparoscopic-assisted vaginal hysterectomy for patients with endometrial cancer (n=13), laparoscopic-assisted radical vaginal hysterectomy for patients with cervical cancer (n=15) and total laparoscopic radical hysterectomy for patients with cervical cancer (n=4).
Results: The median number of yielded pelvic lymph nodes was 25 (average 11–42). Pelvic right and left sided lymphadenectomy mean time was 28 minutes and 35 minutes respectively. The number of the yielded pelvic lymph nodes and the duration of pelvic lymphadenectomy were independent from the body mass index of the patient. The overall intraoperative complications rate was 5.8 %, which includes 1 vessel injury (obturator vein) in 1 patient, and injury of the genito-femoral nerve in another. No major postoperative complications were encountered during the hospital stay for 14 days (average 7–21).
Conclusion: By laparoscopic lymphadenectomy, an adequate number of lymph nodes can be removed in an adequate time and independent from body mass index of the patient. The complication rate is low and can be minimized by standardization of the procedure.
Keywords: Laparoscopy, laparoscopic lymphadenectomy, standardized laparoscopic lymphadenectomy.

FC6_03

Laparoscopy versus laparotomy in the treatment of early stage endometrial cancer: a randomised multicenter trial

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Objective: Aim of this study is to compare treatment-related morbidity, cost-effectiveness and quality of life in early stage endometrial cancer patients treated by Total Laparoscopic Hysterectomy (TLH) versus Total Abdominal Hysterectomy (TAH).
Methods: A multicenter RCT, including 21 hospitals in the Netherlands. Only gynaecologists with proven sufficient skills to perform a TLH participated. Patients with clinical stage I endometrioid adenocarcinoma or complex atypical hyperplasia were randomised (2:1) for TLH or TAH. In total 275 patients were required to detect a significant difference of 15% complication rate between TLH and TAH (80% power; α-0.05). Primary outcome measure was major complication rate, as assessed by an independent clinical review board. Secondary outcome measures were 1) cost-effectiveness, 2) minor complications, 3) quality of life. Results of the primary outcome will be presented.
Results: In total 283 patients were randomised (TLH n=187; TAH n=96). Two patients were excluded in both arms due to protocol violation. Median age was 63 years (39–89) and median BMI 29.0 kg/m2 (16.9–55.3) The majority (73.1%) had FIGO stage I endometrioid adenocarcinoma. In 68 patients complications occurred (TLH: 24.9%; TAH: 23.4%) (p=0.79), of which 40 major complications (TLH: 13.5%; TAH: 16.0%) (p=0.58). Intraoperative major complications occurred in 9 (3.2%) patients (TLH: 2.7%; TAH: 4.3%) and postoperative complications in 31 (11.1%) patients (TLH: 10.8%; TAH: 11.7%).
Conclusion: Based on the preliminary data no difference in overall and major complication rate is found between TLH and TAH. Therefore, TLH seems safe in ''skilled hands''. Definitive conclusions about preference of TLH as a standard procedure in early stage endometrial cancer can only be drawn after the results of the quality of life and cost effectiveness data.

FC6_04

Laparoscopic resection of bulky lymph nodes in patients with cervical carcinoma: techniques and outcomes

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Objective: To investigate the feasibility and effect of laparoscopic resection of bulky pelvic lymph nodes in patients with cervical carcinoma.
Methods: From September 2001 to December 2008, a total of 655 patients with cervical carcinoma were performed laparoscopic radical hysterectomy and lymphadenectomy. Of all patients, 38 consecutive

patients underwent laparoscopic resection of bulky pelvic lymph nodes at the time of radical hysterectomy. Of 38 patients, 21 patients with both pelvic and para-aortic bulky lymph nodes were found and resect during radical hysterectomy, 7 patients with pelvic bulky lymph nodes were found preoperative by CT scan of abdominal and pelvic. Of these patients, 5 patients received preoperative radiotherapy.
Results: All patients underwent laparoscopic surgery successfully, with no conversion to laparotomy. Of the 38 patients with bulky lymph nodes, 7 were found combine with para-aortic bulky lymph nodes. The median number of lymph nodes removed was 19 (range, 16 to 32), and all visible bulky lymph nodes were removed. Positive pelvic lymph nodes were found in all patients, and these lymph nodes were located in the pelvic lymph node in 31 patients and in the para-aortic area in 7 patients. After debulking lymphadenectomy, 32 patients received pelvic and/or para-aortic area radiotherapy, and 23 patients received four courses of chemotherapy with cisplatin and 5-fluorouracil. The average follow-up time was 45 months. 26 patients survived (survival rate, 65.7%), of whom 23 were free of disease. Of patients who received radiotherapy, those with pelvic and common iliac lymph node metastasis had a 5-year survival rate of 78.1%, and those with positive para-aortic lymph nodes had a 5-year survival rate of 46.2%.
Conclusions: The results of this study suggest that, if bulky lymph nodes are found during radical surgery of cervical carcinoma, every effort should be made to determine whether there are bulky positive lymph nodes, and that bulky positive lymph nodes should be resected prior to radiation therapy. In this way, the survival rate of patients can be improved. In addition, laparoscopic surgery is safe and reliable.

FC6_05

Does it possible a laparoscopic surgical management in low malignant ovarian tumors

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Guidelines for surgical treatment of borderline ovarian tumours include peritoneal washing, hysterectomy with bilateral salpingo-oophorectomy, omentectomy, and multiple peritoneal biopsy. Several authors indicate the Laparoscopy as possible standard approach to treat women with benign ovarian tumours.
In young women with early-stage disease, conservative surgery aimed at preserving childbearing potential is associated with a recurrence rate of 0% to 30%, and the overall survival is not negatively affected if recurrences are treated surgically.
Despite the use of modern diagnostic tools such as transvaginal sonography, color Doppler and serum tumor markers, it sometimes remains difficult to distinguish between benign borderline and malignant ovarian tumors. Owing to the non-specific macroscopic aspect of borderline ovarian tumors, and the relatively poor diagnostic accuracy of intra-operative histology, borderline ovarian tumors may fail to be recognized or adequately treated during laparoscopy. A review of literature and the state of art will be presented in this congress.
According to feasibility of endoscopic approach in borderline ovarian tumors we describe a case report of a 58 years old menopausal with a big ovarian tumor as more than 23 cm of diameter with an intracystic mass of 5 cm. Laparoscopic treatment was exhaustively performed. Any surgical complication occurred and no treatment was necessary after surgery.
In conclusion laparoscopic approach in low malignant ovarian cancer is possible when performed by experimented laparoscopic equipes, obtaining superposable results.

FC6_06

Robotic gynecological surgery—Indications, techniques, results

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Objective: The authors present their experience in performing robotic gynecological operative interventions putting emphasis on the indications, some technical aspects and clinical analysis of the results.
Material and methods: Seventy-three female patients underwent surgical operations with the robotic system da Vinci S from January 2008 to May 2009 at Medical University, Pleven Gynecologic Oncology Clinic. Robot-assisted radical hysterectomy with total pelvic lymph node dissection was performed in 38 (50%) of them, robot-assisted total hysterectomy – 35 (47%), and robot-assisted pelvic lymph node dissection – in 2 (3%). Robotically assisted radical hysterectomy corresponds to class III extended hysterectomy according to Piver. The stages of the robotically assisted total hysterectomy do not differ from those of the classic total laparoscopic hysterectomy.
Results: The main indications for robotic gynecological surgery were as follows: planocellular cervical carcinoma – 32 (42%); endocervical adenocarcinoma – 5 (7%); endometroid adenocarcinoma of the uterus – 6 (8%); serous papilliferous adenocarcinoma of the endometrium – 2 (3%); cervical carcinoma in situ – 10 (13%); uterine leiomyoma – 14 (19%); adenomyosis uteri – 3 (4%); and others – 3 (4%). The average operative time, reported as console time, was 80 min (±30.803) with mean body mass index (BMI) – 29 (±7.873). No significant difference was observed between the BMI and operative time ($p=0.51$). An ureterovaginal fistula was diagnosed on the 10th postoperative day in one of the patients (1.3%).
Conclusion: In recent years the robotic surgery has been recognized as a reliable alternative for operative treatment of female patients having not only benign, but also malignant gynecological tumors.

FC6_07

Laparoscopic sentinel lymphnode detection in gynecologic cancer—aspects regarding feasablility and technique

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Background: The use of laparoscopic techniques in gynecologic oncology has opened up the minimally invasive approach for the treatment of endometrial and cervical cancer patients. The introduction of sentinel guided laparoscopic lymphonodectomies for these cancers could further simplify the surgical approach and save operative time. Two aspects make sentinel lymphonodectomy particularly appealing: First, many uterine malignancies are now diagnosed at a very early stage, so that the percentage of “negative” and thus purely diagnostic lymphonodectomies has been increasing. Second, the concept of lymphonodectomy for endometrial cancer has been questioned by recent prospective randomized trials, sot that the sentinel approach could offer a compromise for the maintenance of adequate TNM-staging.

Patients and methods: Over the course of 4 years (2005–2008) sentinel lymphonodectomies were performed for 108 histologically proven uterine cancers. In 72 endometrial cancer patients, technetium was injected peritumorally under hysteroscopic guidance. In 36 cervical cancer patients, intracervical injection was performed. All patients received subsequent imaging studies prior to surgery, followed by routing laparoscopic surgery as appropriate for the given stage. Patient data, tumor specific data as well as peri- and postoperative events were noted.
Results: In 36 cervical cancer patients, sentinel lymphnodes where detected in 67% of cases scintigraphically. Intraoperative detection rate was even higher with 77%. On overage, two sentinel lymphnodes were removed, in all cases followed by complete standard lymphonodectomy (20,8 lymphonodes). In 13%, positive pelvic nodes were detected, which were correctly identified by the sentinel lymphonode in 3 out of four cases. In 24 negative sentinel lymphnodes, final pathology revealed all negative pelvic nodes. In 71 endometrial cancer cases, only one patient had positive pelvic nodes and two patients positive paraaortic nodes. Scintigraphically, sentinel lymphnodes were identified in 77,4% of cases, however, intraoperative detection rate was only 42,2%. In the case of the positive pelvic lymphonodes, already the sentinel was macroscopically infiltrated. In 31 negative sentinel lymphnodes, final pathology agreed in 100%.
Conclusion: The application of sentinel-lymphnode mapping for gynecologic malignancies is a challenging interdisciplinary problem. Overall, detection rates are good, but remain suboptimal. The increasingly high number of parients with negative lymphonodectomy specimen on final pathology underlines the rational for further clinical research into alternative sentinel techniques.

FC6_08

Laparoscopic Ovarian Transposition in Locally Advanced Cervical Cancer Treatment

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Objective: To evaluate the effectiveness of laparoscopic ovarian transposition before pelvic irradiation for locally advanced cervical cancer.
Methods: Since 2007 we performed such operations in 27 patients with squamous cell carcinoma of the uterine cervix FIGO stage IIB-IIIB before pelvic irradiation. The mean age of the patients was 36.4 years (range 27–42). Laparoscopic ovarian transpositions were performed bilaterally, ovaries were transposed to paracolic gutters and fixed to abdominal wall with titanic staples. After pelvic irradiation 23 patients underwent radical hysterectomy, other patients received radiation therapy only. During follow-up hormonal status was assessed and ultrasound examination of transposed ovaries was performed.
Results: The mean operating time was 97,5 min (range 65–190 min). No intraoperative or postoperative complications related to the procedure were observed. At the mean follow-up of 14 months (range 2–27) there were no cases of ovarian metastasis. Ovarian preservation was achieved in 81% of the cases.
Conclusion: With ovarian laparoscopic transposition, ovarian function can be preserved in patients with locally advanced cervical cancer requiring first line radiation therapy. Laparoscopic ovarian transposition is a simple, safe and effective procedure for preserving ovarian function in premenopausal women, especially for those less than 40 years old.

FC6_09

Laparoscopic-vaginal approach to stage I endometrial carcinoma

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Objective: At the beginning of the 2000 s we began to think about using laparoscopy in the treatment of the Stage I endometrial carcinoma, studying a protocol of intervention that could join the advantages of the laparoscopic approach with the vaginal approach.
Materials and methods: We set a strategy applicable to the patients without contraindications both to laparoscopy and to the vaginal route. The steps are as follow:
laparoscopic approach:
-inspection of the abdomen, -peritoneal washing for cytology, -bipolar coagulation of the salpinges
-bilateral pelvic lymphadenectomy, -separation of the adnexes at the infundibulo-pelvic ligaments
Vaginal approach:
-preparation of vaginal "manchette", -vaginal hysterectomy (LAVH) and removal of the piece
-Mac Call vaginal suspension, peritoneization, closure of the vaginal vault
-final laparoscopic check of the operating field.
Results: From January 2003 to June 2009 we have surgically treated in our Hospital 45 patients with endometrial carcinoma. 3 of these patients were to the Stage II and they have been treated with radical intervention according to Wertheim-Meigs; of the other cases in the Stage I, 5 have been treated only by vaginal intervention, 10 by laparotomy (of whom 7 with associated lymphadenectomy). The laparoscopic-vaginal approach has been undertaken in 27 cases: of these, in 3 cases lymphadenectomy wasn't performed, since there was no indication; in 3 cases we had to convert the intervention (2 cases for wide peritoneal adherences, 1 case for the reparation of a bladder injury). In 21 cases the laparoscopic-vaginal operation has been completed according to the described protocol. Late complicances in the whole series have been 4: 3 episodes of pelviperitonitis (2 after laparoscopic-vaginal intervention, 1 after laparotomic intervention) that have been resolved by laparotomy or relaparotomy; and 1 sierocele, spontaneously resolved.
Conclusions: During the last years the fundamental steps of the intervention have been unchanged, so that the present series results an homogeneous one. Nevertheless, recent improvements in laparoscopy have brought us to bring some changes, for example the technique of removing the iliac/obturator node groups "en bloc", or the adoption in some cases of the laparoscopic suture of the vaginal vault. In a near future, hopefully, we will be ready to face up to this operation in a total laparoscopic way.

FC6_10

Laparoscopic management of highly suspect adnexal masses

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Objective: The role of laparoscopy in ovarian cancer is yet to be determined. We represent a retrospective analysis of patients, admitted

to University Clinic Ljubljana Dpt of Ob/Gyn with highly suspected adnexal masses, where laparoscopy was the first choice of surgical management.

Materials and methods: 5 years retrospective analysis of 101 patients with clinical signs of ovarian malignancy, where according to gynecologic-oncology consultative team, laparoscopy was proposed as a primary surgical approach. Only patients with presence of ascites are presented. Preoperative clinical data (age, clinical signs) ultrasound characteristics (pelvic organs morphology) and level of Ca 125; laparoscopic intraoperative findings and surgical steps; histopathologic results and postoperative recovery and treatment strategy were studied. Descriptive statistics were performed using spss statistic package.

Results: Median age of study population was 48,5 years. Preoperatively: low abdominal pain or discomfort had 18 (81,8%), sonographically suspect ovarian tumor had 16 (72,72%) and elevated serum Ca 125 was found in 17 (77,27%) patients. At laparoscopy, visible ovarian tumor was found in 16 (72,72 %) patients, visible suspect peritoneal carcinosis in 12 (54,5%), omental pathology in 14 (63,3%), and other abdominal organs infiltration in 12 (54,5%) patients. Depending on intraoperative findings following laparoscopic procedures were performed: bilateral adnexectomy in 15 (68,18%) patients and ovarian biopsy in 7 (31,8%) patients, in all patients omental ,peritoneal biopsy and cytology specimen were preformed . In 7 (31,8%) laparoscopy was converted in laparotomy because of the advanced stage and need of optimal cytoreductive surgery. diagnostic laparoscopy was preformed only in 1 patient. Histopathology revealed primary ovarian cancer in 16 cases (72,7%), in 4 (18,1%) ovarian metastases from GIT and in 2 (9%) metastases from other organs were revealed. 11 (50%) patients continued treatment with neoadjuvant cytotoxic chemotherapy and 5 (22,7%) were submitted to laparotomy.

Conclusion: Laparoscopy is feasible and safe surgical procedure in patients with highly suspect adnexal masses.It could obtain a more objective diagnosis of the origin and diffusion of the disease, direct anatomic view and resectability of the disease and could be an easy way to obtain a tissue sample for histological diagnosis, at a minimum. In this context, the advantages of a minimally invasive surgical procedure are easily conceivable such as either to modify treatment strategy in selected cases and quickly switch to an open laparotomy in the case that optimal cytoreduction is judged achievable or neoadjuvant chemotherapy to be considered in the case that the tumor is seemed unresectable.

FC6_11

Short-term surgical outcome and safety of prophylactic bilateral salpingo-oophorectomy In Brca1/2 mutation carriers

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Objective: Women with a *BRCA1/2* mutation or members of a hereditary breast ovarian cancer family (HBOC) have an increased risk of developing ovarian cancer. The only effective strategy to reduce this risk is a prophylactic bilateral salpingo-oophorectomy (pBSO). The aim of this study was to evaluate the short-term surgical outcome and safety of a pBSO.

Materials and methods: Included were all consecutive women with a *BRCA1/2* mutation or members of a HBOC family who visited our Family Cancer Clinic between September 1995 and March 2006 and choose for pBSO.

Results: After counseling, 159 women opted for pBSO of which 97 (61.0%) were *BRCA1* and 32 (20.1%) were BRCA2 mutation carriers. The remaining 30 women were members of a HBOC family (18.9%). The median age at time of pBSO was 42.9 years (30.3–61.1) in the *BRCA1* group, 48.4 years (33.5–66.9) in the *BRCA 2* group and 46.4 (32.8–68.7) years in the HBOC group (p=0.02). 30.1% of the patients was overweighed (BMI 25–30) and 18.7% was obese (BMI>30). The pBSO was performed by primary laparoscopy (n=154) or laparotomy (n=5). Per operatively, one (0.6%) major complication occurred (a bleeding) and laparoscopy was converted to a laparotomy. In one patient (0.6%) a minor complication occurred. Post operatively five minor complications (3.1%) were observed. Median hospital stay was one day (0–13 days).

Conclusions: The laparoscopic approach of pBSO in *BRCA1/2* mutation carriers seems a safe procedure with a low per operative and post operative complication rate (1.3% and 3.1% respectively) a low conversion rate (0.6%) and a short median hospital stay (1.0 day).

Keywords: prophylactic bilateral salpingo-oophorectomy, surgical complications, ovarian cancer, *BRCA1, BRCA2.*

FC6_12

Advanced ovarian cancer patients attempting interval debulking surgery?

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Objectives: Primary: to investigate whether S-LPS could contribute to a better identification of patients to submit to IDS. Secondary: to identify the most appropriate level of laparoscopic index value (=PIV) to identify inoperable patients in this subset of patients.

Materials and methods: A prospective single-institutional study including patients with advanced ovarian/peritoneal cancer (FIGO stage IIIC-IV) to be submitted to IDS after NACT. Patients have been considered eligible for surgical exploration in case of complete/partial radiological or serological response, stable disease if primary surgery had been performed in a different hospital, progressive radiological disease in the presence of serological response, young age and good performance status (ECOG<1), progressive serological disease with stable clinical and radiological disease. A laparoscopic assessment for each patient has been performed.

Results: 98 consecutive AOC patients submitted to NACT have been eligible for the study. With the addition of S-LPS to the RECIST criteria, the percentage of *unnecessary laparotomies* drops to about 10% and there is no case of *inappropriate unexplorations*. The use of S-LPS after the GCIG criteria can reduce the risk of both *unnecessary laparotomies* from 30% to 13%, and *inappropriate unexplorations* from 18% to 0. Moreover, at a PIV>4 the probability of optimally resecting the disease at laparotomy is equal to 0.

Conclusions: Present data suggest that S-LPS can play a relevant role to discriminate patients with partially/stable disease or referred from other Institutions after NACT, which can be susceptible of successful IDS.

FC6_13

Are they Early Stage Endometrial Cancer Safety Treated by Laparoscopy? Complications of a Retrospective Multicenter Study and Review of the Recent Literature

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Objective: To compare in a series of 206 women the complications after total laparoscopic hysterectomy (LPS) and abdominal hysterectomy with lymphadenectomy (LPT) for early stage endometrial cancer and to assess the disease-free survival and the recurrence rate.
Materials and methods: 206 patients with clinical stage I endometrial cancer were enrolled in a multicenter retrospective study and underwent surgical staging comprised of inspection of intraperitoneal cavity, peritoneal washing, total hysterectomy, bilateral salpingo-oophorectomy, and in all cases we performed systematic bilateral pelvic lymphadenectomy by LPS or LPT approach.
Results: 1 patient of the LPS group had an uretero-vaginal fistula and another patient had an ureteral stricture temporarily treated with a stent. 1 patient of the LPS group had a bowel perforation due to dense adhesions with the peritoneum under the umbilicus, resolved with a bowel resection and an end-to-end anastomosis. In 3 patients of the LPS group we observed a vaginal cuff deischence and in 1 case a pelvic lymphocyst was reported.
Conclusions: The low intra-operative and post-operative complications rate, observed in the LPS group, highlights the feasibility, safety and efficacy of this surgical approach. The operating time was longer in the LPS group but the recurrence rate and the complication rate appear similar and not more than what is traditionally expected with the LPT approach, although further studies and cost-benefit analyses are required to determine if the use of the LPS improves outcomes over standard LPT and if the advantages of this technique could be extended to a larger proportion of patients.

FC6_14

Multicenter phase II study of fertility-sparing treatment for early endometrial adenocarcinoma in young women. Oncologic safety and reproductive outcomes

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Objective: Endometrial carcinoma (EC) is a disease that affects mainly peri- and postmenopausal women. It is relatively rare in women under 40. We evaluated the outcome of conservative treatment of young women with EC.
Materials and methods: Between September 2001 and September 2006 six premenopausal patients were treated with hysteroscopic resection of the EC, the endometrium near the lesion and of the myometrium under the lesion followed by megestrol acetate (160 mg/day) for six months.
Results: Average age at diagnosis was 33 (range 27 to 39). All patients had an initial response after 3 months from the start of the conservative treatment. Median follow-up time was 57 months (range 26 to 89). None of these patients developed recurrent disease during the follow-up time. At present, four out of six have given birth to six infants, 29 months on average from the end of therapy (range 14–53 months) without assisted reproductive technology (ART). The other two are actively attempting to conceive.
After counselling, 4 out of 6 patients declared they were unwilling to undergo hysterectomy after childbearing while the remaining two would accept surgery after at least one successful pregnancy.
Conclusions: We think that these results indicate that this treatment strategy is feasible in young women with early well-differentiated EC who have a strong desire to preserve fertility potential.

FC6_15

Risk of recurrence with intrauterine manipulator in early endometrial cancer: Results from a single-institutional series

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Objective: To assess the efficacy of totally laparoscopic treatment in terms of recurrence free interval and pattern of recurrence in early-stage endometrial cancer patients. Intra- and post-operative complications have been also registered.
Materials and methods: A prospective study on 102 early stage endometrial cancer enrolled between September 2004 and September 2008, treated with total laparoscopic hysterectomy, bilateral salpingo-oophorectomy and systematic pelvic lymphadenectomy, and followed up for a median time of 26 months.
Results: One-hundred-two patients have been consecutively treated by laparoscopic surgery, which was successful in 99% of the patients. Pelvic lymphadenectomy was performed in 38 patients (37%), with a median number of nodes removed of 20 (range 7–57). No positive peritoneal cytology was obtained. The mean operation time was 147 minutes and the mean hospital stay was 2 days. Two (2.0%) pelvic abscesses were registered as early major post-operative complications, whereas 2 cases (2.0%) of dehiscence of the vaginal vault were observed, later than 30 days. With a median follow-up of 24 months (range 1–52), 2 recurrences (2.0%) have been observed and 1 patient has died of disease.
Conclusions: Total laparoscopic treatment is not related to a higher rate of vaginal cuff recurrences and positive peritoneal cytology, and it does not seem to worse the prognosis of the patients.
Keywords: Endometrial cancer, total laparoscopic hysterectomy, uterine manipulator

FC6_16

Laparoscopic treatment of early-stage endometrial cancer: our experience of 12 cases

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Objective: The aim of this study was to assess, in a series of 12 women, the feasibility, safety and morbidity of total laparoscopic radical hysterectomy (TLRH) with pelvic lymphadenectomy for early-stage endometrial cancer and to evaluate the recurrence rate.

Methods: From 1th January 2005 to 31th December 2008 12 patients with clinical stage I endometrial cancer were choosen for a retrospective trial and treated with laparoscopic approach. The pelvic lymphadenectomy was performed in all cases.
Results: The mean operative time was 143±40 min. The mean blood loss was 62±20 ml. The mean length of hospital stay was 3.1 days. The mean number of pelvic lymph nodes resected was 22 (range 19–26) and the recurrence rate was 8.3%.
Conclusions: The laparoscopic approach is a feasible, safe and suitable procedure for the treatment of early-stage endometrial cancer. The principal benefits of the procedure are characterized by a reduction of intra-operative bleeding and a decrease discomfort with decrease convalescence time and morbidity, without compromising the degree of oncological radicality required.

FC6_17

Nerve-sparing vaginal assisted laparoscopic radical hysterectomy (VALRH) at the Jena University Hospital

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Objective: (1) To evaluate the morbidity of our technique of VALRH using the classification of radical hysterectomy by Querleu & Morrow 2008 and (2) to compare nerve sparing VALRH with common LRH.
Materials and methods: Retroperitoneal staging was performed on patients with early or locally advanced cervical cancer starting with removal of sentinel nodes. Systematic paracervical, paravesical, external and internal iliac, common iliac, and risk-adapted presacral, aortic infra-mesenteric and aortic infrarenal lymph node dissection was performed laparoscopically. RH was performed dissecting uterosacral ligament close to the rectum and vesicouterine ligament close to the bladder. Ureter was mobilized according to type C. Autonomic nerves were lateralized in VALRH and the vaginal resection line was prepared under direct vision. Vaginal cuff was closed with a running suture.
Results: Fifty-one patients with pT1B1-pT3A received LRH, 40 of which received VALRH. Parametrial width was median 32 mm, resected lymph nodes were 39 (14-118). Hb dropped median by 1.27 mmol/l. Spontaneous bladder voiding was median on d 3 postop versus d 5 median without nerve preparation (p=0.02).
Conclusions: Nerve-sparing VALRH was feasible and safe, allowing early bladder control, closure of the vaginal cuff to avoid tumour cell contamination and judgement of the vaginal length.

FC6_18

Endometrium adenocarcinoma IA and IB: comparative hysteroscopic findings

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Objective: We present a study performed at Donostia Hospital in San Sebastián (Spain).
Materials and methods: 255 endometrial adenocarcinomas from the 1st of january 2004 to 31th december 2008. We compared the hysteroscopy morphological diagnosis with the final FIGO diagnosis.
Results: Almost all >IB endometrium adenocarcinomas were correctly diagnosed by hysteroscopy. Only 46,6% of IA adenocarcinomas were morphologically diagnosed by hysteroscopy, although 37,7 of them were morphologically suspicius of adenocarcinoma.
Conclusions: Hysteroscopy is high specificity in the diagnosis of IB endometrium adenocarcinomas. Its specificity is lower in the diagnosis of IA adenocarcinomas, but the sensibility is very high.

FC6_19

True chylous ascites after transperitoneal laparoscopic paraaortic lymphadenectomy can be successfully treated by laparoscopic re-intervention

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Objective: To evaluate the laparascopic treatment of true chylous ascites resistant to conservative management in the ESGO training center at the University of Jena over the past 6 years.
Materials and methods: From 2003 until 2009 more than 400 pelvic (alone 237) and/or paraaortic (alone 168) lymphadenectomies were performed. Cases with laparoscopic re-intervention for true chylous ascites were identified. Re-intervention included identification of the lymphatic leak with subsequent application of bipolar coagulation of the lymph vessel followed by either clip or adhesion barrier (SprayShield, Covidien) application. Prior to the surgical approach, patients received low-fat diet with medium-chain triglyceride supplementation (MCT diet). If chylous ascites persisted patients received total parental nutrition.
Results: Three cases needed laparoscopic re-intervention. Lymphatic leaking vessels were identified and coagulated. In 2 cases additional titanium clips were placed. In the third case we applied the adhesion barrier over the infrarenal area. Postoperatively, the chylous ascites flow stopped as observed in the drain fluid.
Conclusions: Chylous ascites after transperitoneal paraaortic lymphadenectomy unresponsive to conservative treatment is rare and can be successfully treated by laparoscopy.

FC6_20

Three-year evaluation of clinical use of an intra-operative RT-PCR assay for the detection of metastases in sentinel lymph nodes of breast cancer patients at the Institute Jules Bordet

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Objective: Current, widely practiced, intraoperative methods for detecting SLN metastases include the Frozen Section and the Touch Preparation/Imprint Cytology. Both procedures have their pro and cons (table 1 and 2), have shown a very high specificity (98–100%) but compared with final permanent pathology results, but a wide performance variability and a low sensitivity (53–73%) especially for the detection of micromets and the ability to identify lobular cancer. A molecular assay (GeneSearch™ BLN Assay, Veridex, LLC), CE

marked and approved by the FDA, has been in clinic use at our site for nearly three years, which constitutes the largest body of clinical evidence for this assay. The BLN assay intra-operatively detects metastases ≥0.2 mm in the sentinel lymph nodes (SLNs) in breast cancer patients. After a small validation study (N=78, sensitivity= 92.3%, specificity = 96.9%) this novel assay was adopted as the only intra-operative SLN test at the Institut Jules Bordet.

Materials and methods: One to three SLNs per patient are cut into approximately 2 mm sections. Alternating sections are processed fresh in the BLN assay. The assay detects mRNA expression of mammaglobin and CK19. The BLN Assay results are used to make intra-operative decisions for same surgery axillary lymph node dissections (ALND). The remaining alternating sections of the SLN are examined later by permanent section H&E and IHC.

Results: The BLN Assay has been used for intra-operative decision-making on 384 patients. Average assay turn around time for the first 125 patients was 37 minutes and approximately 30 minutes for remaining patients. Overall BLN Assay performance is high: Sensitivity=89%, Specificity=95% and Overall Agreement=94% and a Negative Predictive Value=98%.

Conclusions: These results indicate that this new molecular test has consistently high performance and can be effectively employed in the clinical setting to avoid second surgery ALNDs. Using the BLN assay in conjunction with histology allows a more thorough evaluation of the node, providing additional confidence that the patient does not have occult metastases and potentially benefiting treatment decisions. Finally the intra-operative BLN assay's predictive value for ALN status seems to be higher to that of post-operative histology.

FC6_21

Total laparoscopic radical hysterectomy and pelvic lymphadenectomy in locally advanced cervical cancer after neoadjuvant chemoradation therapy

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Objective: To evaluate the surgical outcome and the oncologic results of total laparoscopic radical hysterectomy (TLRH) after neoadjuvant chemoradiation therapy (NACRT) for locally advanced cervical carcinoma.

Material and methods: Between September 2003 and June 2005 two patients with locally advanced cervical cancer FIGO stage IIIB who underwent TLRH type C_2 after NACRT were reviewed.

Results: Mean age was 50 years (39–61); mean B.M.I. was 23 kg/m^2 (21–25); mean operative time was 350 min (270–430); mean estimated blood loss was 250 ml (100–400), with no postoperative blood transfusion; mean number of removed pelvic lymph nodes was 15 (11–19). Mean length of hospital stay was 3.5 days (3–4). Mean follow-up time was 60 months (49–70), with no evidence of disease.

Conclusions: TLRH can be safely performed in patients with stage IIB carcinoma of cervix after NACRT, with advantages of minimal blood loss, less postoperative morbidity and hospital stay.

FC6_22

Robotic versus laparoscopic radical hysterectomy in early stage of cervical cancer: initial experience

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Study objective: A comparison of the initial experience using two endoscopic procedures for early cervical cancer from September 2007 to April 2009.

Design: Prospective randomized study comparing operative details, patients characteristics, complications, post-operative course during robotic vs. laparoscopic radical hysterectomy and pelvic lymphadenectomy.

Setting: Accademic center.

Patients: 16 cases of patients with cervical cancer FIGO criteria stage Ia2/Ib1. Histology was 10 squamous cell and 6 glandular lesions.

Intervention: Eleven patients underwent robotic assisted total radical hysterectomy type II-III and bilateral pelvic limphadenectomy. Five patients underwent total radical hysterectomy and pelvic lymphadenectomy.

Measurements and main results: The patient mean age was 35,8 years and mean BMI was 34,1 (range 24–44). Operative time was different between robotic group 257 min. (range 180–350) in comparison with laparoscopic group 329 min. (range 250–420). The mean blood loss and hospital stay were not difference between two groups. A single intraoperative complication arose; a cystotomy occurring once in the laparoscopic group. Twenty days after hospital discharged the patient reported a complex fistula (recto-vaginal-bladder). No conversion from either approach occurred. No blood transfusion. Al surgical margins were negative and the average number of pelvic lymphonodes recovered was 13,6 without difference between two groups.

Conclusion: Total robotic and laparoscopic radical hysterectomy seems to be safe procedures. Both techniques are feasible in patients with stage Ia2/Ib1 cervical cancer. Operative time is in our initial experience decreased in robotic group in comparison with laparoscopic group. Increased BMI seems to be easier with robotic procedure.

FC6_23

Laparoscopic surgery in early stage ovarian cancer. Single centre experience

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Objective: To evaluate feasibility, safety and the role of laparoscopic surgery in treatment of early ovarian cancers.

Materials and methods: Six women affected by early stage ovarian cancer, submitted to laparoscopic surgery in the Department of Gynecological Sciences and Human Reproduction, University of Padua. Preoperative assessment included transvaginal ultrasound evaluation, CT scan and tumor markers. Operative and anatomo-pathological data were recorded.

Results: After peritoneal washing and exploration of the whole abdominal cavity, in 5 cases we performed laparoscopic hysterectomy and salpingo-oophorectomy, pelvic and paraaortic linfadenectomy, omentectomy, appendectomy when needed and multiple peritoneal biopsy. In 2 cases we performed conservative surgery with monolateral salpingo-oophorectomy, pelvic and paraaortic linfadenectomy in young patients whishing to conceive after surgery. Operative time ranged from 125 to 320 min, blood loss ranged from 20 to 400 cc, there were no intra o post-operative complications. Hospital stay raged from 2 to 5 days.
Conclusions: Laparoscopy seems to be safe and effective in the treatment of early stage ovarian cancer, permitting the same accuracy of laparotomic approach with faster recovery and shorter hospital stay.

FC6_24

Prognostic significance of clinico-pathological characteristics in conservative therapy of endometrial hyperplasia

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Objective: To evaluate the prognostic significance of variables such as age, Body Mass Index (BMI), parity, endometrial thickness, diabetes, hypertension, menopausal status and histology in the response of endometrial hyperplasia treated with conservative medical treatment.
Methods: All consecutive patients diagnosed with endometrial hyperplasia from 1998–2006 at Birmingham Women's Hospital. Study participants were categorised into those that showed endometrial regression and those that showed non-regression or histological progression to atypia or malignancy following commencement of therapy.
Results: The mean follow-up was 25 months (95% CI 23.1–27.6). There were 264 patients who responded to treatment and 41 were non-responders.
Atypical hyperplasia was more commonly found within the non-responders (38.9% vs 11.5%, OR 4.91 95% CI 2.57–9.39). The BMI was significantly higher between the non-responders (36.1 ± 7.6 vs 32.8 ± 9.4, p=0.002). Age, parity, diabetes, hypertension, menopausal status and endometrial thickness were not associated with response.
Conclusion: Classifying endometrial hyperplasia according to histological type (atypia and non-atypia) and considering their BMI might be of benefit for predicting response to conservative medical treatment.

FC6_25

Factors associated with cytological atypia in endometrial hyperplasia. A case-control study

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Objective: To determine factors associated with disease severity in endometrial hyperplasia, we quantified the prevalence of known risk factors in patients with complex non-atypical and atypical hyperplasia.
Methods: All patients diagnosed with endometrial hyperplasia at the Birmingham Women's Hospital between 1998–2006 were included. Age, menopausal status, ethnic background, parity, Body Mass Index (BMI), diabetes status, hypertension status, HRT use and tamoxifen use were compared between groups.
Results: There were 132 atypical hyperplasia cases and 530 complex hyperplasia controls. Atypical disease was associated with advanced age (mean age 53 ± 11 vs 59 ± 13 years, p<0.000), increased endometrial thickness (mean 10.6 ± 6.3 vs 13.3 ± 7.6, p=0.025) and menopause (OR 2.77, 95% CI 1.75–4.39). The BMI was higher in women with atypia (mean 32.2 ± 8.8 vs 36.2 ± 8.2, p<0.000). Hypertension was also more prevalent in patients with atypical hyperplasia (OR 2.01, 95% CI 1.37–2.96). There were no significant differences between both groups for ethnic background, parity, diabetes status, HRT and tamoxifen use.
Conclusion: Age, endometrial thickness, menopause, obesity and hypertension are all risk factors associated with cytological atypia and may be useful for predicting disease severity in women with suspected endometrial hyperplasia.