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ABSTRACTS

POSTER PRESENTATIONS

TOPIC 1: 3D IMAGING

P001

Virtual hysteroscopy, 3D/4D gel instillation sonohysterography (G.I.S.)

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Introduction: To improve and modify the technique of Saline Infusion Sonohysterography SIS) in order to attain higher quality 3D/4D images, Virtual Hysteroscopy, and to overcome inconveniences and discomfort due to fluid leakage and pain.
Methods: The technique of Gel Instillation (3D/4D) Sonohysterography (GIS) with a special designed application device is described. GIS was performed transvaginally (Aloka alpha-10) as an office procedure in patients with an abnormal or inconclusive transvaginal uterine ultrasound. Instead of saline a sterile clear viscous gel containing hydroxyethyl cellulose and glycerin is used. These substances are well known, toxicity-tested and considered to be safe. A cheap and easy to handle instillation device with a flexible cervical detachable adapter is developed to prevent leakage of gel to the vagina.
Results: The ultrasonographic properties of the gel appears comparable to saline. The gel can be instilled from a normal 10 ml syringe fixed to the device. With only about 4 ml an optimal distension can be achieved (range 2–10 ml). Due to a much slower leakage velocity, as compared to saline, 3D/4D ultrasonographic examination (virtual hysteroscopy) of the uterine cavity is possible for several minutes.
Discussion: Virtual hysteroscopy by GIS may be an alternative for diagnostic hysteroscopy. GI0S offers a stable filling of the uterine cavity allowing detailed 3D/4D examination of the uterine cavity without inconveniences.

TOPIC 2: ADHESIONS

P002

Why laparoscopic adhesiolysis should not be a collateral damage of the evidence based medicine

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Introduction: Randomized controlled trials may provide erroneous conclusions when the null hypothesis is not rejected due to insufficient analysis statistical power. We dispute the conclusion of a randomized controlled trial which compared chronic pain relief rates following laparoscopic adhesiolysis and diagnostic laparoscopy, and recommended abandoning laparoscopic adhesiolysis.
Methods: In this trial, the sample size was calculated to detect a 35% reduction in pain after adhesiolysis compared with diagnostic laparoscopy, with a power of 80%. Based on a sample number of 100 patients who underwent randomization, the study reported an improvement in pain in 57% and 42% of patients in laparoscopic adhesiolysis and diagnostic laparoscopy groups, respectively. We assessed the precision of the observed absolute difference between the two groups (15%) and a calculation of the 90% CI of the true difference (−1%; +31%) was made. This interval was compared to the predetermined equivalency interval (−10%; 10%) of the absolute difference.
Results: The upper limit (31%) of the 90% CI of the absolute difference estimated above was not found to fall within the equivalency interval rendering inadequate any conclusion concerning the equivalency of the two procedures. In addition the post-hoc power to detect a difference of 15% between the two laparoscopic procedures was estimated. It was found that the sample size of 100 patients produces a probability of 25% of stating that the difference of 15% between laparoscopic adhesiolysis and diagnostic laparoscopy is statistically significant.

Conclusion: The trial should therefore not have concluded that the two surgical procedures were equivalent. By doing so, it is likely that numerous surgeons have abandoned laparoscopic adhesiolysis on the basis of this statement. In any randomized trial, a calculation of statistical power is required each time that the null hypothesis cannot be rejected.

P003

Tissue manipulation increases adhesion formation in a laparoscopic mouse model

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Introduction: The pneumoperitoneum is known as a cofactor in the pathogenesis of adhesion formation in laparoscopy. This study examine whether tissue manipulation is a cofactor in the process of adhesion formation at trauma sites.
Methods: Prospective randomized, controlled trial in university laboratory research center on Balb\c female mice 9–10 weeks old. Our laparoscopic mouse model for adhesion formation with 60 min of pneumoperitoneum was used. In all animal standard lesions of 10 mm on both uterine horns and parallel parietal peritoneum was done with bipolar electrode. In the first experiment the effect of the learning curve, since manipulation is seem to be reduced with experience, on adhesion formation with or with out dexamethasone or additional 3% of oxygen to the CO_2 pneumoperitoneum was evaluated. In the second experiment the effect of manipulation of the bowel and omentum upon adhesion formation at the trauma sites was quantified, and the third experiment evaluates specifically the dexamethasone effect on manipulation enhanced adhesion formation. The adhesions were qualitatively and quantitatively scored 7 days after the intervention.
Results: Adhesion formation decreased with consecutive number of surgeries ($P<0.001$) and dexamethasone reduced adhesion formation both in the qualitative ($P=0.0009$) and quantitative scores ($P=0.0001$). Manipulation of omentum and bowels increased adhesion formation ($P=0.0036$ for touching and $P=0.0008$ for grasping) and the effect increased with duration of manipulation ($P=0.0301$). Dexamethasone decreased manipulation-enhanced adhesion formation ($P=0.0001$).
Conclusions: Manipulation of intraperitoneal structures during surgery enhances adhesion formation at trauma sites, confirming the model that the peritoneal cavity is a cofactor in adhesion formation. Dexamethasone decreases manipulation-enhanced adhesions. Surgical experience and tissue manipulation quantitatively and qualitatively influence adhesion formation during surgery.

P004

Evaluation of Oxiplex\SP Gel (Intercoat) in our laparoscopic mouse model

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Introduction: This study was designed to study the efficacy and safety of Oxiplex\SP Gel in laparoscopic mouse enhanced adhesion formation model, and to understand the effect of Oxiplex on the adhesion formation process and on the tissue.
Methods: Prospective randomized controlled trial in university laboratory research center on Balb\c female mice 9–10 weeks old was designed. Our laparoscopic mouse model for adhesion formation with 60 min of pneumoperitoneum was used. In all animal standard lesions of 10 mm on both uterine horns and parallel parietal peritoneum was done with bipolar electrode. In the first experiment the effect of Oxiplex \SP Gel on adhesion formation in the hypoxic model (CO_2 pneumoperitoneum), normoxic model with adding 3% of oxygen to the CO_2 pneumoperitoneum and manipulation enhanced adhesion model was evaluated. In the second experiment the effect of Oxiplex on adhesion formation when treatment far from the lesion was evaluated. The adhesions were qualitative and quantitative adhesion scored 7 days after the intervention. Histological biopsies where taken to understand the reaction of Oxiplex on the tissue.
Results: Adhesion formation decreased under Oxiplex treatment in all three models qualitative and quantitative ($P<0.0001$ and $P<0.0001$). Oxiplex reduced adhesion proportion also when placed far from the lesions ($P=0.0024$), thus showed effect not throw its' barrier effect. Oxiplex had toxic effect on the mice with dose dependent correlation ($P=0.0058$) and histology presented marked vascular congestion and cellular edema in omental biopsies.
Conclusions: Oxiplex is effective as barrier product in this model. This study present additional anti adhesive that is not due to the barrier effect only. Oxiplex effect the tissue causing marked vascular congestion and cellular edema that probably contribute to its' properties and may reduce healing of tissues and is the reason for the mortality in the mice.

P005

A direct comparison of Adept(R), Spraygel(R), Seprafilm(R) and Intercoat (R) as adhesion barriers in a realistic animal model

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Objective: To directly compare Adept(R), Spraygel(R), Seprafilm(R) and Intercoat (R) as adhesion barriers in a realistic animal model
Methods: In-vivo adhesion prophylaxis was assessed in a rat model involving traumatisation by standardised electrocautery and suturing. Treatment with Adept(R), Spraygel(R), Seprafilm(R) or Intercoat(R) was compared to an untreated control group. Each group consisted of 15 animals and a total of 75 rats were operated. The relevant tissue was also examined histologically.
Results: Adhesion formation was significantly reduced after treatment with the adhesion barriers than after no treatment. Coverage of the traumatized areas with adhesions was 79% in the control group. This was reduced to 54% by the liquid barrier Adept(R) and to 69% by the gel barrier Spraygel(R). Data from Seprafilm and Intercoat will be available in 2 weeks.
Conclusions: There are significant differences in the efficacy of the currently available adhesion barriers.

P006

Awareness and importance of adhesions in the consent process

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Introduction: Adhesions occur in over 50% of post-operative patients. These patients are at risk of serious adverse events including intestinal obstruction. However, the adverse events occur late after the operation. As a result, the proportions of the problem may be underestimated during the consent process. To investigate this hypothesis we undertook a multicentre cross-sectional study.
Methods: The medical notes of 100 patients with abdominal or pelvic surgery were reviewed with concern to the complications noted in the consent form. The patients were also interviewed about the level of their pre-operative informed consent. Each interview consisted of a standardised and evidence-based explanation of the nature and risks of adhesions followed by specific questions. Also, the consenting surgeons had been blinded to the objectives of our study.
Results: Adhesions were documented as a possible complication in only 3% of the reviewed consent form. The interviews revealed that 28% of patients remembered only being told about adhesions during the consent process. Upon direct questioning, 79% of patients replied that in their opinion, the possibility of adhesions should have been mentioned before their operation.
Conclusions: Current guidelines about informed consent require that all patients be given such information about their operation, the side effects and possible complications as might be required by a prudent patient. In spite of this, post-operative adhesion formation was mentioned in the minority of cases and this was hardly ever documented. This may leave surgeons vulnerable to legal consequences.

P007

Peritoneal trauma caused by suction aspiration devices

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Objective: To assess the effect of suction as applied by aspiration devices on intact peritoneum in the course of laparoscopic surgery.
Design & methods: Measurement and analysis of the effect of negative pressure suction aspiration devices on intact porcine peritoneum was done by evaluating five (5) different suction aspiration devices during normal use surgical circumstances, conditions and parameters. The suction device was applied to intact porcine peritoneum for 1, 2, or 5 s using standard wall suction.
Results: Suction aspiration devices were tested at negative pressures between 300 and 660 mm Hg or 5.8–12.76 lbs per in.^{2} (0.408–0.897 kg per cm^2) which is the normal range of operating circumstances. All devices in all tests resulted in peritoneal trauma. Peritoneum surface damage ranged from 5–8 mm diameter with sub-peritoneal disruption and hemorrhage. Gas evacuation rates were between 12–15 l per min or a velocity of 5.4–7.6 m/s for a 5 mm diameter device. Manufacturer recommended suction parameters would have resulted in velocities of 10.3–15.2 m/s.
Conclusions: Negative pressure suction aspiration devices under normal use conditions traumatically tear off intact peritoneum and cause sub-peritoneal hemorrhage.

P008

Peritoneal damage and laparoscopic tissue graspers

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Objective: To assess the effect tissue graspers have on intact peritoneum since peritoneal damage is a precursor to peritoneal adhesion formation. If laparoscopic tissue graspers cause peritoneal damage their use may to this problem.
Design & methods: Measurement and analysis of the effect laparoscopic grasping instruments have on intact peritoneum in a porcine model. Peritoneal biopsy was taken from areas grasped by five different tissue graspers and histological evaluated. All tests were done three times for each grasper.
Results: All graspers caused peritoneal damage. Tissue edges showed crush injury, edema, sub-peritoneal hemorrhage and loss of surface peritoneum.
Conclusions: Laparoscopic grasping instruments cause peritoneal damage and may contribute to adhesion formation. Education, engineering modifications and appropriate use may reduce this problems occurrence.

P009

Cost savings model of using adept® to prevent adhesions in gynaecological surgery

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Objective: To demonstrate the estimated cost savings and improved outcomes associated with using ADEPT® to prevent adhesions in gynaecological surgery.
Methods: A decision tree was developed to assess the use of ADEPT® in initial gynaecological surgery. The first randomized, controlled trial of an anti-adhesion agent (PAMELA) was used to supply the de novo adhesion rate. The probability and cost of readmission and/or re-operation was included based on epidemiologic data from the Scottish National Health Service. Costs saved, outcomes prevented and opportunity costs saved from using ADEPT® compared to nothing was assessed per patient and for a sample of 100 patients. Sensitivity analysis was also performed.
Results: Expected cost savings per patient were 403 Euros (over the price of the product) when using ADEPT®. For every 100 patients treated, 40,266 Euros could be saved. In addition to cost-savings, it was estimated that ADEPT® prevented an additional 28 patients from getting de novo adhesions after surgery and five re-operations directly or possibly related to adhesions would be prevented. This resulted in an expected savings of 14 h of operating room time and 95 hospital bed days. De novo adhesion rates were important variables in the sensitivity analysis.
Conclusions: This model demonstrates the cost savings and improved outcomes associated with utilizing ADEPT® during initial gynaecological surgeries in the prevention of adhesions.

P010

A cross-sectional survey to understand awareness of anti-adhesive agents and their importance in adhesion prevention in gynaecologic surgery

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Objective: Adhesion formation after gynaecologic surgery have been linked to secondary infertility in women, intestinal obstruction, and postoperative pain. In addition, they add a significant amount of time to subsequent surgeries, adversely affect patient morbidity, and contribute to a significant cost burden to the health system. In this analysis, we will investigate the awareness of adhesions in gynecological surgeons as related to surgical practice and patient education.
Methods: A cross-sectional online survey was administered to 118 gynecological surgeons across eight European countries between Jan and Feb 2008. Questions included a wide array of topics related to adhesion awareness including risks and complications of adhesions, strategy for handling adhesions, and patient education. Tabulations of responses were analyzed and reported using Excel.
Results: Nearly all respondents (more than 90%) agreed adhesions could cause fertility problems, small bowel obstructions, re-operative complications, or chronic pelvic pain. Ninety-six percent of surgeons agreed there is a risk adhesions could develop after gynaecologic surgery. Although more than 95% of respondents agreed that surgeons have a duty to take steps to reduce adhesion formation with good surgical technique and/or utilization of an anti-adhesive, somewhat fewer (73%) agreed that surgeons should adopt a routine adhesion prevention strategy in all surgery. Half of all respondents considered use of an anti-adhesive in all gynecological procedures versus only using an anti-adhesive product in high-risk procedures. While 70% of surgeons agreed "patients should be informed about the risk of adhesions in all gynaecologic procedures," patients were actually advised about the risk of adhesions 15% and 35% of the time in "all surgeries" and "most surgeries," respectively.
Conclusions: Although the majority of gynecological surgeons agree that adhesions are associated with significant risks and complications, there is varying consensus among surgeons on (1) a routine prevention strategy and (2)

consistent communication to patients before surgery. Future research should explore the discrepancy between recognized need for adhesion prevention and the limited patient education provided.

P011

Adhesion awareness among Dutch gynaecologists

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Objectives: Adhesions are a well known complication of every abdominal operative procedure in gynaecology. Adhesions do not only cause an economic burden on the general health system but may also imply negative side effects in every individual patient like infertility, bowel obstruction, pelvic pain and difficult re-entry. Barriers may reduce the incidence of adhesions but no knowledge is available whether these are used on a routine basis.
Design and methods: In order to create insights in the awareness and prevention of adhesions a survey was send to 180 gynaecology and fertility departments in the Netherlands addressed to one of the gynaecologists. A response of 30% (59) was achieved, 43% of the responders being female and 56% male with an equal distribution among the different hospitals in the Netherlands.
Results: Fifty-five percent of all responders wanted to apply adhesion prevention in specific procedures, and an additional 32% believed they needed adhesion prevention methods but were not sure which product to use. Myomectomy and surgery on ovary and tubes was mentioned as procedures that needed adhesion prevention methods the most together with adhesiolysis and endometriosis. Different products were used with Interceed (40%) and Sepra film (25%) being used in former days and Adept being the most frequently used barrier nowadays (25%). All responders wanted more evidence and guidelines on what product to use.
Conclusions: A high percentage of the Dutch gynaecologists are aware of the negative side effects of adhesions and are willing to use barriers in order to reduce the incidence. Although which product to use is still in debate, gynaecologists should make guidelines in order to get awareness for adhesions also beyond their own profession.

TOPIC 3: ADNEXAL MASS

P012

Florid cystic endosalpingiosis of the uterus, differential diagnosis with adnexal mass. Laparoscopic management: case report

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Introduction: This is the case of a patient with a 12 cm pelvic cystic mass. At laparoscopy, a uterine mass was found. We describe the operative management and pathology results.
Materials and methods: We discuss the case of a 41 year old woman who complained of menorrhagia. Physical examination revealed a 12 cm, tender and mobile pelvic tumor. Transvaginal ultrasound showed a unilocular cystic mass. Tumor markers were negative. With a modified Jacobs malignancy index of 12, a laparoscopy was undertaken. Once inside, we found normal ovaries and tubes and a big cystic mass coming from the anterior uterine wall, fixed to it through a 1.5 cm pedicle. The cyst was aspirated, obtaining 900 cc of clear liquid. Finally, with bipolar forceps and scissors, the mass was resected without any complication. Patient was discharged 2 h later.
Results: Patient did well post operatively. Pathology report informed: cystic cavity lined by tubal epithelium, over a dense connective tissue without atypia or malignancy, compatible with giant endosalpingiotic cyst.
Discussion: Endosalpingiosis stands for the presence of ectopic tubaric epithelium, and shows glandular formations of cilindric ciliated epithelium alternating with clear cells. Florid cystic endosalpingiosis of the uterus is classified as a rare disease by the USA, NHI. It can be defined as endosalpingiosis affecting the uterus and presenting clinically as a benign tumor. As far as we know, this is the first case reported in Colombian literature.
Conclusion: Florid cystic endosalpingiosis of the uterus is a rare finding. It should be considered in the differential diagnosis of pelvic masses. Its management can be done safely by laparoscopy.

P013

Laparoscópic management of a large ovarian cyst: case report

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Introduction: Herein we describe laparoscopic approach of a large ovarian cyst with removal through colpotomy.
Methods and materials: A 54 year old woman presented with low abdominal pain and increase in abdominal girth of

1 year duration. Physical examination revealed a large abdominal mass that extended to the xyphoid process. Ultrasound reported a 200×167×131 mm left adnexal cyst, with no septae or papillae, suspicious of cistadenoma. CT scan confirmed those findings and reported an even larger size and left hydronephrosis. Tumor markers were negative. On laparoscopy a 34 cm cyst was found, with no signs of malignancy. Ten liters of yellowish clear fluid were obtained by aspiration and a left salpingoophorectomy was performed, removing the specimen by colpotomy.
Results: Postoperative recovery was uneventful, and the patient was discharged that same day. Pathology reported a serous cistadenoma.
Discussion: The majority of surgeons choose open surgery for large ovarian cysts. Few will use a laparoscopic approach, due mainly to anticipation of technical difficulties, lack of experience and the probability of malignancy. An adequate preoperative evaluation using malignancy risk indexes and Doppler flow measurement can increase sensibility to exclude malignancy. Two similar cases have been reported in medical literature: one was a patient with a 21 cm unilocular ovarian cyst from which 7 L of liquid were obtained by aspiration, and the other one was a 16 year old woman with a 40 cm mass that caused hepatic duct dilation and right hydronephrosis. The last case was managed initially by drainage of 15 L of fluid through minilaparotomy followed by laparoscopic oophorectomy. A recent paper on laparoscopic management of extremely large ovarian cysts reported a success rate of 93% for this approach, with laparoconversion in only two of 33 patients, both because of severe adhesions. Seventy percent of patients were discharged the same day, with no intra or postoperative complications.
Conclusion: Laparoscopic management of extremely large ovarian masses with colpotomy removal is a feasible and cost effective technique.

P014

Giant ovarian cysts: is the primary laparotomy still a gold standard?

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Introduction: Despite the recent development of laparoscopic surgery, the management of giant ovarian cysts is still mainly performed by laparotomy, probably for two reasons. Firstly, it is difficult to manipulate giant cysts in laparoscopy. Secondly, there is always the worry that it may be malignant. Our aim is to show that the large size of ovarian cysts is not an obstacle to laparoscopic management.
Methods: A 63 year-old woman presented with abdominal pain and increased abdominal volume. Computed tomography performed in emergency showed an ovarian cyst measuring 30×27×18 cm, with no sign suggesting malignant character. Bilateral adnexectomia was carried out laparoscopically, with four trocars placed according to the cyst size. Histological examination showed a mucoidal cystadenoma. Postoperative outcomes were favourable.
Results: The large size of a cyst does not forbid use of laparoscopy, but requires to adapt the surgical procedure. Open laparoscopy should be carried out in left upper quadrant in order to avoid cyst injuries. The trocars should be placed higher, allowing the drilling the cyst followed by aspiration of the content through an operative 5 mm trocar. Laparoscopy allows not only careful inspection of the peritoneum as well as of the cyst, but also accurate evaluation of chances to perform complete removal of malignant dissemination. When the cyst appears to be malignant and the complete removal is unlikely, laparoscopical approach avoids a useless laparotomy. The chemotherapy is therefore not delayed. Contrarily, when the cyst is benign, laparoscopical approach allows complete removal.
Conclusion: In women with giant ovarian cyst, the primary surgical approach can always be laparoscopical and respectful of the rules of oncological surgery, whatever cyst size and histology. The large size of the cyst is not an obstacle against the laparoscopical approach, but requires to adapt several stages of the laparoscopical procedure, in order to make it safe and reproducible.

P015

Minimally invasive surgery for large benign ovarian cyst

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Objective: To assess the feasibility and surgical outcome of laparoscopic surgery among women with large benign ovarian cysts.
Design & method: We conducted a prospective study applying laparoscopic surgery among women with ovarian cysts whose minimum diameter was 20 cm with ultrasound (US) and laboratory features suggestive of benign disease. Patients' demographics, clinical and US features, CA-125 values, surgical procedures, operative and post-operative complications, estimated amount of blood loss, operative time, conversion to laparotomy and the pathologic findings were recorded.
Results: Twelve consecutive patients underwent laparoscopic surgery over 3 years. The mean (range) age was 37 (15–

68 years). Laparoscopic surgery was successful in all patients, without converted procedure to laparotomy. There were no operative or post-operative complications. The mean (range) operative time was 68 (45–72 min), amount of blood loss was 78 (20–220 ml) and hospital stay was 1.4 (1–3 days), respectively. The surgical procedure performed with US guided needle puncture and aspiration of the cyst fluid contents and measured volume, the median (range) 3,100 (1,200–6,700 ml), continue with laparoscopic unilateral ovarian cystectomy in eight (60%) patients or unilateral salpingo-oophorectomy in six (40%) patients. There were no instances of intraabdominal leakage of cyst fluid. Pathologic findings included serous cystadenoma (n=7), mucinous cystadenoma (n=3) and borderline ovarian tumors (n=2). There were no diagnoses of ovarian malignancy.
Conclusion: Minimally invasive management is a reasonable alternative to traditional laparotomy in the setting of a large ovarian cyst with low probability of malignancy. Laparoscopic technique allows adequate access and exposure while minimizing the risk of intraabdominal contamination, speeding patient recovery, and optimizing cosmetic results. Laparoscopy is associated with a reduction in the following: febrile morbidity, urinary tract infection, post-operative complications, post-operative pain, days in hospital and total cost. These findings should be interpreted with caution as only a small number of studies were identified including a total of small female patients.

P016

Laparoscopic surgery in treatment of ovarian tumors in pregnancy

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Aim: The aim is to show possibilities in laparoscopic surgery as minimal invasive method in the treatment of ovarian tumours in pregnancy and the advantages concerning classic surgery.
Introduction: The frequency of coexistence of tumours of ovary and pregnancy is 1:500. The most common are benignant tumours and malignant ones appear in 0.005–0.01% of pregnancies. The most common benignant tumours are: cystis dermoidalis. cystadenoma serosum et mucinosum and malignant tumours are: cystadenocarcinoma et dysgerminoma ovarii. Because of possible complications on pregnancy itself ovarian tumours have to be removed.
Method: The retrospective analysis includes all laparoscopic operated adnexal tumours in comparison with the adnexal tumours in pregnancy in the last 7 years.
Results: Since 1 January, 2000 we have performed 554 operations on adnexes because of tumours. That number includes 402 (73.8%) in laparoscopic surgery. In nine patients adnexal tumours coexisted with pregnancy. Laparascopic operation was performed in all nine patients. In the observed period there were 8,708 deliveries so that the percentage of tumours of ovary in pregnant women in our hospital was 0.1% and that is lower rate than found in the literature. All of the pregnancies had gestation age between 12 and 15 weeks, clinical diagnoses: cysts ovarialis and patohistologic diagnoses were: cystys folicularis ovari in three cases, cystadenoma serosum in five cases and cystis dermoidalis in one case. The smallest diametre of the cyst measured by ultrasound was 8 cm and the greatest 12 cm. Neither of the tumours observed by ultrasound had malignant characteristics and CA 125 was within normal limits. In three cases we performed cystectomy (cystis folicularis) and in another cases adnexectomy. In all operations histopathologic analysis" ex tempore" was done and results were "benignant". The post-operative period in all patients was regular and they were discharged the next day. We did not prescribe antibiotics as therapy. All the pregnancies were completed within the delivery term according to obstetric indications.
Conclusion: Laparcopic surgery represents a very good and safe method in the treatment of tumours of ovary in pregnancy. This type of operation is limited to pregnancies up to 16 weeks because of difficulties of creating a pneumoperitoneum and greater possibilities of injuries of abdominal organs.

P017

A report of five cases of cornual gestation in 10 years

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Aim: The incidence of ectopic gestation is approximately 20 per 1,000 pregnancies and the complications related to this disorder are the leading causes of pregnancy-related deaths during the first trimester. Cornual pregnancy accounts for 2–4% of ectopic pregnancies and is associated with a mortality rate of about 2.0–2.5%. The aim of this study was to review our experience of this rare form of pregnancy.
Methods: We present five cases of cornual pregnancies, who were referred and surgically treated in our Department of Obstetrics & Gynecology of Democritus University Alexandroupolis in Greece and in Department of Obstetrics and Gynecology Aschaffenburg, Germany between January 1, 1997–December 31, 2007. The following data were analyzed: age, presenting symptoms and signs, parity, previous oper-

ations, duration in weeks of gestational amenorrhoea and operative procedure.
Results: The study patients aged between 27 and 37 years and according to their history had one or more previous caesarean sections; two caesarean sections in four cases and three in one case. They presented with complaints of abdominal cramps, and pain in the lower abdomen and epigastrium for a period of a few days and vaginal spotting after 6–7 weeks of amenorrhea. Their beta-human chorionic gonadotropin level was 2,398 mIU/mL and transvaginal ultrasound failed to reveal an intrauterine gestation, adnexal mass, or blood in Douglas cavity. In ultrasonographic examination a gestational sac of 5–7 mm in diameter was found; in three of the cases in the left and in the other two in the right uterine corner. In all cases there was clear a separation between the endometrium and the gestational sac.

In all cases after initial diagnostic laparoscopy, the procedure was converted to laparotomy because of endometriosis stage IV in three patients, extensive bowel adhesions, and leiomyomas near to corneal sac in two patients. The primary surgical procedures undertaken were as follows: laparotomy, salpingectomy and cornual resection. There were no intra- or post operative complications observed.
Conclusion: Cornual pregnancy is one of the most hazardous types of ectopic pregnancy and carries a high maternal mortality risk, its immediate diagnosis and treatment is therefore necessary.

P018

Laparoscopic treatment of ruptured lutein cyst. A 10 years report

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Purpose: A ruptured lutein cyst with intraabdominal bleeding is an emergency case. The purpose of this retrospective study was to determine the frequency and surgical management of bleeding lutein cysts in women of reproductive age.
Material and methods: Charts of 20 patients who underwent laparoscopic surgical treatment of ruptured lutein cysts from March 1997 until April 2007 at the Department of Obstetrics & Gynecology of Democritus University Alexandroupolis in Greece and in Department of Obstetrics and Gynecology Aschaffenburg, Germany were reviewed retrospectively. Transvaginal sonography was carried out by one of the investigators, using a 5–6.5 MHz transducer. We retrospectively reviewed the outcome of laparoscopic surgery for bleeding lutein cysts, their complications, and postoperative follow-up.
Results: Among the 20 patients of the study, 11 were multiparae and nine nulliparae. The mean age of patients was 31.31 years (±6.99; range 15–44). Eight women had a history of previous laparotomy for various causes. Clinical presentations were; abdominal pain in 12 (60.0%) cases, frequent swelling in seven (35%) and abnormal vaginal bleeding in one (5.0%). The cysts were aspirated and after satisfactory haemostasis in 18 cases, the ovarian bed was not sutured. Enucleation of the bleeding cysts in toto with preservation of the ovary was performed in two cases. No complications were observed.
Conclusion: Laparoscopy is a safe approach of bleeding lutein cysts in women of reproductive age.

P019

Ovarian masses in postmenopause

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Introduction: Ovarian masses in postmenopause still remain a tactical and surgical challenge. There are controversies concerning the use of different surgical approaches to the borderline and even benign tumours. Some authors strongly oppose the use of operative laparoscopy for radical treatment of ovarian masses in postmenopause; the others suggest it as a method of choice for this group of patients.
Methods: Retrospectively we studied the results of laparoscopic procedures in 412 postmenopausal patients with ovarian tumours. CA-125 levels were studied preoperatively and ultrasound was performed in all patients. Two hundred thirty-seven patients suffered total laparoscopic hysterectomy, 134—bilateral adnexectomy because of ovarian masses and previously removed uterus. Forty-one patient had massive adhesions forming serous cavities simulating pelvic masses. These patients required adhesiolysis. Duration of postmenopause varied from 2 to 22 years. Mean pts age was 74.3 years. All hysterectomies were performed intrafascially.
Results: Mean hysterectomy time in patients with ovarian masses and normal uterus was 57.7±4.2 min. Operation time did not depend upon the size of ovarian masses and depended upon uterus size with the longest duration of 230 min in pt who previously suffered peritonitis. The mean blood loss—112±12.4 ml. Pts who previously suffered abdominal hysterectomy presented as a most difficult challenge. This group had longest mean operative time (111.5± 7.4 min), heavier blood loss (250 ml). In this group surgical procedure demanded expertise manoeuvre and apply of different attacks. There were three bladder traumas and two

sigmoid lacerations in this group. Sigmoids required conversions. There were no misdiagnosed ovarian cancers in our groups. In hysterectomy and adnexectomy groups tumours were mainly serous cystadenomas, in adhesions group—serous, mucinous tumours and serous cysts of unknown origin.
Discussion: Now days there is a lack in well designed investigations comparing the approach, technique and results of operative treatment of the patients with ovarian tumours. Mostly the authors analyse the failures of operative laparoscopy in pts with obviously inadequate operative tactics. We need further investigations.

P020

Conservative surgical management of a case of hyperandrogenism in the postmenopause

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Introduction: Presentation of a conservative surgical management of a case of hyperandrogenism in the postmenopause due to a bilateral benign Leydig cells tumour.
Material: A case of a 67 years old patient who complains of a hyperandrogenism with a Ferriman–Gallwey index of 16. Testosterone: 5.1 ng/ml. Pelvic transvaginal ultrasonography was normal and neither the CT scan nor the pelvic MRI showed any finding of interest, with the ovaries smaller than 2 cm. Attending the clinical findings, a decision not to ask for hormonal suppression tests and to perform a laparoscopy was taken.
Results: Laparoscopy employing an umbilical 5 mm trocar and two 5 mm suprapubic trocars. Bilateral anexectomy. Outpatient Unit (12 h till discharge). Three months after surgery, the Ferriman index was 0 and the testosterone 0.5 ng/ml. Pathology showed a bilateral 6 mm Leydig cells tumour.
Comment: We present a case of bilateral ovarian Leydig cells tumour presenting in the postmenopause. The classical elective treatment is hysterectomy + DA. In this case, we chose a surgical minimally invasive diagnostic–therapeutic approach with evident advantages for the patient.

P021

Surgical treatment outcomes of tubal and tuboovarian abscesses

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Objectives: To evaluate the impact of the laparoscopic approach in the surgical treatment of tubal and tuboovarian abscesses in our University Hospital, as well as the postoperative results depending on the indication of surgery from the diagnosis of disease.
Design & methods: A retrospective descriptive study (January 2000–September 2007) was performed by a review of 154 cases of severe pelvic inflammatory disease (stages III and IV), 87 of them treated surgically. The surgical approach was evaluated in this period of time; as well as, the median postoperative hospital stay, the rate of intra and postoperative complications and the need of reoperation considering the surgical approach (laparoscopy or laparotomy). On the other hand, these same three items were analysed depending when surgery was performed; in the first 48 h from the diagnosis or after this period.
Results: Of the 87 cases operated, 24 were performed by laparotomic approach (27.6%), one by vaginal approach (1.1%) and 62 by laparoscopic approach (71.2%); from these 62 cases nine were converted to laparotomy (14.5%). An increasing use of the laparoscopic approach was observed in the reviewed period; however, comparing year by year, differences were not statistically significant. Considering the approach way, significant differences were found on the median postoperative hospital stay (laparoscopy=8.43 days, laparotomy=14.24 days; 95% CI 1.424–10.207) as in the postoperative complications (laparoscopy—7.4% versus laparotomy—55.2%; p=0.0001). There were not statistically significant differences in postoperative outcomes depending on the indication of surgery from the diagnosis.
Conclusions: The experience in our centre shows that the laparoscopic approach for the surgical treatment of this disease offers advantages, regarding postoperative complications and median postoperative hospital stay, in comparison with the laparotomy.

P022

Adnexal masses in pregnancy: maternal and fetal haemodynamic changes during laparoscopic surgery

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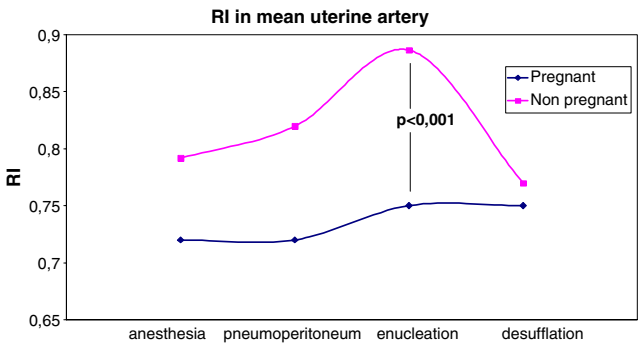
Introduction: The aim of the study was to evaluate changes in uterine arteries and umbilical arterial Doppler velocimetry in pregnant women undergone to laparoscopic surgery for adnexal masses
Methods: Twenty-one pregnant women were studied since 1997 to 2008 during laparoscopic surgery. In all cases an adnexal mass was diagnosed with ultrasound during the

first trimester of pregnancy. Pain or suspect for malignancy were considered criteria for surgical treatment. In just nine cases among our 21, uterine and umbilical arterial Doppler velocimetry (RESISTANCE INDEX and PULSATILITY INDEX) and fetal heart rate were obtained through ultrasound the day before surgery, during surgical procedure at different times (induction of anesthesia, pneumoperitoneum, enucleation of the cyst and at the end of pneumoperitoneum) and the day after surgery. Data were compared to a control group of nine non pregnant women with the same clinical characteristics who underwent laparoscopic surgery for adnexal masses

Results: No changes in uterine arterial PI and RI were found in pregnant women during surgery at the opposite in control group uterine arterial RI significantly increased during surgical procedure (enucleation time $p<0.001$) (Fig. 1). No changes in umbilical artery PI were observed during the surgical procedure.

Fetal hearth rate decreased during the surgical act after anesthetic administration remaining however into a safe range of frequency (mean HFR 144±17 bpm)

Figure 1



Discussion: Laparoscopic approach in pregnancy was not associated with significant changes in maternal and fetal circulation and represents a safe procedure for the management of adnexal masses

P023

Surgical management of ovarian teratomas: laparoscopy vs open surgery

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Introduction: Ovarian mature cystic teratomas represent 10% to 20% of ovarian tumours. In this study we evaluate surgical management of these cysts comparing laparoscopy with laparotomy.

Methods: Retrospective study of 108 patients with post-operative diagnosis of ovarian teratoma between January 1999 and December 2007 in a teaching institution. Data from preoperative evaluation, surgical intervention and follow-up were reviewed. *T*-test and non-parametric tests were used for statistical analysis as needed (SPSS 10.0, Inc.).

Results: Eighty-five (78.7%) patients were managed by laparoscopy and 23 (21.3%) underwent laparotomy. The mean age of women was significantly lower in the laparoscopy group: 29.5 (±9.47) versus 43.3 (±16.42) years ($p<0.01$). Postmenopausal women were 45.45% in laparotomy group and only one case (1.18%) in laparoscopy. Preoperative diagnosis of adnexal tumour occurred following routine pelvic ultrasound in 66.7% of the patients. Ultrasound was suggestive for teratoma in 80.95% of patients submitted to laparoscopy and in 45.45% for those who did open surgery. Cyst ecographic mean largest diameter was significantly lower in the laparoscopy group: 57.47±27.3 versus 90.27±35.84 mm ($p<0.01$). Cystectomy was performed in 85.45% of women in laparoscopy group and 21.5% in the open surgery. The mean operative time for the cystectomy was higher for laparoscopy (94.81±33.59 versus 74±44.73 min, $p=0.38$, NS). Cyst rupture occurred in 31.76% (27) of the cases, all in the laparoscopy group and in cysts bigger than 60 mm. Unilateral adnexectomy and hysterectomy with adnexectomy were performed, respectively, 10.6% and 3.5% in the laparoscopy group, and 26.1% and 52.2% in the open surgery group. The mean hospital stay was shorter in the laparoscopy group: 2.21 versus 3.56 days ($p<0.01$). The post-operative complication rate was higher for patients submitted to laparotomy: 13% (3) (one parietal haematoma, one seroma and a vesical laceration) versus 1.18% (1) (one suture infection), $p<0.01$.

Discussion: Laparoscopic surgery is a safe and effective therapeutic option for the removal of ovarian teratomas, with a shorter hospital stay and less post-operative complications. Older women had more often open surgery, frequently after suspicious ultrasound aspects, more associated pathology and bigger tumours.

P024

Laparoscopic surgery followed by aspiration under ultrasonography guide in huge ovarian benign cystic mass

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Introduction: We performed laparoscopic operation followed by aspiration under ultrasonography guide to treat the huge ovarian benign cystic masses. The aim of this study is to evaluate surgical outcomes and perioperative morbidity after laparoscopic operation.
Methods: From march 2006 to June 2008, we performed the huge ovarian cystic mass (>20 cm) aspiration before the surgery that can underwent laparoscopic approach.
Results: Eight women (mean cyst size 23.5 cm, mean age 62 years, mean parity 3.25) underwent laparoscopic surgery after aspiration under ultrasonography guide. Mean operation time was 42 min (rang 20–72 min). Mean estimated blood loss was 76 ml (range 20–120 ml). Mean hospital stay was 4.5 days.
Conclusion: Laparoscopic surgery followed by aspiration under ultrasonography guide is an effective procedure and enables to laparoscopic approach.

P025

Unexpected management of malignant adnexal cyst

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Introduction: Laparoscopy is the standard procedure to treat adnexal cyst. In spite of a thorough preoperative evaluation a small number of unexpected malignant cyst are laparoscopically managed
Material and methods: Retrospective study over 951 laparoscopies performed from January 1992 to December 2007 to evaluate and treat non suspicious adnexal masses. Our Department standard procedure for adnexal masses includes inspection of the peritoneal cavity, peritoneal cytology and endobag procedures and retrieval of the cyst. Frozen section are performed if malignant etiology is suspected.
Results: In 18 patients frozen section or paraffine pathology were informed as malignant. In ten cases (55.5%), malignancy was intraoperative suspected. In nine of these ten cases frozen section was positive but in the remaining case a paraffine study was imperative due to a borderline serous tumor. However in up to eight procedures malignancy was not suspected and a second time staging was performed some days later. Mean delating time was 44+29 days. Final staging was FIGO IA in 17 patients. In the remaining case peritoneal cytology at the first procedure had been previously positively informed. Laparoscopic procedure did not became into a higher FIGO stage.
Conclusion: Malignancy can not be completely excluded at the pre and preoperative evaluation. A standardized procedure is a good way to avoid unexpected dissemination of these tumors, due to inappropriate laparoscopic management.

P026

Therapeutic management of adnexal tumours: retrospective study

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Introduction: Operative laparoscopy is becoming common for the management of adnexal tumours. The aim of this study was to evaluate surgical treatment for patients with adnexal tumours.
Methods: A retrospective review of all surgical cases who underwent operative laparoscopy or laparotomy for an adnexal tumour during 2007, in our institution. Data from preoperative evaluation, surgical intervention and follow-up were analysed. *T*-test and non-parametric tests were used for statistical analysis (SPSS 10.0, Inc.).
Results: Eighty-three patients underwent pelvic surgery. Mean age was 40.7 years, 21.7% (n=18) were postmenopausal women, 53.7% (n=44) were multiparas and 27.8% (n=20) had previous pelvic surgery. Preoperative ultrasound showed: unilateral tumour in 93.9% (n=77), cyst mean largest diameter 5.7 cm and 57.3% (n=47) were solid-cystic. One-third had at least one elevated tumour marker. 78.3% (n=65) underwent laparoscopic surgery: unilateral cystectomy was the most frequent technique (56%) followed by unilateral adnexectomy (14.4%); 7.7% were associated to uterine surgery. Mean operating time for laparoscopy was 90.1 min. One required conversion to laparotomy. The mean length of stay in the hospital in this group was 2.2 days. Eighteen women (21.7%) underwent conventional laparotomy, 88.9% associated to hysterectomy. In this group, mean operating time was 87.6 min and the mean length of stay in the hospital was 3.9 days. Overall there were no major complications, only one suture infection in the conventional route. The most frequent postoperative diagnosis were serous cystadenoma (21.8%), endometrioma (21.8%) and teratoma (20.5%). Only one case had malignant tumour (1.2%). There was a high correlation between preoperative and post-operative diagnoses.
Discussion: Laparoscopic surgery for adnexal tumours might be an effective and safe alternative to laparotomic surgery with a shorter hospital stay. Surgical experience in this procedure is mandatory to ensure low morbidity and less postoperative complications.

TOPIC 4: ASHERMAN

P027

Hysteroscopic morcellation reduces risk of synechiae significantly compared to repeated curettage in taking out remnant placental tissue following incomplete curettage or postpartum placental removal

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Study objective: Remnant placental tissue following incomplete postpartum or postabortum curettage often leads to infection, repeated curettage, and subsequent intrauterine synechiae. The prevalence of synechiae (type 1–4) following a secondary operative procedure were shown high (35–50%) (Golan 1996, Westendorp 1998). Direct vision hysteroscopic removal using hysteroscopic morcelation (HM) could possibly decrease this complication rate.
Design: Retrospective analysis investigating the prevalence of postoperative synechiae using HM in stead of repeated curettage.
Patients: Fifty-five patients following curettage (n=20) or postpartum manual placental removal (n=35).
Setting: Two referral centers for hysteroscopic surgery in the Netherlands
Interventions: IUR procedure followed by second look hysteroscopy at least 6 weeks later.
Measurements and results: Mean age of patients: 34 years (21–40). In one patient a post-abortum infection complicated the period before HM. Period between first intervention and HM procedure differed between 2 and 40 weeks (mean 11 weeks). Mean HM procedure time was 23 min (15–40). Mean isotonic fluid loss was 1,700 cc (100–15,000). Mean blood loss was measured 70 cc (between 0–300 cc). In the all patients with short interval between primary intervention and HM (<6 weeks) increased blood loss was noted. One uterine perforation and one incomplete HM procedure were noted as complications. In three patients intrauterine adhesions (type 1) were removed during second look hysteroscopy. All other patients showed a normal uterine cavity.
Conclusions: The chance of intrauterine synechiae is high after secondary incomplete operative removal of placental tissue. A retrospective study indicates that hysteroscopic morcelation system (HM) may reduce the risk of synechiae (5.4%) significantly compared to repeated curettage.

TOPIC 5: COMPLICATIONS: PREVENTION AND REPAIR

P028

Tubal prolapse after total laparoscopic hysterectomy: case report

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Introduction: We describe the case of a patient with a tubal prolapse after total laparoscopic hysterectomy and its management using the same approach.
Materials and methods: A 44 year old woman with fibroids underwent a total laparoscopic hysterectomy on January 2006. Twenty-one months later she came to consultation complaining of hypogastric pain and brought a pap smear suggestive of a High grade squamous intraepithelial lesion. A colposcopy was done and the biopsy informed tubal cells. She underwent laparoscopy in which the right tubaric fimbria was found firmly adhered to the vaginal vault at the midline with protrusion into the vagina. There were no inflammatory signs. An adhesiolysis was done and the vaginal defect was closed with two layers of poliglactyn. The entire procedure was carried out laparoscopically.
Results: Patient was discharged 2 h later and did well. Actually she is asymptomatic.
Discussion: Tubal prolapse occurs in 0.2%–1.3% of all hysterectomies. A retrospective review with 8,444 surgeries reported 18 cases and most of them (65%) were associated with the abdominal approach. Literature search just found one case of tubal prolapse after total laparoscopic hysterectomy. Diagnosis should be suspected when a hysterectomized patient complains of hypogastric pain and foul vaginal discharge that can not be healed with traditional medications. It is confirmed by direct visualization of the tube protruding into the vagina. In some cases the diagnosis is not that easy and histological confirmation by biopsy is needed. It is clear that local destructive treatments are not optimal. Presence of adhesions, the difficulty to achieve a total salpingectomy through this way and the fact that the vaginal route is partially blind for the surgeon has turned laparoscopy into the preferred technique in most recent publications. Laparoscopic approach appears to be the best way to face this condition as it permits an accurate diagnosis, a concomitant pelvic exploration and a definitive treatment.
Conclusion: As far as we know, this is the second reported case of tubal prolapse after total laparoscopic hysterectomy. Symptoms and clinical findings should raise the suspicion of this complication and the biopsy usually confirms the diagnosis. Laparoscopy is an excellent approach for the diagnosis and treatment.

P029

Evaluation of the complications associated with laparoscopically assisted vaginal hysterectomy (lavh)—a retrospective study

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Introduction: The published studies revealed that vaginal hysterectomy is associated with significant lower risk as compared to abdominal way. In some cases laparoscopic assist can help to perform a hysterectomy via vaginal way and to avoid laparotomy. The aim of this study was to assess intra operative and post operative complications related to LAVH.
Material and methods: The retrospective study was based on 102 LAVH procedures performed in Snt. Sophia Hospital in Warsaw from January 1996 to December 2007.
Results: The most frequent indications for LAVH were uterine myomas (73 cases). In 22 patients (21.5%) LAVH procedure was performed due to abnormal uterine bleedings, in six cases (5.8%) because of CIN 3 and in one case (0.9%) due to benign adnexal tumor. Thirty-six patients (35.2%) gave history of previous laparotomy and in one case (0.9%) the medical history revealed previous laparoscopy. The mean age of patients was 50 (39.79), the mean BMI was 26 (19.33). The average intra operative blood loss was estimated for 710 ml (150.2500), the mean operative time was 136 min (75.300) and the mean hospital stay was 4.2 days (2.11). One major complication was noticed—a ureter injury. In 16 cases minor complications occurred: eight (7.8%) post operative anemia requiring the blood transfusion, fever in postoperative course −7 cases (6.8%) and one (0.9%) post operative intra abdominal bleeding requiring relaparoscopy.
Conclusion: LAVH seems to be the safe procedure for hysterectomy and it should be performed to decrease amount of abdominal hysterectomies.

P030

Does concomitant salpingectomy during total laparoscopic hysterectomy reduce the post-operative febrile morbidity rate?

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Objective: The aim of this study was to determine whether concomitant bilateral salpingectomy during total laparoscopic hysterectomy procedure reduces the post-operative febrile morbidity.
Methods: Between April 2004 and December 2007 all consecutive patients undergoing total laparoscopic hysterectomy for a benign gynecological condition and desiring the preservation of ovaries were enrolled and had either tubal preservation (Group A) or concomitant bilateral salpingectomy (Group B) during the operation. The primary study outcome was the rate of post-operative febrile morbidity defined as temperature greater than 38.0°C in two occasions more than 6 h apart, excluding the first 24 h after surgery.
Results: During the study period 240 patients (120 patients for each arm of the study) were enrolled. The two groups were comparable for age, BMI, previous abdominal surgery and primary indication to surgery. Intraoperative characteristics such as operative time, estimated blood loss, uterus weight, conversion to emergency laparotomy and intraoperative complications rate were comparable between groups. The rate of post-operative febrile morbidity was higher in patients of Group A than in those of Group B (nine (7.5%) Vs one (0.8%); $p=0.01$). The post-operative complication rate due to other conditions was comparable between groups.
Conclusion: The performance of a concomitant bilateral salpingectomy during total laparoscopic hysterectomy is a simple procedure and an effective method to reduce the post-operative febrile morbidity rate.

P031

Pressurized irrigation devices cause peritoneal damage

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Objective: To assess the effect of pressurized irrigation on intact peritoneum.
Design & methods: Five irrigation devices were analyzed and measured for their effect on intact peritoneum in an animal model. Intact in vivo porcine peritoneum was exposed to 1, 2, and 5 s exposure of pressurized lactated Ringer's irrigation using currently available laparoscopic irrigation devices After the timed irrigation peritoneal biopsies of the wetted site was performed for histologic evaluation.
Results: Fluid streams reached delivery rates of 2,500 mm^3 per min. Pressures generated by these devices ranged between 400–800 mm Hg or 7.735–15.47 lbs per $in.^2$. The resulted was removal of peritoneal cells and progressive hydro-dissection seen by histologic evaluation. Single cells, clumps of cells and sheets of peritoneum occurred. In addition to blasting cells from their attachment peritoneal defects were edematous and undermined showing evidence of unintended hydro- or aqua-dissection.

Conclusions: Pressurized irrigation directed at intact peritoneum can damage, dislodge and strip away peritoneal cells causing defects and un-intended hydro-dissection.

P032

Adnexal torsion and multifetal pregnancy reduction as a result of IVF treatment in infertile patient: case history

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Purpose: The incidence of ovarian torsion has been reported to be increased during controlled ovarian hyperstimulation. Ovarian hyperstimulation syndrome is a common problem associated with modern IVF techniques. However torsion of the hyperstimulated ovary is a rarer event. The incidence of ovarian torsion after IVF treatment has been reported to range from 0.08% to 0.13%. Multiple pregnancy is associated with greater risks for both mother and the fetuses compared to singleton pregnancy. Multifetal pregnancy reduction (MFPR) has been presented as an option to improve the pregnancy outcome of patients trying to carry a pregnancy to term.
Methods: We present a case history about a patient who had undergone IVF procedures six times and had two operations because of the adnexal torsion on both sides. She also had MFPR as the ultrasound examination showed four fetuses. We did a retrospective study using medical data from the hospital.
Results: In the presence of multiple pregnancy, the enlarging uterus may stretch the utero-ovarian ligaments and push the ovaries out of the pelvis. This may then predispose these enlarged ovaries to torsion. Even when MFPR has been used the outcome of the multiple pregnancy may still result in preterm labour with risks for both mother and the newborns.
Conclusions: Adnexal torsion is a rare but recognised complication that can occur to pregnant patients with hyperstimulated ovaries after an IVF programme. Physicians who deal with IVF must be aware of the risks that multifetal pregnancy may cause to the mother and the children.

TOPIC 6: COST EFFECTIVENESS OF MINIMAL INVASIVE SURGERY

P033

Two-port vs. three-port pelviscopic salpingectomy for the treatment of tubal pregnancy

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Introduction: An increasing number of investigators have proposed the variety of laparoscopic methods to reduce the size of the abdominal incision and the number of trocars used. This study aimed to explore the effectiveness and safety of two-port pelvic cavity entry for salpingectomy in tubal pregnancy.
Methods: We retrospectively studied 43 patients (two-port group: 11, three-port group: 32) who had simple sapingectomy using the two-trocar or three-trocar technique. In gynecologic department of a university hospital, the same surgeon performed pelviscopic salpingectomy with two ports or three ports. A 10 or 5 mm 0° usual telescope umbilical trocar, and one or two low abdominal trocar were used. In two port technique, the operation was performed only through the ancillary trocar with uterine manipulator assistance under telescope view. Salpingectomy was performed with electrical cautery devices and removed with an atraumatic forcep through 5 or 10 mm ancillary trocar. The motion of uterus with a uterine manipulator worked as the counter traction of a salpinx by a forcep in the conventional three or four-port pelviscopy. In this way, 3rd ancillary trocar was saved. The drainage bag was inserted in the pelvic cavity through the ancillary port, skin sutures were done. The clinical data of these patients were analyzed for the evaluation of operative outcomes of the two study groups.
Results: The clinical data were comparable for both groups (two-port vs. three-port group). The mean age and parity of the patients were 31.91±6.09 years vs. 30.56±5.25 years ($p>0.05$), 1.00±0.77 vs. 0.91±0.89 ($p>0.05$). The BMI of the patients were 21.17±3.46 kg/m^2 vs. 21.06±3.07 kg/m^2 ($p>0.05$). The operation time was a little short in the two-port group(49.55±10.83 min vs. 56.87±12.81 min: $p=0.097$) but the p value was insignificant. The postoperative hemoglobin change and postoperative hospital stay were 2.76±1.04 g/dl vs. 2.18±1.50 g/dl ($p>0.05$), 4.27±1.01 days vs. 4.31±0.97 days ($p>0.05$).
Discussions: The two-port pelviscopic salpingectomy seems to be safe and cost effective compared with conventional three-port method. The feeling of satisfaction of patients was fair and the cosmetic effect was excellent. If the multichannel port is introduced, more complex procedures would be performed with two or single port techniques.

P034

Costs of laparoscopic versus abdominal hysterectomy, a randomized controlled clinical trial

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Objective: To assess the hospital costs and societal costs of laparoscopic hysterectomy compared with abdominal hysterectomy until 1 year after surgery.
Design & methods: This randomized controlled trial was conducted at a large teaching hospital in The Netherlands, experienced in gynecological minimal access surgery, from August 2002 until January 2005. Women with a benign and malignant condition scheduled for hysterectomy, where vaginal hysterectomy was not feasible and laparoscopic hysterectomy was possible, were randomly allocated to laparoscopic or abdominal hysterectomy. Hospital costs (i.e. all costs of the operation and admission), and societal costs (i.e. costs of medical care and productivity loss) were assessed until 1 year after surgery. Differences between the treatment groups were tested for statistical significance using Mann Whitney test on an intention to treat basis. Statistical analysis was performed using SPSS 14.0. $P<0.05$ was considered significant.
Results: Seventy-six women were randomized to either laparoscopic hysterectomy ($n=38$) or abdominal hysterectomy ($n=38$). Their mean age was 49.9±9.1 and 48.1± 9.3 years respectively (not significant; NS). Hospital costs were A2,353 and A2,528 (NS), and societal costs were A4,330 and A5,776 ($p<0.05$) for laparoscopic hysterectomy and abdominal hysterectomy respectively. The difference in total cost was not statistically significant.
Conclusion: In this study we have found that laparoscopic hysterectomy was associated with equal hospital costs and lower societal cost compared to abdominal hysterectomy.

TOPIC 7: ENDOMETRIAL ABLATION

P036

NovaSure® endometrial ablation with a paracervical block: a pilot study

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Introduction: The NovaSure® endometrial ablation procedure is used to treat women with dysfunctional bleeding. The NovaSure® procedure only takes a short time. This is an advantage for an acceptable treatment under local anesthetics. We evaluated the feasibility and acceptability of the NovaSure® procedure with a paracervical block.
Method: A prospective cohort study was performed at the gynecology department of a teaching hospital. If an ablation treatment of the endometrium was indicated women were asked to undergo the NovaSure® procedure under local anesthetics at the outpatient clinic. The acceptability, pain score by VAS-scale, amenorrhea and satisfaction were measured.
Results: From November 2006 until January 2008 33 women were included. Ninety-four percent of the women did found the pain during the NovaSure® under local anesthetics acceptable. After 24 h 23 women had a pain score of zero points. Twenty women developed an amenorrhea (60.6%) and 13 women hypomenorrhea (39.4%). All women were satisfied with the result. They all recommended the procedure to a friend. No complications occurred during the procedure or postoperatively.
Conclusion: Endometrial ablation with a paracervical block is a simple, safe, accepted and effective procedure for dysfunctional bleeding.

P037

Comparison of two endometrial destruction techniques

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Objectives: To compare the efficacy and subjective success rate between two endometrial destruction techniques for heavy menstrual bleeding (HMB).
Methods: We sent questionnaires to all women who had transcervical resection (TCRE) or thermal balloon ablation (TBA) of the endometrium for HMB without any other endometrial pathology. We asked patients how they would estimate the success of the procedure on scale from 0% to 100%. We asked them about menstrual bleeding, pain, need for hormonal treatment, levonorgestrel IUS insertion or operation after the procedure. We used Mann–Whitney U test for statistical analysis.

Results: Forty-nine women having TCRE (63.6%) and 29 (76.3%) having TBA answered the questionnaires.

	TCRE	Thermal balloon ablation	*P* value
Age	44.0 (36–54) years	48.0 (39–52) years	0.452
Time after procedure	36.0 (7–48) months	24.0 (6–60) months	0.097
Time without symptoms	24.0 (0–48) months	8 (2–36) months	0.650
Satisfaction with procedure in %	99.0 (0–100)	100.0 (0–100)	0.381
Menstrual bleeding after procedure	No bleeding —44.9% Less bleeding —53.1% No improvement —2.0%	No bleeding —55.2% Less bleeding —41.4% No improvement —3.4%	0.436
Decreased dismenorrhoea	83.3% patients	73.3% patients	0.434
Hormonal treatment	14.3% patients	10.3% patients	0.617
Surgery after procedure	2.0%	6.9%	0.284
Levonorgestrel IUS after procedure	2.0%	6.9%	0.284

Discussion: Our results show that patients are equally satisfied with both techniques. It seems that TCRE is more efficient in treating dismenorrhoea and patients having TCRE are longer without symptoms which require further hormonal or surgical treatment however the difference is not statistically significant.

P038

Long term results in women with dysfunctional uterine bleeding (DUB) treated by rollerball endometrial ablation

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Objective: The main objective of our study was to evaluate at 12 and 24 months the effect of roller endometrial ablation on the relief of dysfunctional uterine bleeding (DUB). Also other outcome that we observe were: the incidence of complication, the need for other surgical treatment and the satisfaction rate.

Methods: The study contain all women undergoing rollerball endometrial ablation (n=148 women) during the period January 2000–January 2004. They were followed by questionnaires at 12 and 24 months.
Results: The mean operation time was 21 min and the mean deficit of fluid was 121 ml. The mean age of the patient at operation was 38.5 years. Almost 825 of patients were day cases. The mean satisfaction rate at 12 month was 95% and at 24 month was 92% for women with amenorrhoea, lighter periods or small brown discharge. The average of satisfaction rate was 93% of women. Another ablation was need for 5.5% of women, 17.5% of women underwent hysterectomy after 12 months for persistent DUB and menorrhagia and 2.1% of women underwent hysterectomy for perforation. The response at the questionnaires was 97%.
Conclusions: Rollerball endometrial ablation is a highly effective operation for DUB with a long-term benefit, a low rate of complications and an highly rate of satisfaction from the patients.

P039

The COAT trial—a randomised controlled trial comparing outpatient endometrial ablation techniques (NovaSure®™ vs. Thermachoice®™): technical, pain and acceptability outcomes

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Introduction: Outpatient endometrial ablation using second-generation systems has been shown to be feasible in uncontrolled observational series. We conducted an RCT to compare *NovaSure*®™ bipolar frequency impedance controlled ablation vs. *Thermachoice*®™ thermal balloon ablation to assess both technical, patient experience and clinical outcomes.
Methods: An RCT of 81 women was conducted to compare two techniques of endometrial ablation, *NovaSure*®™(N=42) vs. *Thermachoice*®™ (N=39), in an outpatient setting using local cervical anaesthetic for the treatment of menorrhagia refractory to medical therapy. The feasibility and qualitative outcomes compared between the two groups were duration of treatment, successful completion and completeness of treatment (as judged by post-operative hysteroscopy), complications, procedural/postoperative pain (VAS) and acceptability.
Results: Ablative procedures were successfully accomplished in all *NovaSure*®™ (42/42, 100%) and 36/39 (92%) of *Thermachoice*®™ outpatient operations (P=0.07). The *NovaSure*®™ technique was significantly quicker than

Thermachoice®™ ablation (median time 5 vs. 13 min ($P<$ 0.01) and associated with less post-operative pain at both 1 h (VAS 5 vs. 8, $P=0.04$) and on discharge (VAS 2 vs. 4, $P=$ 0.04). Pain experienced during the ablative procedure was considered severe in 12/42, 28% of *NovaSure*®™ procedures and 16/38, 41% *Thermachoice*®™ procedures, but there was no significant difference in pain experienced during the ablative procedure (VAS 8 vs. 7 ($P=0.3$). Pain experienced with the outpatient procedure was considered unacceptable in 2/31 (6%) *NovaSure*®™ procedures and 5/ 22 (23%) *Thermachoice*®™ procedures ($P=0.04$) and outpatient treatment would be recommended in 29/42 (69%) *NovaSure*®™ procedures and 16/39 (41%) *Thermachoice*®™ procedures ($P=0.01$). Complete ablation at check hysteroscopy was significantly more likely with *NovaSure*®™ procedures (37/42, 88%) compared with 22/38, 58% *Thermachoice*®™ procedures ($P<0.01$). No complications were recorded.

Conclusions: Outpatient endometrial ablation using *NovaSure*®™ and *Thermachoice*®™ techniques is successful and safe. In the absence of clinical outcome data, the *NovaSure*®™ technique appears to be the outpatient ablative treatment of choice as it is more rapid, more acceptable to patients, associated with less post-operative pain and more likely to result in complete destruction of the endometrium compared with *Thermachoice*®™ technique.

P040

A comparison of the immediate post-operative outcomes for Microwave endometrial ablation (MEA) and NovaSure® endometrial ablation

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Objective: To analyse the immediate post-operative outcomes of MEA and NovaSure® in terms of patient satisfaction, patient acceptability and pain scores.

Design & methods: Fifty-three women were studied from Jan 2006–April 2007 at one regional unit. The outcomes were measured using visual analogue scores. The procedure was performed by one of seven surgeons, each of whom performed both procedures. The patients were randomised to receive MEA or NovaSure® as part of a randomised controlled trial. This is part of an ongoing study, therefore the results remain blinded.

Results: The mean post-operative patient satisfaction scores were 9.54—for both devices ($t(50)=-0.20$ $p=0.98$) (95% CI −0.612, 0.601). As regards post-operative acceptability, these scores were equally high—9.68 and 9.42—there was no statistically significant difference ($t(50)=1.05$ $p=0.30$) (95% CI −0.24, 0.76). Furthermore, there was no statistically significant difference between the immediate postoperative pain scores of 3.70 and 3.40 ($t(50)=0.39$ $p=0.70$) (95%CI −1.27, 1.87). The post-operative pain score was found to be a predictor for post-operative satisfaction. Multiple regression analysis revealed that post-operative pain score accounted for 8% of the variance in post-operative satisfaction ($F(45)=1.65$; $p=0.15$). The results demonstrate that the post-operative pain score, successfully predicted the patient's post-operative satisfaction score ($\beta=-0.31$; $p\leq$ 0.05) (95%CI −2.33, −0.007).

Conclusions: Both MEA and NovaSure® are associated with equally high levels of patient satisfaction, acceptability and low pain scores. Post-operative pain is an important factor affecting patient satisfaction. Further analysis of this aspect of the procedure and its management is recommended.

P041

A comparison of the operating times for Microwave endometrial ablation (MEA) and NovaSure® endometrial ablation

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Objective: To analyse the operative outcomes of MEA and NovaSure® in terms of operating times.

Design & methods: Fifty-three women were studied from Jan 2006–April 2007 at one NHS Trust. The length of time was measured from the patient's arrival in theatre (already anaesthetised) to the time she left theatre. This was recorded by the theatre nurse. The procedure was performed by one of seven surgeons, each of whom performed both procedures. The patients were randomised to receive MEA or NovaSure® as part of a randomised controlled trial. This is part of an ongoing study, therefore the results remain blinded.

Results: 53 underwent an uncomplicated endometrial ablation. The age range was 29–54.

There was no statistically significant difference in the mean operating time between the two devices, with a difference of 1.1 min (95% CI −4.99 −2.72). This is not a statistically significant difference, using the *t*-test, ($t(51)=-0.59$ $p=0.56$). Employing linear regression, -age and uterine length were not found to be predictors of operating time, but parity was associated ($F(49)=4.093$ ($p\leq0.05$) (95%CI 0.13, 3.95)). Analysis by ANOVA and the *t*-test revealed that the operating time was found to be dependent on the surgeon ($p\leq0.01$), the surgeon's grade ($t(51)=-2.32$ $p\leq0.05$) and on their ablative experience ($t(51)=-3.025$ $p\leq0.01$), (95% CI −8.89, −1.80).

Conclusions: Both MEA and NovaSure® are equally short procedures. The most important variable affecting the length of time in theatre appears to be the surgeon's experience.

TOPIC 8: ENDOMETRIOSIS

P042

Study on safety and efficiency of laparoscopic adhesiotomy using the surgiwand and the uterine manipulator for ovarian and pelvic endometriosis patients with cul de sac obliteration.

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Objective: Patients with ovarian and pelvic endometriosis often have adhesions in pelvic cavity. New technologies to avoid organ injuries during laparoscopic adhesiotomy are urgently desired. Our purpose of the study is to assess safety and efficiency of laparoscopic adhesiotomy using SURGIWAND™ and the Uterine Manipulator for ovarian and pelvic endometriosis patients with cul de sac obliteration.
Design & methods: From October 2000 to March 2008, 11 patients diagnosed as unilateral or bilateral ovarian endometriosis with cul de sac obliteration were nominated. Five patients were enrolled in abdominal ovarian cystectomy and adhesiotomy, and six patients were enrolled in laparoscopic ovarian cystectomy and adhesiotomy. At laparoscopy, the Uterine Manipulator, a device inserted into the uterine cavity, was used to support the uterus anteflexion, and to separate uterus from rectum. The SURGIWAND™, a device inserted into the cul de sac through the trocar, was used for simultaneous suction of the body fluid, irrigation, and separation of the pelvic adhesion. At operation, procedure length and total blood loss were monitored. Postoperatively, the first gait, the first diet, body temperature, serum CRP levels on the third day, the length of admission, and any idiopathic injuries were observed. Statistical analysis of clinical outcomes between the two groups was performed using unpaired *t*-test.
Results: The operative bleeding volume was significantly decreased in the laparoscopy group compared with the laparotomy group (9.6±5.5 ml vs. 141±30.7 ml, $p<0.05$). The first postoperative gait was significantly improved in the laparoscopy group compared with the laparotomy group (1±0 day vs.1.8±0.3 day, $p<0.05$). The serum CRP levels on the third postoperative day were significantly lower in the laparoscopy group compared with the laparotomy group (2.6±1.5 mg/dl vs. 9.1±5.4 mg/dl, $p<0.05$). The length of admission was significantly shortened in the laparoscopy group compared with the laparotomy group (3.3±0.7 days vs. 9.2±2.5 days, $p<0.05$). There were no significant differences in the other parameters between the two groups. No idiopathic injury occurred during operations.
Conclusion: Our findings suggested that laparoscopic adhesiotomy using the SURGIWAND™ and the Uterine Manipulator is a safe and effective treatment for ovarian and pelvic endometriosis patients with cul de sac obliteration.

P043

The distribution, color, depth of endometriotic lesions and angiogenic activity in patients with peritoneal endometriosis

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Objective: To evaluate the distribution, color, depth of endometriotic lesions and angiogenic activity in patients with peritoneal endometriosis of different stages.
Methods: Sixty patients of ages 22 to 35 years old with peritoneal endometriosis were recruited. The diagnosis of peritoneal endometriosis was confirmed by laparoscopy. Appearance of implant types as red, black and white, depth and distribution were denoted. Blood samples and peritoneal fluid were collected from each woman. Samples were analysed using commercially available ELISA kits for vascular endothelial growth factor-F (VEGF-A) and its receptors: VEGF R1 and VEGF R2, according to the supplier's instructions. All the patients were divided into two groups: the first group consisted of the patients with stage 1–2 endometriosis (Revised American Fertility Society classification)—43 women, the second group —of with stage 3–4 endometriosis—17 women.
Results: In patients of the first group peritoneal lesions tended to locate on utero-sacral ligaments (60%), cul-de-sac (20.%) and in ligamentum latum uteri (12.5%). In patients of the second group—in ovarian fossa (38.3%), in ligamentum latum (27.7%) and in cul-de-sac (14.9%). So, the location and distribution of lesions were different. The patients with stage 1–2 endometriosis had mainly combined "red-black" lesions (61.5%) or black lesions (53.3%). Most common were superficial black lesions (less 0.5 mm depth and more 10 mm diameter)—28.4%, or white deep (23.5%), or white superficial −20%. In patients of the second group combined "black–white" (64.7%) and "red–black–white" (23.5%) were detected. Most common were deep white (38.2%) and deep black (23.5%). In both groups the levels of the VEGF-A and VEGF R1 were significantly increased compared to the controls. The levels of the VEGF R2 were significantly decreased compared to controls.
Conclusion: The results of the study proved the theory of "evolution of endometriosis" and the role of angiogenic

disbalance. There were no differences on proangiogenic switch in both groups compared to the controls. Further studies are, however, needed for the evaluation of endometriosis activity.

P044

The significance of endometriosis treatment by way of laparoscopy with infertile patients

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Introduction: Endometriosis is a progressive disorder characterized by increasing of endometrial tissue beyond the uterus, including the resulting symptomatology. One of the most often and complex complications of such disease is infertility. The present study is aimed at indicating the significance of endometriosis treatment by way of laparoscopy with infertile patients.
Materials and methods: The study deals with analyzing 81 patients with endometriosis of the age, ranging from 25 to 45 years who have been hospitalized at the *NARODNI FRONT* Gyneacological and Obstetrical Clinic. Data were collected retrospectively out of the surgery protocol kept at the laparoscopy theatre in the period from January 1st, 2007 to June 29th, 2007. The age, endometriosis location, disease stage, surgery treatment method and success, postoperative course and hospitalization duration were analyzed.
Results: Obtained results are presented graphically in percentages by means of diagrams. Majority of patients, or 61 of them (75.3%) suffered from ovarian endometriosis/endometrium, while 20 patients had pelvic endometriosis. Twelve (12) patients (14.8%) suffered from endometriosis *gradus* III/IV. The laparoscopic surgery was successfully performed for all patients, and there were neither conversions in laparotomy nor ovariectomy nor adnexectomy. It were performed 40 cystotomies (66%) and 21 cystectomies (34%). The postoperative course with all patients was regular and an average length of hospitalization took 2±0.5 days.
Conclusion: The research results indicate to advantages of the laparoscopic treatment of endometriosis. Such surgery method is minimally invasive, maximally sparing to the healthy precious ovarian tissue, while it smoothes fast and efficient progress of the postoperative course and significantly reduces a hospitalization period.

P045

Clinical and laparoscopic diagnostic of pelvic endometriosis: a study of 73 cases

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Pelvic endometriosis is a difficult diagnostic in gynecological practice, due to different symptoms and stages in which the patients arrive to us. We present the experience of our service on this topic.
Material and methods: Between 2002–2006, in our service we selected 73 cases of confirmed endometriosis. We retrospectively analyzed these patients, regarding their clinical data (age, symptoms, history), clinical diagnostic, and laparoscopic findings.
Results: The majority of our cases were in the 3rd age decade (38 cases, 52%). The clinical symptoms were: infertility (34%), pelvic or abdominal pain (71%), vaginal bleeding (14%), or no symptoms (endometriosis as an accidental finding in cases requesting laparoscopy for other reasons—7%). The medical history mentioned voluntary termination of pregnancy in 65% of cases. The laparoscopic evaluation of the cases showed: endometrial genital foci in 43 cases (59%), with half of them located at the ovary; extragenital sites in 30 cases (from which the main area was bladder—four cases, Douglas pouch 19 cases, abdominal wall five cases, para-cervix two cases). Associated pathology included: adhesions in 34 cases (46%), retroverted uterus in 15%, ovarian non endometriotic cysts (18%), polycystic ovaries (12%) and tubal pathology (6%).

In conclusion, our study confirm the difficulty of a clinical diagnostic of endometriosis, but the main symptoms remain infertility and pelvic–abdominal pain. The laparoscopy was the main tool for the diagnostic and management of our cases. Future studies should investigate post-operative evolution of the cases, evaluate different pathogenic mechanisms and assess new therapies.

P046

Risk factors for recurrence of ovarian endometrioma after laparoscopic excision

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Objective: To identify risk factors for recurrence of ovarian endometrioma after laparoscopic excision.
Methods: We evaluated 131 patients who were followed up for an average 43.9±33.0 months after laparoscopic ovarian

endometrioma excision retrospectively. Recurrence was defined as the presence of endometrioma more than 2 cm in size, detected by ultrasonography during the postoperative follow-up period. We analyzed 14 each patient's background variables (age at surgery, body mass index, age at menarche, delivery before surgery, CA125 and CA19-9 before surgery, previous medical treatment of endometriosis, co-existence of uterine myoma, adenomyosis, the size of the largest cyst at surgery, unilateral or bilateral involvement, revised American Society for Reproductive Medicine (rASRM) score, postoperative medical treatment and postoperative pregnancy) to assess their effects on the recurrence using Mann–Whitney *U* test and Chi-square test.
Results: The overall rate of recurrence was 45.0% (59/131). Bilateral involvement and rASRM score were associated with higher recurrence (P=0.0041, 0.0384) of endometrioma and postoperative pregnancy was associated with lower recurrence (P=0.0004).
Conclusion: Bilateral involvement or high rASRM score is a risk factor for recurrence of endometrioma. Postoperative pregnancy is a favourable prognostic factor.

P047

Surgical management of ovarian endometriomas. Is stripping technique always feasible and safe?

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Introduction: The objective of our study has been to evaluate retrospectively our surgical management of ovarian endometriomas.
Methods: During the period from January 2001 to December 2007, we performed 378 interventions for ovarian endometriomas in our Department. Most of the interventions (98.9%) were performed by laparoscopy, the remaining ones by laparotomy. In total, the number of laparotomies was 4; in one case we converted to laparotomy because of incontrollable bleeding, in another case, the indication for a laparotomic approach was due to a multiple myomectomy associated. The surgeons involved were 16. In 99 cases, the endometriomas were bilateral.
Results: In laparoscopy, we performed: 383 cystectomies (81%); 52 drainages and coagulations of the cyst wall (11%), whose 29 for cysts <3 cm, 18 for omolateral adhesions AFS score >16 and in five cases both of these conditions were fulfilled; 36 adnexectomy (8%), whose 13 in women >40 years, 12 for omolateral adhesions AFS score >16 and 11 cases were due to both of these conditions. We experienced 11 complications, whose one post-laparotomy and the other ten during or after laparoscopy (one intraoperative and nine postoperative) on a total number of 374 laparoscopic interventions (2.7%).
Discussion: Our results confirm laparoscopic treatment as the gold standard in case of ovarian endometrioma, because of the well known advantages of this approach (reduced stress, trauma, postoperative pain, analgesics requirement, shorter hospital stay and recovery time, low incidence of complications).
Moreover, the ovarian cyst excision in particular seems to provide for a more favourable outcome with regard to the recurrence of the endometrioma, recurrence of symptoms and subsequent spontaneous pregnancy in women who were previously infertile, even if in specific situations cyst wall coagulation and adnexectomy may play a basic role.

P048

Extensive abdominal lavage decreases the risk of bowel perforation following discoid excision of deep endometriosis

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Introduction: Treatment of recto-vaginal endometriosis may require full thickness resection of the rectum and two layers suture with subsequent risk of post-operative abdominal inflammation and late bowel perforation. We therefore performed a prospective randomized trial to evaluate the effects of extensive abdominal lavage on post-operative C-reactive protein and on the incidence of bowel complications after this procedure.
Methods: Prospective randomized study included 20 consecutive patients who had full thickness resection and suturing of the rectum for deep endometriosis. Patients received either standard rinsing of the abdomen or extensive lavage with 8 l of saline. After this trial all women received 8 l lavage. This series was compared with the period before lavage from January 2001 onwards.
Results: In the Randomized Controlled Trial the C-reactive protein in the lavage group was consistently lower (P= 0.01) after surgery from day 1 to 7. Before the introduction of the lavage bowel complications occurred in 8/84 women versus 0/39 in the period after lavage (P<0.05).
Conclusions: Extensive lavage of the abdomen after full thickness resection of bowel endometriosis results in lower CRP values after surgery and a lower incidence of late bowel perforations.

P049

Ureteral lesions following laparoscopic excision of deep endometriosis

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Introduction: Ureteral lesions are an important complication occurring in about 1–4% of operative gynaecological laparoscopy. The incidence in deep endometriosis surgery is unknown and the feasibility of laparoscopic treatment is still debated.
Methods: We analyzed our series of deep endometriosis excision to evaluate the overall risk of ureteral lesion, the timing of diagnosis, the possible treatment options and the subsequent outcome.
Results: In a consecutive series of 1,427 deep endometriosis excision, 35 ureteral lesions occurred, 14 in 67 patient with and 21 in 1,360 patient without associated hydronephrosis. Intraoperatively, 19 lacerations and three transections occurred and were treated laparoscopically by reanastomosis (n=3), suture over a stent (n=17) and laparoscopic assisted stent insertion (n=2) with an uneventful outcome in all cases. Postoperatively seven lacerations, two transections, two fistulas and two obstructions occurred; outcome differed according to the type of treatment. In case of laparoscopic repair (n=6), outcome was uneventful in all cases, meanwhile following blind stent insertion, three out of seven patients required reintervention.
Discussion: Unintended ureteral lesions occur in some 1.5% during deep endometriosis surgery without hydronephrosis and in 21% when hydronephrosis is present. The use of a preoperative ureteral stent seems indicated in case of hydronephrosis; otherwise, the risk of ureteral lesions does not warrant systematic preoperative stenting. Most importantly, our data confirm that laparoscopic management of ureteral lesions could become the preferred first line of treatment whether diagnosed during or after surgery. Blind stenting should not be attempted, considering the risk of enlarging a smaller lesion and the impossibility to evaluate the entity of ureteral damage, thus leading to higher risk of reinterventions (P=0.005).

P050

Clues to understand painful endometriosis

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Objective: Painful endometriosis is a good indication for surgical intervention. Causes for pain are nerve or ureter involvement, adhesions,… We propose two new clues to explain pain in endometriosis.
Design & methods: We report the case of severe pelvic pain in a patient with no particular history whom we operated of endometriotic nodules excision. Also, another patient presenting severe pelvic endometriosis after subtotal hysterectomy for endometriosis. She was operated of laparoscopic trachelectomy and partial cystectomy.
Results: On pathology study, the first patient had hyperplastic nevromatosis in contact with endometriotic foci similar to post traumatic changes. The second patient had mullerianosis and endosalpingiosis of the urinary bladder and the uterine cervix. Both patients are symptom free at 6 months follow up.
Conclusion: Post traumatic changes in nerves located near endometriotic nodules is an interesting finding. Inflammatory reactions produced by endometriosis may cause these changes.
Mullerianosis is diagnosed histologically consisting of normal endosalpingeal, endometrial or endocervical present in abnormal location (chorsitoma). In general, it is an asymptomatic condition. In our patient, it was probably the cause of pain. When coexisting with endometriosis, it can explain pain after removal of endometriotic lesions.

Post traumatic nerve changes and coexisting unresected mullerianosis are potential explanations for painful endometriosis. So, pain in endometriosis may have a histologic answer. More cases are needed to study clinical, pathogenic and histologic features.

P051

Computerized tomography enteroclysis for the preoperative evaluation of bowel endometriosis

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Objective: The aim of this study was to assess the value of Computerized Tomography (CT) Enteroclysis for the preoperative evaluation of patients with symptomatic deep endometriosis with suspicious colorectal involvement.
Methods: Between March 2007 and May 2008 consecutive patients scheduled for surgery for symptomatic endometriosis with suspicious bowel involvement have been enrolled in this study. All patients underwent preoperative CT Enteroclysis. The radiological procedure, with retrograde colonic hydrodistention, was performed with a single volumetric acquisition of the abdomen with intravenous injection of iodinated contrast medium after bowel preparation and pharmacological intravenous hypotonization. All patients underwent laparo-

scopic management for endometriosis. Surgical findings were compared with those obtained by the radiological assessment.
Results: During the study period 24 patients were enrolled. Endometriosis was hystologically confirmed in all cases. In 11 cases (45.8%) colorectal resection was performed due to the bowel involvement by endometriotic lesions. In these patients the correspondence between radiological, surgical and histological findings of bowel involvement was assessed in 100% of cases. In the other 13 (54.2%) cases no bowel involvement was identified by the radiological evaluation; in these patients, even if advanced laparoscopic procedures were required, such as ureterolysis and posterior parametrial resection, no colorectal segmental resection was considered to be necessary after the surgical evaluation, with a radiological–surgical correspondence of 100%.

There were no cases of radiological bowel involvement that resulted negative at the time of surgery.
Conclusion: This preliminary study demonstrates that CT enteroclysis is a valuable instrument for the evaluation of patients scheduled for surgery for deep endometriosis and it can represent a further tool for the preoperative counseling of these patients, especially in cases eligible for colorectal resection. Larger series are still needed to establish the positive and negative predictive values for bowel involvement of endometriosis of this radiological technique.

P052

Laparoscopic excision of deep infiltrating endometriosis performed in a tertiary referral centre

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Introduction: To examine the short-term surgical outcomes in women undergoing fertility-sparing laparoscopic excision of deep infiltrating pelvic endometriosis.
Methods: Retrospective cohort study set in a tertiary referral centre for treatment of endometriosis. Women who underwent laparoscopic excision of deep pelvic endometriosis between 1st January 2006 and 31st December 2007 were included. Eligible women were identified from the surgeons' database and their medical notes were reviewed. Data from pre-operative assessment, surgery and post-operative outcomes were analysed.
Results: A total of 177 women underwent fertility-sparing laparoscopic excision of deep infiltrating endometriosis including excision of uterosacral ligaments (43, 24.3%), excision of rectovaginal septum (56, 31.6%), rectal shave (56, 31.6%), disc excision (7, 4%) or bowel resection (15, 8.5%). The median operative time was 95 min with a range of 30–270 min (interquartile range (IQR) 75–120 min). Overall, 18 (10.2%) women developed complications. Of them, 12 (6.8%) developed only uncomplicated pyrexia whilst the remaining six (3.4%) developed significant intra and/or post-operative complications. Women spent a median of 2 days recovering in hospital (range 1–7, IQR 2–3 days). Three (1.7%) women required re-admission for assessment of a post-operative problem.
Discussion: Fertility-sparing laparoscopic excision of deep infiltrating endometriosis appears to be safe with a low complication rate. Multidisciplinary approach is essential in the successful treatment of deep infiltrating pelvic endometriosis.

P053

Estrogen metabolism and action in ovarian endometriosis

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Endometriosis is a very common gynecological disorder. Endometrial implants behave like normal endometrium in their response to hormones, where estradiol promotes proliferation and progesterone leads to differentiation. Defective metabolism and action of estrogens and progesterone are responsible for development and growth of ectopic tissue. There are many enzymes involved in metabolism of estrogens and there are two isoforms of estrogen receptors (ER). In this study we have examined expression levels of ten enzymes involved in estrogen metabolism (aromatase, 17beta-hydroxysteroid dehydrogenase [17beta-HSD] types 1, 2, 4, 5, 7, 8 and 12, sulfatase and sulfotransferase) and of receptors ERalpha, ERbeta.

Twenty-five samples were included in the study: 16 samples of ovarian endometriomas and nine samples of control endometrium from women who suffered from *Uterus Myomatosus* or *Myoma uteri*. After RNA isolation and cDNA synthesis, the real time PCR experiment was performed. For the statistical analysis samples were arranged into two separated groups: endometriosis group and control group. The differences in the expression levels of the selected genes in the tissue samples were analyzed using nonparametric Mann–Whitney *U* test. In addition to the previously reported up-regulated aromatase, statistical analysis revealed also up-regulation of 17beta-HSD types 1, 5, 7

and 12 and sulfatase. We also showed that ERbeta was up-regulated and ERalpha was down-regulated.

Our results indicate that in ovarian endometriosis local estradiol concentration is increased due to androgen to estrogen conversion by aromatase, while estradiol is synthesized by the action of the up-regulated 17beta-HSDs.

P054

What defines a normal recto-vaginal septum? The role of sonovaginography

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Objectives: Establish normative data for the thickness of rectovaginal septum (RVS) at sonovaginography.
Methods: Prospective observational study. Women undergoing laparoscopy for clinical suspicion of rectovaginal endometriosis (RVE) were enrolled. We performed sonovaginography during anesthesia before laparoscopy. The sonographer predicted whether or not a nodule was present in retrocervical area or RVS. Thickness of posterior vaginal wall ± RVS was taken at three points in midsagittal plane: at posterior fornix (retrocervical area), middle third of the vagina (upper RVS) and just above perineal body (lower RVS). Surgical confirmation of RVE was considered the gold standard.
Results: Twenty-three women have been enrolled. Median age was 38 years (IQR 33–44). 73%(8/11) had history of endometriosis. RVE was confirmed in 17% (4/23). Visualization of hypoechoic nodules at sonovaginography demonstrated sensitivity and specificity of 75% and 95% for detection of RVE. Mean diameter (SD) of RVE nodules was 27.3 (±9.4) mm. Mean thickness of vaginal wall ± RVS at posterior fornix, at middle third of vagina and just above perineal body was 5.1, 1.4 and 4.0 mm, respectively. These measurements were not significantly different in the presence of endometriotic nodules.
Conclusions: We have established normative RVS thicknesses based on sonovaginography. Although numbers are small, there was no correlation between thickness and presence of RVE. The visualization of hypoechoic lesions at sonovaginography seems to be the best predictor for RVE.

P055

Diagnostic value of transvaginal sonography (TVS) and clinical examination (VE) for preoperative diagnosis of deep infiltrating endometriosis (DIE)

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Introduction: Patients with DIE often experience considerable diagnostic delay due to suboptimal primary assessment. The aim of the present study was to evaluate the value of transvaginal ultrasound (TVS) and pelvic examination (VE) for preoperative detection of DIE.
Methods: Two-hundred patients presenting with endometriosis-associated symptoms were prospectively assessed by TVS and VE for DIE by the same examiner. All patients underwent laparoscopy and radical resection of all visible disease followed by histological confirmation which was considered the gold standard for diagnosis. Sensitivities, specificities, positive and negative predictive values (PPV, NPV) were then calculated for each examination technique.
Results: Laparoscopic and histological prevalence of endometriosis on the right and left ovary, right and left uterosacral ligament (USL), pouch of Douglas, vagina, bladder, rectovaginal space (RVS) and rectosigmoid was 12%, 13%, 12%, 22%, 15%, 11%, 2%, 4% and 24%, respectively. Sensitivities, specificities, PPVs and NPVs for VE, TVS and their combined use are depicted in according Tables.
Conclusions: Clinical examination only is inaccurate for preoperative diagnosis of DIE. TVS cleary enhances diagnostic accuracy especially if ovaries, bladder, the RVS, the vagina and the rectosigmoid are affected. The combination of VE and TVS further increases preoperative detection of DIE and can be recommended as the method of choice for primary assessment of patients with suspected deep infiltrating endometriosis. Especially if ovaries, bladder, the RVS, the vagina and the rectosigmoid are affected. The combination of VE and TVS further increases preoperative detection of deep infiltrating disease and can be recommended as the method of choice for primary assessment of patients with suspected deep infiltrating endometriosis.

P056

Laparoscopic treatment of deep endometriosis

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Introduction: The approach to deep endometriosis should be multidisciplinary. A proper diagnostic evaluation is essential prior to surgery in these patients.
Material and methods: Observational study between January 2006 and December 200. Patients undergoing surgery for endometriosis in our hospital, those with confirmed diagnosis of deep endometriosis at pathologic examination were evaluated. We analyzed the clinical features, physical exam dates, MRI, cystoscopy and colonoscopy features and surgical findings. As well we analysed surgery performed and complications.
Results: Two hundred thirty one patients were diagnosed with endometriosis in our endoscopy unitin period study. In 18 cases were deep endometriosis were confirmed at pathologic examination. Twelve patients had previous history of endometriosis with previous surgery (range 1 to 9) 66% of patients had MRI before surgery. In three cases colonoscopy and in one case cystoscopy was performed too. The MRI detect all nodules at rectovaginal septum. We use Koninckx classification for posterior compartment. Nine cases involved a type II and in two cases Type III. The MRI detects three cases of the four with adenomyosis. Four hysterectomies were performed in patients with adenomyosis and no pregnancy desire. Six bowel resections with termino-terminal anastomosis. Ten rectovaginal nodules were excised, a partial cystectomy in a patient with a nodule of 5 cm affecting bladder wall and a resection of one endometriotic nodule on the stump of round ligament in a patient with previous hysterectomy, were performed too. Sixteen cases were performed laparoscopy, in two cases laparoconversions were performed. A ureteral injury and a post surgery paralytic ileus were the two mayor complications. Eighty-eight percent of patients were satisfied with the results.
Conclusion: Deep endometriosis requires a multidisciplinary approach. The MRI is very useful in diagnosis and surgical planning for these patients because it allows us to assess with one exploration involvement of anterior and posterior compartment as well as the presence of adenomyosis. The main limitation of MRI is in the definition anatomic relationship of the bladder involvement with the ureteral meatus, so in these cases cystoscopy is useful. The laparoscopic approach is safe and effective in the treatment of these patients.

P057

Laparoscopic resection of rectovaginal endometriosis and fertility outcome

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Introduction: Rectovaginal endometriosis, frequently associated with pain and infertility, is diagnosed at clinical examination and with indirect imaging techniques like ultrasound and MRI. During the last years an increased incidence has been seen. Whether resection of rectovaginal endometriosis improves fertility is still under debate.
Objective: The aim of this study was to evaluate complications, recurrences and spontaneous pregnancy rate after laparoscopic resection of rectovaginal endometriosis.
Methods: Between January 2004 and June 2007, 35 procedures were performed in patients with pain with or without infertility. The adenomyotic plaques were resected laparoscopically using scissors and bipolar and/or unipolar current. If rectosigmoidal invasion was present, a shaving of was performed without sigmoidal resection. Mean follow-up was 531 days (SD ±411). Mean age was 29 years (SD ±4.2).
Results: Among the 35 women six didn't try to conceive and three were lost of follow-up. Of the remaining 26 patients 14 patients, with a mean period of infertility of 21 months, 64% (n=9) achieved a pregnancy spontaneously, without any additional treatment with a mean time to conception of 9 months (SD ±9). Of the five patients who didn't conceive spontaneously four were referred to IVF resulting in two pregnancies. Twelve patients were directly referred to IVF because of additional pathology (male, tubal factor) and eight of them became pregnant (67%).

The rectovaginal adenomyotic nodule was a solitary lesion in 9% of the patients without involvement of ovaries, rectum or bladder. In 71% of cases the ovaria were involved as well. In two patients (6%) bladder endometriosis was present. Mean size of the nodules was 2.2 cm (SD ±1). For the entire resection of the lesion, the vagina had to be opened in 54% of the patients. One patient developed postoperatively a severe complication with intestinal perforation secondary to thermal necrosis due to coagulation (4%). In three patients recurrence of endometriosis was noted (9%): two rectovaginally and one ovarian endometrioma. Mean time to recurrence was 19 months. In 23 patients an MRI was performed preoperatively showing in 26% (n=6) of them a diffuse or focal thickening of the uterine junctional zone diagnosed as adenomyosis.
Conclusion: In patients trying to conceive resection of rectovaginal endometriosis resulted in a relief of pain and resulted in a spontaneous pregnancy of 64%. The low postoperative complication rate (4%), the high chance of conception and the relief of pain, are all factors favoring surgery as a first treatment option.

P058

Ovarian cystectomy versus laser vaporization in the treatment of ovarian endometriomas. A randomized clinical trial with a long term follow up

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Objectives: The objective of this prospective randomized clinical trial was to compare the recurrent and pregnancy rates after two laparoscopic treatments for endometriomas: ovarian cystectomy versus laser vaporization of the inner lining of the endometrioma.
Methods: Inclusión criteria were age between 18 and 40 years, uni or bilateral endometriotic cysts with a minimum diameter of 30 mm and no counter-indication for the use of GnRH analogues. Patients were included in the study from may 2000 to march 2004 and randomized to undergo either endometrioma cystectomy (group 1) or drainage and laser coagulation of the inner lining (group 2). Group 2 was treated with GnRH analogues 2 months before surgery. Patients were followed-up with a standard gynaecologic examination and a transvaginal ultrasound exploration at least 48 months after surgery. Recurrence was defined as an ovarian endometrioma ≥3 cm in the operated ovary. We compared the recurrence after 6 months follow up and after 48 months follow up.
Results: Twenty-five patients were enrolled in each group. There were 16 patients excluded because a different type of ovarian cyst was confirmed by the pathologic examination. Finally, 36 patients were analysed in group 1 and 38 in group 2. No differences were found between groups in the age, cyst diameter, bilaterality, nulliparity, infertility, pelvic pain, operative time, length hospitalization or time of follow up. There were no conversions. There were no intraoperative neither postoperative complications. There were more recurrences in the laser group after 12 months of follow up ($p<0.05$): group 1=5/36 (13.8%); group 2=13/38 (34.2%); There were no statistical differences in endometrioma recurrence after 48 months of follow up ($p=0.3$): group 1=8/36 (22.2%); group 2=13/38 (34.2%). There were not statistical differences in pregnancies after surgery after the 12 or 48 months follow up in those patients desiring pregnancy (12 months: group 1=5/26 (19.2%); group 2=5/24 (20.8%); 48 months: group 1=8/21 (38.1%); group 2=8/18 (44.4%)).
Conclusions: At 12 months there were more recurrences in the laser group but, at 48 months, recurrences were the same in both groups. There were no differences in pregnancies.

P059

Combination of clinical examination and transvaginal ultrasound in the assessment of deep infiltrating endometriosis

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Abstract: This study evaluated the diagnostic value of clinical/pelvic examination in combination with transvaginal ultrasound for detection of endometriosis of the pelvis, especially DIE (involvement of the rectovaginal space and rectal wall) and assessed whether the use of both clinical examination and transvaginal ultrasound can be sufficiently precise diagnostically to enable the appropriate detailed planning of surgery. The importance of this is that depending principally whether bowel is involved, the consenting process, the specialist surgeons required, and the time taken to complete the operation may vary enormously.
Methods: Prospective study of patients referred to pelvic pain clinic. Patients with symptoms including dysmenorrhoea, dysparunia, dyschesia and pelvic pain were invited to take part in the study. They had a vaginal examination (VE) and a transvaginal scan (TVS) performed by the gynaecologists. The findings of the VE and TVS were recorded. The patients were counseled for the appropriate operation and returned to have the operation weeks later. At the time of the operation the findings of pelvis were recorded in a separate sheet. The findings of the VE and TVS were then compared with the gold standard of laparoscopic and histological findings.
Results: Fifty five patients were enrolled in the study. The overall sensitivity of VE and TVS is 72%, specificity is 94* %, positive predictive value 88% and negative predictive value is 83%, and specifically for rectal wall DIE, the sensitivity is 88%, specificity is 100%, positive predictive value of 100% and negative predictive value of 80%.
Conclusion: We find that the use of both clinical examination and TVS are a useful diagnostic test for the prediction of deep infiltrating endometriosis. We find it useful in the planning of theatre time, for patient counseling and consent issue and the avoidance of a staging laparoscopy.

P060

Recto-vaginal endometriosis: the role of sonovaginography in nodule's volume determination

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Introduction: Deeply infiltrating endometriosis of recto-vaginal septum usually requires surgical treatment. Diagnostic tools are useful in the preoperative diagnosis to determine the extension of the disease. Transvaginal sonography has a low sensitivity and specificity when applied to deep endometriosis. The sensitivity of MRI is lower in recto-vaginal septum endometriosis due to the anatomy of the intestinal endometriotic lesions. These limits lead to the need of more sensitive tools for a better detection and characterization of deep pelvic

endometriotic lesions. This is an essential step in planning the optimal surgical procedure. The aim of this study is to establish whether the Water Filled Balloon Vaginal Sonography (Water-US) is an accurate tool in nodule volume measurement related to laparoscopic findings.
Methods: Patients (76) with evidence of deep endometriosis underwent: (a) transvaginal sonography; (b) Water-US; c) laparoscopy. Water-US consists in endovaginal sonography with introduction of a special balloon in the vagina, filled up with 100 cc of saline solution. The water-filled balloon generates an acoustic window and an expansion of the vaginal walls, determining an increased and more defined visualization of the vaginal fornix, the uterus-sacral ligaments, the Douglas pouch, and of the recto-vaginal septum.
Results: Transvaginal sonography showed a deep localization of endometriosis in 50 patients (65.8) and the volume was evaluated. Water-US technique showed a deep localization of endometriosis in all 76 patients, and the volume was evaluated. Laparoscopic finding showed a deep localization of endometriosis in all 76 patients: in 20 patients the lesion was localized on the recto-vaginal septum and on the right uterus-sacral ligament; in 32 patients on the recto-vaginal and left uterus-sacral ligament; in 24 patients on the recto-vaginal septum. The mean nodule volume was evaluated by laparoscopy (2,700 mm^3), by Water-US (2,200 mm^3); by transvaginal sonography (1,000 mm^3). The statistical difference between the volume evaluated by transvaginal sonography and Water-US, is significant ($p<0.03$).
Conclusions: Water-US is a technique that gives information about localization, extension, infiltration and volume of the endometriotic nodule in the recto-vaginal septum. This is an essential step in planning the surgical procedure and in the follow up.

P061

Recurrence of endometriosis following excisional treatment

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Introduction: Laparoscopic treatment for endometriosis may have to be repeated for continuing or recurring symptoms. Re-operation rates have been reported to be between 33% and 44%. There is also evidence that surgery is less successful in younger women as all the endometriotic cell rests may yet to manifest. There are few reports of whether endometriosis recurs at the same pelvic site or elsewhere in the pelvis. The aim of this study was to identify rates of recurrence of endometriosis following excision in symptomatic women undergoing repeated laparoscopic surgery and the most frequent sites of recurrence.
Methods: This is a retrospective study. Forty-seven women with an average age of 28 years (range 16–42 years) with chronic pelvic pain were subjected to repeat laparoscopy for persistence or recurrence of symptoms. The findings were recorded in a schematic fashion with the pelvic areas divided into six blocks at both the initial and subsequent operation. This study specifically aimed at looking for evidence of endometriosis at both the operations. Visually identified areas of endometriosis were excised. Only histologically confirmed endometriosis was accepted as diagnostic for the disease.
Results: Forty out of a total of 47 women (85.10%) with chronic pelvic pain had histologically proven endometriosis at the index surgery. Endometriosis was noted to recur in a total of 27 women (57.44%) while four women (8.51%) had new disease. The recurrence of endometriosis was noted to be highest (85%) in women who at the initial operation had it on the ovary or in the ovarian fossa. Other areas including the posterior pelvic pouch, utero-sacral ligaments and the lateral pelvic side-walls had a recurrence rate of up to 8% whereas new disease in these areas was found in 60% women. The recurrence of endometriosis was 33% in the areas surrounding the urinary bladder and round ligaments.
Conclusion: These results suggest that endometriotic lesions will continue to manifest following excision and that symptom control by menstrual suppression should be considered especially in the younger age group. It also suggests that women who have ovarian endometriosis are more likely to have a recurrence as compared to those who have endometriosis elsewhere in the pelvis.

P062

Increased risk for spontaneous abortion in patients with endometriosis could be influenced by congenital uterine anomalies

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Objective: Several studies suggest a correlation between endometriosis and spontaneous abortion. Recent studies correlate even non obstructive Mullerian anomalies, such as uterine septa, with an increased incidence of endometriosis. The aim of the study was to verify whether hysteroscopic metroplasty of uterine septa reduces miscarriage rate in patients with septum and in those with septum and endometriosis.

Design & methods: Three hundred twelve women underwent hysteroscopic metroplasty from Jan 2000 to Dec 2006 due to primary or prolonged secondary infertility or after one or more pregnancy failures. Cases with male factor of infertility, bilateral tubal factor and patients with uterine septum who did not want to conceive after the metroplasty were excluded from the study, remaining 244 women. Fifty-two women had laparoscopically diagnosed I and II degree endometriosis. We compared the pregnancy outcome in the group of women with septum and endometriosis (52 women) with pregnancy outcome in the group with septum without endometriosis (192 women) before and after metroplasty.
Results: The two groups were homogeneous for age (29.62± 4.5 years in the endometriosis group vs. 29.41±4.84 years in the group without endometriosis), BMI (21.73±3.28 vs. 21.63±3.11) and obstetric history (37.5% vs. 49.7% of secondary infertility).

The incidence of spontaneous abortion before metroplasty was 75% in the group with septum and endometriosis and 67% (n.s.) in the group with septum and no endometriosis.

After metroplasty 21 women (40.4%) from the septum with endometriosis group and 61 women (31.8%) from the septum without endometriosis group did not conceive (n.s.). 7 women (13.5%) in the group with septum and endometriosis and 12 women (6.3%) in the group with septum without endometriosis (n.s.) had pregnancy failure (abortion and ectopic pregnancy). Twenty-four women (46.2%) from the septum with endometriosis group and 119 women (62.0%) from the septum without endometriosis group delivered at term.
Conclusions: No differences have been found between women with endometriosis and those without endometriosis either in the abortion rate before metroplasty or in the pregnancy outcome after metroplasty.

In our study increased abortion rate depends more likely on uterine malformations than on endometriosis. Endometriosis seems to be an occasional finding not influencing on pregnancy outcome.

TOPIC 9: FETAL SURGERY

P063

Treatment of the twin–twin transfusion syndrome: initial experience using bipolar coagulation

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Purpose: To report the initial experience in our country with a new technique for twin to twin transfusion syndrome (TTTS) treatment, using bipolar to coagulate the vascular communications between the fetoplacental circulations.
Methods: The operation was performed on three women at risk for pregnancy loss from acute hydramnios at 22–27 weeks' gestation from January 2007 to March 2008. A 3.0 mm diameter puncture needle was then directed to the shunt under on-line ultrasound control. And then introduce of a 2.8 mm diameter 30o fetoscope in the uterine cavity, placental surface vessels where directly visualized. Second 3.0 mm diameter puncture needle placed 3 cm distance from first puncture and insert bipolar. A coagulation time of 2–3 min was necessary at 30 W. All patients had an posterior wall placenta. The procedure combines ultrasonography and fetoscopy, and laparoscopic technique.
Results: The first patient delivered at 29 after premature rupture of membranes and the fetus is lost. Other patients have a term birth, and fetuses survived after surgery. In a 8 months follow-up after birth, all infants are still alive and well.
Conclusions: This initial experience suggests that fetoscopic bipolar occlusion of placental vessels is feasible and superior to previous therapies. Although this technique is more difficult than before. But this technique is easy to treat more big communication vessel. This therapeutic technique is the first in our country to offer for TTTs.

TOPIC 10: FIBROIDS, DIAGNOSIS AND TREATMENT

P064

Chain removal and colpotomy: an alternative to morcellation in laparoscopic myomectomy. Description of the operative technique

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Introduction: Laparoscopic myomectomy, described by Semm in 1979, has become after much controversy in a good technique to deal with uterine myomata. Undisputed advantages are short hospital stay, fast postoperative recovery, less pain, less febrile morbidity and reduced bleeding.
A critical step in laparoscopic approach is myomata removal. Although morcellation is an important breakthrough, high costs render it inaccessible to many institutions, not to mention increases in operating room time in case of multiple or huge myomata.
Operative technique: In 1999 Flint and Chu Jon described suturing multiple myomas into a chain using a single stitch

of silk, with posterior removal via colpotomy. This shortened operative time and lessened probabilities of inadvertently leaving fibroids in the abdominal cavity. In our institution, myomata removal is preferably done by colpotomy, and we recently started using Flint's chain technique, which we considered a feasible approach. After enucleation of the fibroids and assembling them into a chain with suture, a colpotomy is performed laparoscopically with a sponge forceps in the vaginal cul-de sac as a guide. The end of the suture containing the myomas is stitched into the sponge, and gentle traction of the forceps accomplishes vaginal extraction of the fibroids. In this manner we have taken out different sizes of fibroids (maximum 9 cm) and up to nine myomas from a single patient.
Discussion: Morcellation is indisputably a breakthrough in myomata removal, but high costs make its use elusive for our institutions. Feasible alternatives are much needed, which should be reliable for both patients and endoscopic surgeons. This approach fulfills these requirements.
Conclusion: Colpotomy for myomata removal is safe, inexpensive and simple. When chain stitching of the myomata is added, the chance of leaving fibroids behind is greatly reduced.

P065

Cost-minimisation analysis of outpatient see-and-treat hysteroscopy compared to traditional hysteroscopy service models in the National Health Service England

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Objective: To evaluate the economic impact of three different hysteroscopy service models.
Methods: A decision-analytic model was constructed from the UK National Health Service (NHS) perspective, to compare the costs of; (i) an outpatient 'see-and-treat' hysteroscopy ("outpatient see-and-treat service"), (ii) an outpatient diagnostic hysteroscopy followed by referral to operative hysteroscopy under general anaesthesia (GA) in theatre ("outpatient and referral service") and, (iii) a traditional 'see-and-treat' hysteroscopy under GA ("GA see-and-treat service"). Probabilities of successful outpatient diagnostic hysteroscopy, and of successful treatment at the same visit in the "outpatient see-and-treat service" arm were based on the prospective analysis of 1,109 women who attended an outpatient see-and-treat hysteroscopy service. Hysteroscopy was performed between July 2001 and June 2007 at a tertiary hospital (University College London Hospital) using Gynecare Versascope Hysteroscopy System/Gynecare Versapoint* Bipolar Electrosurgery System. Expert opinion was used to extrapolate the probabilities to the other two hysteroscopy service models. Costs were estimated using the 2006–2007 NHS Reference costs. As repeat interventions would be carried out until successful removal of the pathology occurs in all three hysteroscopy service models, effectiveness was assumed to be the same. Therefore, a cost-minimization analysis was performed.
Results: Results from the cohort study indicate that 96.2% (1,067/1,109) of the subjects in the "outpatient see-and-treat service" treatment arm completed a successful diagnostic hysteroscopy examination. Of these, 29.7% (317/1,067) had see-and-treat procedures, and the most common indications were polyps or fibroids. Total costs were lowest with "outpatient see-and-treat service" (£409 per patient). Costs of the "outpatient and referral service" and "GA see-and-treat service" were £420 and £711 per patient respectively. The lower cost of the "outpatient see-and-treat service" was observed across a number of patient subgroups (age, menopause status, indication) and when subjected to sensitivity analyses.
Conclusion: Of the three hysteroscopy service models evaluated, outpatient see-and-treat hysteroscopy is associated with the least treatment costs.

P066

A comparative study of laparoscopic and abdominal myomectomy

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Abstract: To compare the results of abdominal myomectomy with those of laparoscopic myomectomy, surgical results, postoperative hospital stay, sick leave after myomectomy, postoperative use antibiotics and complications with each procedure. Patients: Two hundred and twenty-four women with 278 symptomatic myomas.
Methods: From January 2000 to December 2006, were performed 98 laparoscopic myomectomies (LM) and 125 abdominal myomectomies (AM). Indications for both procedures were similar, including menometrorrhagia, pelvic pain, enlarging myomata and infertilitas.

Results: Mean number myomas in group LM was 1.32 in group AM was 1.19 ($p>0.05$). Mean operating time for abdominal myomectomies was 40.04 min(range 25–80 min) versus 64.01 min (range 25–215) for laparoscopic myomectomy ($p<0.01$). Mean size myoma in group laparoscopic myomectomy was $R=4.3$ cm (biggest $R=9.98$ cm);in open group mean size myoma was $R=7.38$ cm (biggest $R=12.98$ cm) ($p<0.01$). Depreciation Hg was 0.59 g/dl after LM vs AM ($p<0.01$). Mean postoperative hospital stay was 4.77 days (range 3–7 days) after open myomectomy and 1.85 days (range 1–5 days) after laparoscopic myomectomy ($p<0.01$). Mean sick leave after open myomectomy was 29.07 (28–36 days) days and 14.13 days (range 10–30 days) days after laparoscopic myomectomy ($p<0.01$). Seven women in the abdominal group required postoperative transfusions, compared with four women in the laparoscopic group ($p>0.05$). Postoperative use antibiotics in group LM was 23 women and group AM was 46 women ($p<0.05$). Ninety-eight patients had laparoscopic myomectomy (91.84%), and eight (8.16%) had laparoscopically assisted myomectomy. In both group we haven't got any complications.
Conclusions: Compared with abdominal myomectomy, laparoscopic myomectomy had lower depreciation Hg, postoperative hospital stay, sick leave and postoperative use antibiotics. Operating time is shorter in group AM and myoma size is more in this group. Laparoscopic procedures are suitable for treating pendular, subserous and larger intramural myomas. Easier and fast postoperative recovery, LM contributes to a more satisfied patient.

P067

Laparoscopic-assisted transvaginal myomectomy

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Background: Myomectomy is one of the methods of organ preserving treatment of patients with symptomatic uterine myomas. Transvaginal Myomectomy allows to use a manual suture of uterus without laparotomy.
Methods: After laparoscopic examination colpotomy is done. Dominant myoma is caught and is delivered into vagina as a whole or after fragmentation. Following the myoma uterus is also delivered into vagina, the myoma is cut off, uterus is manually sutured in layers and, finally, is taken back into abdominal cavity.
Results: The operation was performed by one surgeon to 132 women between January 2002 and April 2008. The average patients' age was 35.31 years old (range, 23 to 51 years). The mean size of a dominant myoma was 6.52 cm (range, 3 to12 cm). In average it took 90.98 min (range, 35 to 205 min) to perform an operation. The average hospital stay was 3.33 days. The second-look laparoscopy to evaluate adhesions and separate them was carried out on 2–3 day in 74 cases (56%). 71 patients (53.7%) were nulliparous. The operation was performed through colpotomy anterior in three cases, both colpotomy anterior and posterior were performed simultaneously in two cases. There were no cases of laparotomic conversion or hysterectomy. There were no complications or blood transfusions either.
Conclusions: Transvaginal Myomectomy seems to be real alternative to abdominal myomectomy. It combines the advantages of both laparotomy (suture in layers and inspection of myometrium to search small myomas manually) and laparoscopy (good cosmetic results and reducing formation of adhesions).

P068

Doppler-guided uterine artery occlusion for the reduction of fibroid-associated symptoms: clinical efficacy and safety

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Introduction: Doppler-guided Uterine Artery Occlusion (D-UAO) is a novel, minimally-invasive procedure, which takes advantage of the proximity of the uterine arteries to the lateral vaginal fornices to achieve transient, bilateral occlusion of the uterine arteries with a device that is inserted vaginally. The device is a vascular clamp that contains Doppler crystals at its tips in order to audibly identify flow in both uterine arteries and confirm their complete occlusion through the subsequent disappearance of pulsatile flow. The aim of the current study is to assess the efficacy and safety of D-UAO.
Methods: This is a multicenter, prospective, single-arm study being conducted at 11 investigational sites in Europe, with follow-up analyses planned for 1, 3, 6, 12, and 24 months. Premenopausal women ($N=100$), who are experiencing fibroid-related symptoms with at least one intramural or subserosal fibroid ≥ 3 and ≤ 8 cm in diameter, as confirmed by ultrasound, and are between the ages of 25 and 50 years will be enrolled in the study. The primary endpoints of this study include the lack of surgical re-intervention and safety assessments, by the presence of ureteral jets seen sonographically or cystoscopically before and after clamp placement. The presence or absence of any hydronephrosis is evaluated by ultrasound before clamp placement and after it is removed at the completion of treatment. Secondary endpoints include symptom improve-

ment (according to the Uterine Fibroid Symptom Quality of Life Symptom Severity and Health-related Quality of Life questionnaires), reduction in bleeding (as assessed by the Pictorial Blood Loss Assessment Chart), and decrease in fibroid load (determined at 6 months by MRI).
Results: Currently, 56 procedures have been completed in this trial; results from the first interim analysis are to be presented at the meeting.
Conclusions: Preliminary evidence indicates that D-UAO shows promise as a minimally-invasive alternative for the treatment of uterine fibroids. An additional multicenter study currently underway in the United States, Canada, and Mexico will act as the key trial for registration of this device in the United States.

P069

Uterine artery embolization versus hysterectomy for symptomatic uterine fibroids: a randomized comparison of clinical results and quality of life after 5 years follow up

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Introduction: Uterine artery embolization (UAE) has proved to be a valuable alternative to hysterectomy in the treatment of symptomatic uterine fibroids within 2 years of follow up. No long term data have been available so far.
Methods: Between 2002 and 2004 177 patients with menorrhagia due to uterine fibroids were randomly assigned to UAE (n=88) or hysterectomy (n=89). UAE was performed using PVA particles. Hysterectomies were performed vaginally or abdominally. Health Related Quality of life (HRQOL)-questionnaires were distributed at baseline and 6 weeks, 6, 12, 18, 24 months and at 5 years follow up. HRQOL was scored using the SF-36 questionnaire, both the mental (MCS) and the physical (PCS) component summary. Note was made on secondary procedures after the initial treatment. Satisfaction was measured using a seven-point Likert scale. Analysis was by intention to treat. The questionnaire on 5-years results was mailed in April 2008.
Results: At 2 years 19/81 (23.5%) of UAE patients had undergone a secondary hysterectomy for unsatisfactory results. Improvement in pain was reported in 85% of UAE patients and 78% hysterectomy patients (p=0.30), while bulk-related complaints improved in 66% of UAE— and 69% of hysterectomy patients (p=0.71). QOL improved significantly compared to baseline, and did not differ between both groups (at 2 years: MCS: p=0.50; PCS: p=0.95). Satisfaction was higher in hysterectomy patients at 2 years. The 5 years results will be available in the summer of 2008.
Discussion: Uterine Artery Embolization proved to be a good alternative to hysterectomy for the treatment of symptomatic uterine fibroids until 2 years follow up.

P070

Fertility after laparoscopic myomectomy: results

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The laparoscopic approach to myomectomy has raised questions about the risk of uterine rupture in patients who become pregnant following surgery. We report the limits, complications, subsequent fertility and outcome of pregnancies after laparoscopic myomectomy. From January 1998 to January 2006, 77 patients underwent a first laparoscopic approach to myomectomy. (number of myomata 1–7, myoma diameter <8 cm). From 77 patients pregnancies were obtained in 28 cases after laparoscopic myomectomy (36.4%): 20 vaginal deliveries four Caesarean sections,, three miscarriages, one ectopic pregnancy. Four pregnancies followed an IVF procedure. The pregnancy rate in patients with multifactorial infertility was 46.5%. The mean delay to conception was 11.3 months. No uterine rupture was noted. Pelvic adhesions were found in the 1 patients who underwent second-look procedure. Our preliminary results indicate that laparoscopic myomectomy is a useful technique.

P071

Successful laparoscopic myomectomy during pregnancy in the second trimester: report of two cases

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Introduction: The incidence of myomas in pregnant women is around 4%. In rare cases they become symptomatic and mandate a myomectomy with very few cases done by laparoscopy. We present two cases of successful laparoscopic myomectomy during pregnancy in the second trimester.
Material and methods: A case report of two patients pregnant in the second trimester (14+3 gw and 12+4 gw respectively) with symptomatic subserous myomas who were treated by laparoscopic myomectomy. In both cases

endosuturing of the myoma bed was performed as well as careful morcelation of the nodules with Ethicon morcelator. In both instances progesterone was given vaginally (600 mg per day) for 2 weeks and antibiotic treatment was given for 5 days in one of the cases.
Results: In the first patient (age 32) the diameter of the myoma was 9 cm (385 g) and in the second (age 30)—7.5 cm (250 g). Duration of surgery was 185 min in the first case and 140 min in the second with blood loss estimated at 580 and 350 ml respectively. Haemotransfusion was not necessary in both patients. Postoperative hospital stay was 72 h in both instances. One of the patients delivered by Caesarean section at 38 gw a healthy 3,150 g male baby and the other one is currently at the end of 29th gestational week.
Discussion: Although complications of uterine myomas (fibromas) are rare during pregnancy sometimes myomectomy in the second trimester is necessary. It seems that in carefully selected cases laparoscopic treatment is a valid procedure in skilled hands. The effect of CO2 insufflation on the pregnancy is still unclear and should be studied in prospective trials.

TOPIC 11: HYSTERECTOMY

P072

Round ligament necrosis after total laparoscopic hysterectomy: case report

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Introduction: We present the case of a patient who after total laparoscopic hysterectomy, came into the emergency room complaining of inguinal pain and mass. Evolution and additional studies showed a round ligament necrosis.
Materials and methods: A 37 year old woman with fibroids and abnormal uterine haemorrhage underwent a total laparoscopic hysterectomy. Thirteen days later she came to the emergency room, complaining of malaise and pain in the right groin. Physical examination did not reveal fever or tachycardia, but an inflammatory mass was detected in the right inguinal region. With a presumptive diagnosis of groin cellulitis, she was started on antibiotics and an ultrasound was done, showing a mass compatible with hematoma vs. abscess. She was evaluated by a general surgeon who suspected an incarcerated inguinal hernia. Next day, the patient was operated on and the surgeon found an inflammatory mass compromising the round ligament all the way to the deep inguinal ring. The mass was opened finding necrotic tissue. The ligament was totally resected and reinforcement of the floor of the inguinal canal was done.
Results: Patient was discharged next day without antibiotics and did well, with total disappearance of the symptoms. Pathology report informed necrotic striated muscle fibers.
Discussion: Uterine round ligament is irrigated by the round ligament artery, branch of the inferior epigastric artery which comes from the external iliac artery. It is also irrigated by a branch of the uterine artery which has anastomosis with some branches of the ovarian artery. The round ligament is cut in all types of hysterectomy but because of its multiple irrigation sources it usually retains its vascularity. A possible explanation for this patient's event is that in her specific case, the main irrigation has come from branches originated in the uterine or ovarian arteries, with no blood coming from the epigastric source. We did not find any other case in literature reporting this complication.
Conclusion: Round ligament necrosis after total laparoscopic hysterectomy should be considered as a possible complication and should be taken into account in the differential diagnosis in cases of groin pain in the postoperative period.

P073

Comparing the results of total laparoscopic hysterectomy with patients' BMI

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Objective: Obesity, nowadays, is a hot issue for gynecologic operation. We reviewed our data of total laparoscopic hysterectomy (TLH) performed by one surgeon retrospectively according to BMI.
Materials and methods: From March 2003 to Feb 2007, TLH were performed for myoma or CIN3 at our institute. Clinical date including BMI, uterine weight, operation time, blood loss, hemoglobin change after operation, and hospital stay were reviewed retrospectively. Covariance and correlation coefficient were calculated. There were 83 patients who had undergone TLH by one surgeon. The distribution (average ± standard deviation) of age was 45.5±4.2 years old, of parity was 2.1±0.8, of BMI was 24.4±3.1, uterine weight was 252.6±98.6 g, of operation time was 162.3±44.0 min, of blood loss was 357.7±366.6 ml, of hemoglobin change is g/dL, of transfusion was 0.8±1.7 pack (one pack contains 320 ml of packed RBC), and of hospital stay was 5.3±1.5 days. The covariance, with BMI, of uterine

size was −7.1, of operation time was 15.7, of blood loss was 21.0, hemoglobin change was −0.1, of transfusion was −0.3, and hospital stay was −0.1. The correlation coefficient, with BMI, of uterine size, blood loss, hemoglobin change and hospital stay were 0.0. That of operation time was 0.1, and that of transfusion was −0.1.
Conclusions: BMI, for TLH at our institute, does not influence the uterine size, operation time, blood loss, hemoglobin change, transfusion amount, and hospital stay.

P074

12 years of experience in laparoscopic hysterectomies: a retrospective analysis

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Introduction: Although laparoscopic hysterectomy is a relatively new procedure, it has become immensely popular during recent years. The procedure is considered to be state of the art, but questions remain about the downsides of this minimal invasive technique. A long term retrospective analysis can be helpful to identify the pitfalls and might add additional transparency for patients and clinicians.
Methods: In our clinic laparoscopic hysterectomies have been performed since 1995. In a retrospective analysis, patient characteristics (age, indication), surgical characteristics (conversion rates, blood loss, operation time, complications) and follow-up data (histopathology, complaints, necessary additional treatment, etc.) of several laparoscopic hysterectomy techniques were gathered. The minimal follow-up time was 6 months.
Results: Over 250 cases could be identified until 2007. The data were analysed in comparing the laparoscopic techniques with regard to the patient and surgical characteristics over time. Non-parametric tests were used, since the data were not normally distributed. A separate analysis was performed in comparing the outcome parameters of the different surgeons.
Discussion: In our study more than 10 years of experience on the several modes of laparoscopic hysterectomy will be presented. Patient as well as surgical characteristics could be compared over time. Specific risk factors for each procedure could be identified. Furthermore, surgeons could be compared on outcome measures, taking their experience into account. The clinical relevance of the data will be discussed.

P075

Clinical trial on the effectiveness of Erythropoetin treatment of iron-deficiency anemia in patients with uterine myomas after hysterectomies

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The aim of the study was to evaluate the recombinant human Erythropoetin clinical efficacy in patients with uterine myomas and iron-deficiency anemia after hysterectomies.
Design & methods: Sixty-three women aged 39–56 years old with uterine myomas and iron-deficiency anemia were recruited. The criteria for inclusion were Hb concentration less then 110 g/l and serum ferrum levels less then 15.0 mkmol/l. All the patients underwent subtotal hysterectomies and were divided in to two groups. The patients of the first group (25 women) were treated using trivalent ferrum preparations and recombinant Erythropoetin during preoperative and postoperative periods. The patients of the second group (38 women) used only trivalent ferrum preparations. The dosage of Erythropoetin was 50 ME/kg, it intervented percutaneous, three times a week.
Results: The hemoglobin, serum ferrum levels, RBC and reticulocites count, transferrin saturation coefficient were significantly higher in patients of the first group after treatment ($P<0.05$). The effect of administered drug was determined by comparison with the similar parameters of the second group on the 2nd, 5th, 7th, 10th day post administration and 2 weeks later. Furthermore, the changes of serum erythropoietin concentrations after treatment were more expressed in patients with mild and severe anemia.
Conclusion: Recombinant human Erythropoetin increases the hemoglobin, serum ferrum levels, RBC and reticulocites count, transferrin saturation coefficient in patients with uterine myomas and iron-deficiency anemia after hysterectomy. In could be used in patients before and after surgical treatment.

P076

Laparoscopic hysterectomy in gynecological practice—our learning curve

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Objectives: The aim of the study is to present our experience in different techniques of laparoscopic hysterectomy—LAVH, SLH and TLH.
Design and methods: Between May 2001 and December 2007 301 patients underwent laparoscopic hysterectomy or subtotal hysterectomy for benign or malignant reasons. We started with laparoscopic assisted vaginal hysterectomy (LAVH—215 patients). In 2003 the first total laparoscopic hysterectomy (TLH) was done but it became a routine procedure in 2005. In total, 70 TLH were performed, including 38 with pelvic lymphadenectomy for endometrial cancer. In addition 16 supracervical laparoscopic hysterectomies (SLH) were done.
Results: The mean operating time ranged from 132 min (LAVH) and 150 min. (TLH) at the beginning of the learning curve, to 72 min (LAVH) and 68 min (TLH) now. Since we introduced TLH as a routine technique, the rate of LAVH has been continuously decreasing. The overall complication rate was 6.6% (20 patients). All serious complications, including one major intraperitoneal bleeding episode requiring relaparoscopy, one bowel laceration, one epigastric vessels injury, one bladder injury and one major lymphocoele after pelvic lymphadenectomy happened during or after LAVH. None of them concerned TLH or SLH.
Conclusions: In our opinion laparoscopic hysterectomy, particularly TLH, is a safe procedure, preferred in patients with contraindications to the vaginal way.

P077

A review of 200 cases of Total laparoscopic hysterectomy

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Objective: To assess the efficacy, safety and the clinical characteristics of total laparoscopic hysterectomy (TLH).
Design: Clinical data about 200 cases who received TLH were collected and the hospital stay, operation time and complication were evaluated.
Results: The most common indications for TLH were uterine myomas, adenomyosis, and cervical intraepithelial neoplasia. Mean operating time was 80 min (range 50–200 min) and hospital stay was 5 days (range 3–8 days). The uterine size was range from 53.5 to 880 g. The most important factors for the surgery time were uterine size, assistant's skill and presence of adhesions. Several techniques were used, including bipolar coagulation or endoloop ligation of the ovarian and uterine vessels, and suture of the stump. A special uterine manipulator (RUMI(TM) uterine manipulator with colpotomizer and pneumooccluder balloon) used in all procedures aided in anatomic definition and performing the circumferential colpotomy. We had one ureteral obstruction by endoloop, and one case of bladder injury during operation which was diagnosed during operation and immediately repaired laparoscopically. We had one case of small bowel perforation which was due to severe adhesions between bowel and uterine wall. But there were no cases of death, thrombophelebitis or other pulmonary complications.
Conclusion: Total laparoscopic hysterectomy can be performed safely and effectively when the surgical team is sufficiently trained. And we believe that total laparoscopic hysterectomy offers benefits to the patients in the form of less post-operative pain, shorter time in hospital.

P078

Fallopian tube prolapse: a rare but important complication post hysterectomy

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Introduction: We discuss a case of fallopian tube prolapse after hysterectomy, the attempts to reduce the prolapse surgically and important points from the literature.
Methods: A case report documenting the presentation, diagnosis and surgical repair of fallopian tube prolapse through the vaginal vault, post hysterectomy.
Results: A 47 year old woman who had undergone a total abdominal hysterectomy 10 months previously, presented to her General Practitioner with dyspareunia and persistent vaginal discharge. This was treated with repeated empirical courses of antibiotics. She was eventually referred to the gynaecology clinic with what was thought to be granulation tissue at the vaginal vault. The gynaecologist performed a speculum examination which revealed a friable, erythematous, exquisitely tender prolapsed fallopian tube. At surgery attempts were made to reduce this vaginally, but failed. At laparoscopy the right fallopian tube was found to be bound by dense pelvic adhesions involving the small bowel and vaginal vault. On this basis laparoscopic excision was deemed to be too hazardous and a partial right salpingectomy was carried out vaginally and the vault defect over sewn. The patient was discharged home the following day. Histopathology confirmed our diagnosis and the patient was symptom free at the 2 month follow up.

Discussion: Fallopian tube prolapse is a rare but significant complication of hysterectomy. It has been described after vaginal, abdominal and laparoscopic hysterectomy. The incidence is poorly reported but estimated at 0.11%. This may be a coincidental post operative finding or present with vaginal discharge, vaginal bleeding, abdominal pain, dyspareunia and pelvic inflammatory disease. Spontaneous resolution can occur suggesting that this may be a more frequent complication than actually appreciated. Histopathological confirmation is essential so that a differential diagnosis of carcinoma can be excluded.

P079

National prospective 1-year cohort of 5, 279 hysterectomies: the Finhyst study

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Introduction: Finhyst evaluates methods, indications, concomitant procedures and intra- and postoperative major and minor complications of hysterectomy on a national setting.
Methods: A prospective study carried out January 1–December 31, 2006 collecting data from 53 hospitals, all communal hospitals where hysterectomy is being performed in Finland collaborated. Detailed questionnaires were filled by performing gynaecological surgeons and by the patients 8 weeks after surgery.
Results: Abdominal hysterectomy (AH) n=1,255 (24%) of which 6.8% subtotal, laparoscopic hysterectomy (LH) n=1,679 (32%) of which 0.2% subtotal, and vaginal hysterectomy (VH) n=2,345 (44%). LH was performed in 85% of all communal hospitals: All university hospitals, in 94% of central hospitals and 74% of local hospitals. AH was performed in 98% and VH in all. Conversions occurred in 5.2% of LHs and 0.2% of VHs (p<0.001). The most common indication was myomas in AH (58%) and LH (39%) and prolapse in VH (61%). Bilateral salpingo-ooforectomy (BSO) was performed in 36% of AHs, 32% of LHs and in 2% of VHs, BSO is further subanalysed by age. Complications occurred as such:

Organ injuries: N of patients with complications:

	AH (%)	LH (%)	VH (%)		AH (%)	LH (%)	VH (%)
Bladder	0.88	1.01	0.60	Major	4.0	4.3	2.6
Ureter	0.32	0.30	0.04	Minor	16.2	11.6	9.6
Bowel	0.24	0.42	0.09	Total	19.2	15.4	11.7

Eighty-eight percent of bladder and 83% of bowel injuries were discovered during hysterectomy, whereas 90% of ureter injuries postoperatively.
Conclusion: The most common approach to hysterectomy in Finland is VH, and the second most common is the widely performed LH. VH as approach seems to be the determinant not to perform BSO. A national wide scope study of hysterectomy gives a real life picture of its complications, unlike reports from (laparoscopy) specializing centres.

P080

Analysis of complications related to total laparoscopic hysterectomy (tlh)—a retrospective study

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Introduction: Recently laparoscopic techniques are increasingly used in gynaecological surgery due to their well known advantages. However, man can assume, that the advanced laparoscopic procedures carry the higher risk of complications. The aim of this study is to evaluate the intra operative and early post operative complications associated to total laparoscopic hysterectomy.
Material and methods: A retrospective analysis is based on 113 TLH procedures performed in Snt. Sophia Hospital in Warsaw from January 1996 to December 2007.
Results: The mean age of patients was 49.6 (30.70), mean BMI was 25 (17.35). Uterine fibromas constituted the indication for hysterectomy in 82 patients (72.5%), in 27 cases (23.8%) the operation was preformed due to abnormal uterine bleedings, in two cases (1.9%) CIN 3 was the reason of operation and in two patients benign adnexal tumor. Thirty-five patients (30.9%) gave previous laparotomy in history and in four cases (3.5%) previous laparoscopy was performed. The mean operative time was 138 min (75–270), the average blood loss was 420 ml (50, 1,200), the mean hospital stay was 3.8 days (2.11). No major complications were observed. The minor complications occurred in 17 patients (15%): eight (7%) patients developed post operative anemia requiring blood transfusion, in five cases (4.4%) a fever was observed, in two patients (1.7%) intra abdominal bleeding occurred requiring

relaparoscopy in the first post operative day, in one case (0.8%) a haematoma in subcutaneous tissue was noticed and in one a vaginal apex bleeding.
Conclusion: TLH seems to be a safe surgical procedure with low incidence of complications.

P081

Needlescopic hysterectomy for benign gynaecological disease

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Objective: Progression to needlescopic techniques for advanced gynecologic procedures now being performed with conventional laparoscopy is still in its infancy, and published series in the gynecologic literature are currently lacking. Purpose of this study was to report the initial experience with incorporating needlescopic instruments in the performance of total laparoscopic hysterectomy (TLH).
Design & methods: The study group consisted of 54 consecutive women undergoing needlescopic hysterectomy. The control group included 54 women who underwent conventional TLH over the preceding 12-month period and who were subjected to the same inclusion criteria as the study group. Conventional TLH was performed using all 5-mm working ports and a 10-mm laparoscope. The needlescopic hysterectomy differed from the conventional laparoscopic procedure in that we used 3-mm working ports and a 3- or 5-mm laparoscope at the umbilicus. Otherwise, the trocar layout and surgical technique were identical. Parameters of technical feasibility (operating time, estimated blood loss, perioperative complications) were considered as major statistical endpoints.
Results: In the study group all but one procedures were successfully completed with the needlescopic approach. One patient in the needlescopic group required conversion to standard TLH because of uncontrollable bleeding from the uterine artery. Operative time and estimated blood loss of needlescopic hysterectomy were comparable to those of standard TLH. No significant complication occurred in either group.
Conclusions: In properly selected patients needlescopic technique can be applied to TLH safely and effectively.

P082

Less peri-operative complications in supracervical versus total laparoscopic hysterectomy

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Introduction: The technique of laparoscopic hysterectomy clearly offers advantages over abdominal hysterectomy. However, there is debate on the complication rate associated with this minimally invasive technique. Up till now it is unclear if this is related to the method of laparoscopic hysterectomy which is performed. Therefore, we studied different laparoscopic hysterectomy techniques and the peri-operative complications.
Methods: We performed a multicenter retrospective cohort study evaluating the method of laparoscopic hysterectomy (LASH, TLH and LAVH) in relation to intra-operative complications, operating time, post-operative complications and duration of hospital stay. All laparoscopic hysterectomies from January 2005 till March 2008 were included.
Results: A total of 250 laparoscopic hysterectomies were included (98 LASH's, 102 TLH's and 50 LAVH's). TLH versus LASH showed less intraoperative bloodloss, but a longer duration of the operation. Postoperative infections were the most common complications in all groups, but mainly in the TLH-group. Urologic complications were only reported in the TLH-group. LAVH is comparable to TLH, except the operating time, which is longer in the TLH procedure. In duration of hospital stay there were no significant differences.
Conclusion: The supracervical laparoscopic hysterectomy (LASH) compared to the total laparoscopic hysterectomy (TLH) is associated with less peri-operative complications.

P083

A comparison of laparoscopic supracervical hysterectomy and total laparoscopic hysterectomy surgical outcomes at a general hospital in Italy

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Laparoscopic hysterectomy, in its different forms, has showed to be a safe and effective procedure for the management of a number of gynaecological benign conditions. Due to the improved screening programmes and new progresses in the early diagnosis of cervical pathology there is no particular need to remove the cervix

except from specific conditions like cervical and endometrial cancer. We reviewed our 7-years experience with laparoscopic hysterectomies, performed at our Department between October 2000 and November 2007, with the aim to compare surgical outcomes of 157 patients who underwent laparoscopic supracervical hysterectomy (LSH) with or without BSO with 157 patients who underwent total laparoscopic hysterectomy (TLH) with or without BSO. The similarities of the patient characteristics were tested by Wilcoxon rank sum statistics. Patient and surgery characteristics and surgery outcomes are analysed with descriptive statistics showing medians and 95% CIs. Women who underwent LSH had a shorter operation time compared with women in the TLH group (100 vs 110 min). Major complication rate was higher in the TLH group than in the LSH group (4.5% vs 1.3%). Minor complication rate was 13.3% in the TLH group compared with 13.4% in the LSH group. In our experience supracervical hysterectomy (LSH) resulted to be a valid alternative total laparoscopic hysterectomy (TLH) in absence of specific indications for TLH.

P084

A multicentered study of 850 cases of subtotal hysterectomies in Greece and the UK: a new safe and efficient approach to day case hysterectomy

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Introduction: During the last 10 years, minimally invasive surgery has influenced the techniques used in gynaecology, with an overall minimisation of complications and increased patient satisfaction. The study objective is to demonstrate the safety, feasibility and morbidity of laparoscopic subtotal hysterectomies in a day-care setting.
Methods: A Retrospective, descriptive, non-randomized study in two University Hospitals in Greece and the UK. For the patients who underwent a laparoscopic subtotal hysterectomy in 50 months (November 2002–January 2008), data were collected from medical records on how the intervention was performed, followed for 18 months. Eight hundred fifty subtotal hysterectomies were performed by two surgeons. Indications included 22.6% cases for endometriosis, 67% for menorrhagia, 11.4% for endometrial pathology. Median follow-up was 82 weeks.
Results: Duration of operation and of hospital stay, safety (morbidity and mortality), and patient satisfaction were assessed Estimated blood loss was 60 ml (range 50–2,000 ml) Intraoperative complications: 0.45% had significant complications. 0% vascular injuries and 0% nerve or ureter injuries. 2.4% had cyclic bleeding. Early postoperative morbidity included 0.22% deep vein thrombosis, 0% pulmonary embolism, 1.2% bladder infection and dysfunction. The overall complication rate was 1.73%. Three of them required drainage for intra-abdominal abscess Hospital stay of these 850 patients, 92.8% were discharged to home the same day with an average length of stay for these patients of 10 h.
Discussion: Laparoscopic subtotal hysterectomy can be safely performed as a day-care procedure.

P085

250 cases of laparoscopic hysterectomy performed by extended day case Integrated Care Pathway

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Background: Hysterectomy is one of the most common benign gynaecological operations performed in the world. Laparoscopic route may have further potential in reducing costs and improving bed occupancy for the health system when this is undertaken in selected women as an extended day case procedure where only overnight stay is required and the care is dictated by an Integrated Care Pathway.
Methods: The Study group included all women scheduled for laparoscopic hysterectomy between March 2004 and March 2007, who were medically fit for admission on the day of surgery followed by next-day discharge. Their ICP included preoperative assessment, counselling and follow up by a clinical nurse specialist (CNS). Following surgery, CNS contacted every woman on the third day and anyone could call the CNS if required. A follow-up at 8 weeks by the CNS was undertaken prior to discharge and a feedback questionnaire was distributed to assess patient satisfaction. Data was collected prospectively on operating time, blood loss, complications, hospital-stay, readmissions and the need to contact CNS or general practitioner (GP).
Results: Two hundred fifty women were recruited in the study with mean age 47 years and a mean BMI of 27. The operative data revealed a mean operating time (61 min; 25–150 range), mean blood loss (144 ml; 0–700 range), mean uterine size (187 g; 52–736 range), bladder trauma (1) and haemorrhage (1). 92% women went home following overnight stay after laparoscopic hysterectomy. Late complications recorded at follow-up included constipation (17%), UTI (8%), superficial wound infection (6%), vault haematoma (3%), urinary retention (6%) and pulmonary embolism (one case). In women with BMI 35 and over the average hospital stay was 1.04 days and the operation took 60 min on average. None of the patients were readmitted or reoperated. The rate of

postoperative complications in this group was low with no episodes of venous tromboembolism.
Conclusion: Laparoscopic hysterectomy is safe and feasible to perform as an extended day surgery procedure with an integrated care pathway involving preoperative assessment and follow-up by a clinical nurse specialist. The emerging extra benefits are short hospital stay and low complication rate, especially in a group of women with BMI above 35.

TOPIC 12: HYSTEROSCOPIC STERILISATION

P086

Interobserver agreement of transvaginal ultrasonography and gel instillation sonohysterography (GIS) during follow-up of successful bilateral placement of Essure® Microinserts

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Introduction: To compare the reproducibility of 2D and 3D transvaginal ultrasonography and Gel Instillation Sonohysterography (GIS) to localize Essure® microinserts 3 months after successful placement in both fallopian tubes.
Methods: Prospective comparison of individual reviews of systematically recorded ultrasonographic images. Ten women, 3 months after bilateral placement of Essure® intratubal microinserts, were included. All women had 2D and 3D transvaginal ultrasonography followed by Gel Instillation Sonohysterography to evaluate the proximal intratubal position at the uterotubal junction of the Essure® microinserts. Images were systematically recorded.
Results: The systematically recorded images were reviewed by five different ultrasonographers. Interobserver agreement varied and was the lowest with 2D transvaginal ultrasonography and the highest with 3D Gel Instillation Sonohysterography.
Discussion: A 3-month follow-up after the Essure® procedure with Gel Instillation Sonohysterography (GIS) results in a higher interobserver agreement than with plain transvaginal ultrasonography only.

P087

Concomitant intrauterine procedures and placement of Essure® micro-inserts for tubal sterilisation

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Placement of Essure® micro-inserts for tubal sterilisation began in France in 2001. In our department, most sterilisations are now performed hysteroscopically. Other disorders of the uterine cavity are sometimes discovered during the consultation for sterilization. Until now, no study has formally demonstrated the possibility of performing an intrauterine surgical procedure concomitantly with ESSURE® micro-insert placement.

We therefore conducted a retrospective case-control study in our Obstetrics and Gynecology department in the greater Paris metropolitan area.

The study included all patients who underwent tubal sterilisation with Essure® inserts, with or without another intrauterine procedure from January 2004 through December 2006. We assessed and compared the success rates for micro-insert placement and complications during the first 3 months.

In all, 152 patients had Essure® micro-inserts placed, 32 of them with another intrauterine procedure. The procedures combined with Essure® micro-insert placement were: endometrectomy (n=18), myoma resection (n=5), polyp ablation (n=6), curettage (n=2), IUD removal (n=3), removal of an insert that migrated into the uterine cavity (n=2). Three patients had two or three of the procedures together with the Essure® placement. The success rate for bilateral and unilateral Essure® placement was 97.6% (n=120) without any other procedure and 96.9% with another procedure. The complication rate in the group with Essure® placement only was 4% (n=5) compared with 9.4% in the other group. Three cases of expulsion were reported in the group with Essure® placement only. No perforation or pregnancy was reported until today.

The practice of another intrauterine procedure during hysteroscopy for sterilization is possible without reducing the placement success rate and without increasing the morbidity for the other procedure. These results should be confirmed by subsequent prospective studies in larger cohorts.

TOPIC 13: MEDICAL ENGINEERING

P088

Laparoscopic tissue graspers cause ischemic hypoxia

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Objective: To assess the effect of tissue graspers on tissue regarding blood flow.
Design & methods: Measurement and analysis of laparoscopic grasping instruments on peritoneal tissue using

Doppler measurement during laparoscopic grasping instruments use.
Results: Ischemia was a universal occurrence. Mechanical forces generated by the grasping devices exceeded tissue stiffness to resist ischemic compression.
Conclusions: Grasping instruments used during laparoscopy cause peritoneal ischemia. The force required to stabilize, pull, lift and move tissue when a laparoscopic grasping instrument is used inhibits in blood flow and causes peritoneal ischemia.

P089

Digital operating rooms: time for value adding propositions…

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The digital operating room is a buzzword, however, it also is an ill defined topic. Often it is argumented that a dramatic increase in efficiency would result. The latter, to the best of our knowledge, is never clearly demonstrated. This said, what can a 'digital operating' room bring us, that a classical surgical theatre can't? How digital is such a digital room, and ain't it all just 'toys for boys'?

We would like to demonstrate a complete new approach to integrated digital operating rooms, and clearly indicate how it becomes a value adding proposition. The latter not only by an increase in productivity through capacity sharing of recording, broadcasting and management functions, but also through radically new functionality. By digitising video and data signals very close to the source, it becomes possible to transmit the data to the computing or data center of the hospital without delay. This said a vast amount of cpu-power becomes available to the operating room. This can be used to dramatically modify the video signals, and highlight data well hidden beneath the 'regular visual data'. In other words, we virtually bring the processing power of the data center to the operating room, in order to make the invisible visible. The reason why extended computing power is needed, is simply the extended complexity of the algorithms used.

It is our believe that this kind of new functionality is what a digital operating room should bring us. It is a stepstone to intelligent data processing during surgery, providing surgeons and their staff with more and richer data. This is infeasible by only porting broadcast technology to a medical environment. Moreover, the digital operating room is perceived more and more as a part of the hospital infrastructure, and no longer as an extension of the endoscopic video stack. This said, digital operating rooms should offer an open architecture, supporting the widest range of material available on the market.

This work will show a new approach to digital operating rooms, which opens the door to a complete new series of diagnostic and surgical procedures. The digital operating room as a value adding proposition...

TOPIC 14: MISCELLANEOUS

P090

Essure® for the treatment of hydrosalpinx prior to IVF

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Introduction: Laparoscopic salpingectomy prior to IVF has been shown to restore IVF outcomes. Proximal occlusion of a hydrosalpinx by placement of an Essure® device may offer an alternative.
Methods: Prospective, single-arm, study to investigate the success rate of proximal tubal occlusion with Essure® devices in women with hydrosalpinx and to observe the results of subsequent treatment with IVF. Ten women (mean age: 34 years; range: 28–38 years) with ultrasonographic visible unilateral (N=7) or bilateral hydrosalpinges (N=3), due to undergo IVF, were included. One gynecologist performed all Essure® procedures in an office setting. In two cases a paracervical block was administered. Successful placement was achieved in all patients. A mean number of three coils (range: one–four coils) of the device spring was left protruding into the uterine cavity. A hysterosalpingogram (HSG) demonstrated tubal occlusion in nine patients.
Results: The first two patients became pregnant on their first IVF treatment cycle. Both had a spontaneous term vaginal delivery of healthy infants. Postpartum hysteroscopy showed in both women complete tissue encapsulation of the Essure® devices. Two other patients are currently 6 and 9 months pregnant. One patient did not achieve pregnancy after three IVF cycles. Two patients ceased their IVF treatment after their first cycle. The last three patients from our study are awaiting the start of their IVF treatment. This is an ongoing study, an update of the results will be presented.
Discussion: In patients requiring occlusion of hydrosalpinges prior to IVF placement of Essure® devices may offer an alternative to salpingectomy. Successful proximal tubal occlusion was confirmed by HSG in nine out of ten patients. The pregnancy rates after IVF treatment (concerning seven out of ten treated patients) are in line with those found after laparoscopic salpingectomy.

P091

Double opposing Z-plasty with V–Y advancement: a new alternative to Fenton's procedure

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Method: In this paper we describe the application of this technique to ten consecutive patients experiencing significant problems with sexual intercourse who had failed Fenton's procedure's or would have otherwise been offered this traditional operation. Patients were admitted as day cases and follow-up was at 6, 3 months and 1 year.
Results: There have been no wound infections, repeat procedures or complications at 2 years follow up. There have been no reports of problems with intercourse.
Discussion: Fenton's procedure is the long-standing standard operation for problems with posterior vaginal fourchette skin flaps and revision of the scarred perineum. However this technique can be less than satisfactory, particularly with perineal scarring and distortion following childbirth. A technique routinely used in plastic and hand surgery, often to deal with webbing of the skin between digits secondary to burn injuries, is the double opposing Z-plasty with V–Y advancement.
Conclusion: The double opposing Z-plasty with V–Y advancement is an alternative to Fentons' procedure which achieves a very good cosmetic and functional appearance.

P093

Congenital pelvic arteriovenous malformations (AVM's): an extremely rare and potentially lethal cause of chronic pelvic pain

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Objective: To report a very rare and life threatening cause of chronic pelvic pain
Design and methods: A case report highlighting the importance of a multidisciplinary approach to the diagnosis and management of pelvic arteriovenous malformations (AVM's).
Results: A 19 year old nulliparous women was admitted for a diagnostic laparoscopy to investigate a 6 year history of menorrhagia, severe dysmenorrhoea and chronic pelvic pain. Management with non hormonal and hormonal therapies, including combined oral contraceptive pill, progesterone preparations and gonadotrophin releasing hormone analogues (GnRH) had been ineffective. At laparoscopy markedly dilated uterine and ovarian varicosities were noted on the left side of the pelvis. There was no other evidence of any other gynaecological pelvic pathology. With a suspected diagnosis of pelvic venous incompetence (PVI) the patient was referred to an interventional radiologist for possible embolisation. Subsequent Magnetic Resonance Angiogram (MRA) demonstrated a left sided pelvic arteriovenous malformation supplied by branches of the left internal iliac artery. Formal angiography confirmed this finding and the patient is currently awaiting embolisation or vascular surgical ligation.
Conclusions: Congenital arteriovenous malformation in the female pelvis is an extremely rare and potentially life threatening condition. Bleeding from these aberrations in the angiogenic process can be catastrophic. This is a highly unusual aetiology of chronic pelvic pain. This case highlights the importance of a multidisciplinary approach in establishing the diagnosis and the management of this condition. Treatment remains contentious, however successful pregnancy following any intervention is low and presents a real problem for these patients.

P094

Can we avoid laparoscopy in women with ectopic pregnancy and hemoperitoneum?

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Objective: The presence of hemoperitoneum is accepted to be an indication for surgery in women with tubal ectopic pregnancy (EP). The aim of this ongoing study is to evaluate the feasibility of managing such women non-surgically.
Methods: Selected women with diagnosis of tubal EP and haemoperitoneum on transvaginal ultrasound (TVS) were offered conservative treatment (MTX or expectant) as in-patients. Inclusion criteria for non-surgery included: clinical stability, stable hemoglobin level on two measurements (0 and 12–24 h apart), absence of significant hemoperitoneum and absence of an acute abdomen. Significant hemoperitoneum was defined as the presence of blood above the level of uterine fundus and/or blood in Morison's pouch (hepato-renal space). Subsequent management was based upon the hCG ratio (serum hCG at 48 h/hCG at 0 h). If the hCG ratio >1, women received MTX 50 mg/m^2 (single-dose protocol); if hCG ratio <1, they were offered expectant management. All women were managed as an inpatient until the abdominal pain settled and the serum hCG levels were falling.

Results: Six women to date have been recruited. Median age was 23.5 years (IQ 22.2–26.2), median gestational age at diagnosis was 53 days (IQ 49–61). Hemoglobin ranged from 11.2 to 14.2 mg/dL at presentation and from 12.0 to 14.8 mg/dL after 12–24 h. Five women were managed expectantly, one woman received MTX. All women had resolution of the EP within 3 weeks from admission with no complications.
Discussion: The presence of hemoperitoneum is not an absolute contraindication to conservative management of tubal ectopic pregnancies. We believe that the clinical state of the woman is more important in deciding whether to perform surgery or not when there is blood in the pelvis on scan.

P095

The introduction of a new Acute Gynaecology Unit can reduce the need for surgery in ectopic pregnancies

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Objective: To evaluate the impact of the introduction of a new Acute Gynaecology Unit (AGU) on the management of ectopic pregnancy.
Methods: Acute Gynaecology Unit (AGU) is a dedicated service that provides quick and easy accessibility to diagnosis and treatment of acute gynaecological and early pregnancy complications. The AGU was set up in November 2006 at Nepean Hospital. Prior to setting this model of care, we prospectively collected data on all ectopic pregnancies managed at the Nepean Hospital between August 2004 and November 2006. We then collected data on all women who presented to the AGU with an ectopic pregnancy between Dec 2006 and Feb 2008. Main outcome measure was successful treatment of ectopic pregnancy.
Results: We review in total 127 complete records of women treated for ectopic pregnancy in the two study periods. After the unit was established, we observed a significant reduction in laparoscopic salpingectomy rate and a significant increase in expectant management. There was a trend in reduction of laparotomic salpingectomy rate and a trend in increased use of MTX, however not statistically significant (see Table 1).
Conclusions: The Acute Gynaecology Unit has changed the way we manage ectopic pregnancies with a shift towards more conservative approaches. This is potentially due to high-quality ultrasound and subsequently earlier diagnosis of ectopic pregnancy. High surgical rate for ectopic pregnancy before the introduction of the AGU is highlighted to support the need for greater emphasis on medical and expectant management.

P096

How important is the method of tubal sterilization in the outcome after tubal anastomosis?

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Introduction: Laparoscopic tubal sterilization is a widespread and accepted method of contraception in a lot of countries. For reasons of changes in marital status, familiar circumstances and feelings of regret, a lot of patients will have child wish again asking for the possibilities of tubal anastomosis. This study aims to evaluate and compare results of outcome in function of the method used for tubal sterilization.
Material and methods: In a retrospective analysis, results of tubal reanastomosis performed in 261 women treated between January 1985 and December 2005 were analyzed. All interventions were performed by mini-laparotomy by the same surgeon using an operative microscope and established microsurgical techniques. Results were analyzed in function of the method used for tubal sterilization.
Results: Eighty-nine patients were lost of follow-up and eight patients didn't try to conceive after reversal. Mean age was 33.8 years (SD ±4.8). The overall intra-uterine pregnancy rate in the remaining 164 patients was 72.5% with an abortion rate of 18% and a risk of ectopic pregnancy of 7.7%. Tubal sterilization had been carried out using various methods: in 54% Fallope-ring was used, in 23% clips, in 2% Pomeroy technique and in 13% electrocoagulation. Between ring and clip sterilisation groups there was no statistically significant difference for localisation of anastomosis, tubal length after anastomosis, nor intra-uterine pregnancy or extra-uterine pregnancy rate. Statistically significant less isthmo-isthmic anastomoses were performed in the group of women sterilized using coagulation with a higher number of tubes shorter than 5 cm ($p<0.05$) compared to those sterilized using ring or clips. In the coagulation group intra-uterine pregnancy rate was lower (68%) and extra-uterine pregnancy rate was higher (13.3%), although this was not a statistically significant difference.
Conclusion: Our results show that significant less isthmo-isthmic anastomoses are performed after sterilization by coagulation and we also found in this group more tubes of less than 5 cm. Although this didn't reflect any statistically significant difference in pregnancy rate.

P097

The use of bipolar energy and saline in hysteroscopic surgery: a series of 75 patients

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Introduction: To evaluate operative hysteroscopy using bipolar energy and saline electrode excision for the treatment of endometrial polyps or fibroids.
Methods: A Prospective, randomized study, in a University Hospital and a major Gynecological Hospital in Athens, Greece. Seventy-five consecutive patients with endometrial polyps or fibroids, up to 5 cm, in need for hysteroscopic resection.

Patients underwent diagnostic hysteroscopy, followed by operative resectoscopy using the bipolar/saline electrode system by Olympus passed through the operating sheath of a small-caliber hysteroscope.
Results: Operating times, difficulty of the operation, surgeon satisfaction with the procedure, intra- and postoperative complications, postoperative pain, and patient satisfaction were recorded. The majority of women were premenopausal (82%). Main reasons for surgery included infertility (39%), Disfunctional Uterine Bleeding (31%) and Post Menopausal Bleeding (17%) Operative hysteroscopy was performed with a bipolar electrosurgical device to cut, vaporize and coagulate. Main outcome measures were pain control during the procedure, the post-operative pain score at 15 and 60 min, and at 24 h after the procedure, and patients' satisfaction rate. All procedures were completed within 45 min, the amount of saline used varied from 500–2,550 ml.
Discussion: Operative resectoscopy with bipolar energy and the use of saline appears to be the technique of choice for endometrial polyps or fibroids up to 5 cm. The length of the procedures is similar to existing techniques and the safety and satisfaction rate both for the surgeon and for the patient is better.

P098

IVF pregnancy in unicornuate uterus after transabdominal puncture of undescended ovaries

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Introduction: Incidence of congenital uterine anomalies is reported in 3% to 5% of women during reproductive years, 5% to 10% of women with history of recurrent spontaneous abortions and in more than 25% of those with previous late abortion and preterm delivery. Unicornuate uterus represents 6.3% of mullerian anomalies and is caused by an unilateral arrest of development of a Muller duct or when the duct does not migrate for the correct anatomic position. Undescended ovaries are defined by the position of the superior pole above the level of common iliac vessels. Although this situation can occur in women with normal uterus, the incidence of undescended ovaries is 42% in cases of unicornuate uterus.
Objective and methods: In a patient with a 2 year's infertility a diagnostic of unicornuate uterus with undescended ovaries was made by histeroscopy and laparoscopy after suspicion on hysterosalpingography (HSG). Urinary malformations were excluded by intravenous pyelography. Ultrasound-guided (US-guided) transabdominal folicular puncture was performed at the right flank to collect oocytes in a 33 years old patient.
Results: HSG, laparoscopy and histeroscopy allowed the observation of a unicornuate uterus with a noncommunicating rudimentary horn and undescended ovaries. In vitro fertilisation was performed. As the ovaries could not be accessed by vaginal route a US-guided transabdominal follicular punction was performed.

Pregnancy occurred after embryo transfer. Preterm premature rupture of membranes at 29 weeks gestation with a 1,370 g boy delivered by C-section.
Conclusion: This is a rare case of pregnancy after transabdominal folicular punction in a patient with unicornuate uterus and undescended ovaries.

P099

Evaluation of the role of HOXA10 & HOXA11 genes, in the pathogenesis of congenital anomalies of the female genital tract

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Introduction: Congenital anomalies constitute benign diseases of the female genital tract. Congenital anomalies of the female genital system are the result of four major disturbances in the development, formation or fusion of the Müllerian ducts during fetal life: (i) failure of one or both Müllerian ducts to develop (agenesis; unicornuate uterus without rudimentary horn); (ii) failure of the ducts to

canalize (unicornuate uterus with rudimentary horn, without proper cavities); (iii) failure of, or abnormal fusion of, the ducts (uterus didelphys; bicornuate uterus); and (iv) failure of reabsorption of the midline uterine septum (septate uterus; arcuate uterus).

HOX genes belong to a family of regulating genes which are very important for the embryonic development. Additionally, these genes seem to retain their presence in the female genital system participating in the development and differentiation of Müllerian ducts into tubes, uterus and vagina.

Aim of the study: Evaluation of the role of HOXA10 &HOXA11 gene mutations in the formation of various congenital uterine anomalies.

Patients and methods: The study was contacted in a tertiary teaching hospital during a period of 3 years (2005–2008). Thirty women diagnosed with various congenital uterine anomalies were participated. Detailed medical history was taken and peripheral blood samples sent to the laboratory for DNA extraction and analysis for the previous mentioned mutations.

Results: One diagnosed mutation in a codic sequence of the HOXA11 gene, in a patient with septate uterus. No other mutations were detected.

Conclusion: Hypothesis A: HOX genes have absolute no involvement in the formation of the female internal genital organs and their anomalies, and Hypothesis B: HOX genes participate in this formation, along with other specific genes or factors (especially hormonal) that can affect their expression during embryogenesis.

P100

Laparoscopic salpingectomy for ectopic pregnancy, a serie of 200 cases: a UK experience

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Salpingectomy is the commonest procedure performed for tubal ectopic pregnancy in UK in contrast with most of the European countries where salpingotomy is what is attempted first. There is lack of evidence regarding which is the best technique in terms of operative complications and post operative fertility rates.

We have undertaken an audit collecting data from 200 consecutive cases treated with laparoscopic salpingectomy in our busy hospital (4,500 deliveries per year) since the last 5 years.

For the first time we present critically the data regarding complication rates, training difficulties and post operative fertility rates. We discuss this practice in comparison with the Royal College of Obstetricians and Gynaecologists relative guidelines and recent pertinent literature.

P101

Does negative cervical cytology excludes serious pathology in women with postcoital bleeding?

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Objective: To determine whether negative cervical cytology excludes serious pathology in women with postcoital bleeding.

Methods: Retrospective study of the records of 47 women referred to the Cervix Pathology Department with postcoital bleeding of unclear etiology that were submitted to colposcopy between 2005 and 2006.

Results: Of the 47 women, 40 were submitted to cervix biopsy: 51, 2% had chronic cervicitis (24 cases); 25, 5%, HPV without displasia (12 cases); two, 1% CIN1 (1case); four, 3% CIN3 (two cases) and two, 1% with submucous myoma (one case). The number of sexual partners was, at the most, two. They were non-smokers, non drug users, and HIV, Hep. B and C and syphilis negative. The mean time of onset of postcoital bleeding was 25 months before the 1st medical appointment in our department, and with an occasional pattern. The woman with CIN1 on cervix biopsy had a normal looking cervix and two cervical cytologies with ASC-US and two with NLIM. At colposcopy, the lesion was low grade. The two cases of CIN3 had ectropion when the gynaecologic exam was performed. One of them had a HSIL, followed by two NLIM cervical cytologies, and high grade disease at colposcopy. The other had LSIL in cervix cytology, and colpyte with ectropion on the colposcopy.

Discussion: Negative cervical cytology does not exclude serious pathology in women with postcoital bleeding. In these three women, two of them had two normal cervical cytologies just before the 1st medical appointment, one with the diagnostic of CIN1 and the other with CIN3 after biopsy.

P102

Multidisciplinary pelvic surgery when a mullerian anomaly is associated with VATER/VACTERL syndrome

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A 28 year old known to have VATER/VACTERL Syndrome, presented with a 6 month history of worsening constipation and sciatica and acute urinary retention.

VACTERL syndrome is an association of congenital anomalies Vertebral, Anal, Cardiac, Tracheal, Esophogeal, Radius or Renal and Limb abnormalities. She was know to have a missing vertebra, anal atresia, ano-vaginal fistula, right renal agenesis and an extra-digit on one hand (four of the criteria).

She was diagnosed with a non-communicating uterine horn that was filled with menstrual blood. The urologist placed the ureteral stent, the bowel surgeon mobilised her sigmoid and rectum to allow the gynaecologist access to remove her non-communicating uterine horn.

P103

Laparoscopic excision of infarcted appendices epiploicae in a woman with chronic pelvic pain

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This is an unusual presentation in a 30 year old woman who presented with acute pelvic pain. She has been suffering with chronic pelvic pain for 7 years and had more than 20 laparoscopies during that time, only two of which showed pathology in the form of ovarian cysts. Haematological investigations and an ultrasound scan were normal. Due to persistence of pain a further laparoscopy was undertaken and it showed an infarcted appendices epiploica which was removed laparoscopically and it resulted in cure of her acute pain. This condition was 1st mentioned in 1953. A case series in 1986 suggests removal of infarcted appendices epiploicae as deaths have been reported.

TOPIC 15: NEW DEVICES AND TECHNIQUES

P104

Exploration of retroperitoneum by n.o.t.e.s in porcine model

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Objective: To evaluate the feasibility of n.o.t.e.s. (natural orifices transluminal endoscopic surgery) use to access the retroperitoneum in acute porcine model and possible applications in humans.
Design and methods: Six acute female pigs (25–30 kg) served to establish the key technical steps and the retroperitoneal anatomical landmarks. Under general anesthesia, with the pig supine a postero-lateral colpotomy was performed with the needleknife operated via a double-channel gastroscope. A retroperitoneal tunnel was created by blunt dissection in contact with the psoas muscle with the assistance of CO2. Dissection was carried out up to the level of the kidney. The common iliac vessels, the ureter, and the inferior renal pole were used as landmark to guide the dissection.
Results: The exposure of the retroperitoneum by transvaginal access was performed with success with a mean operative time of 52 min. The ureter, the lymphatic and vascular tissue, the adrenal gland, the pancreas, the kidney were easily identified; In three pigs, accidental perforation of the peritoneum occurred during dissection and the procedure was more difficult to continue. No bleeding or major complications occurred.
Conclusions: n.o.t.e.s. transvaginal retroperitoneal access is feasible and safe in the porcine model. It is believed that this surgical strategy, avoiding any laparoscopic trocar, could decrease surgical trauma, and be beneficial particularly for obese female patients. Future human application may include procedures such as interventions on lymph node, kidney and adrenal glands.

P105

N.O.T.E.S. retroperitoneal lymph node dissection in porcine model

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Objective: Retroperitoneal is still a staging and/or prognostic procedure in many gynecologic and urologic procedures. Associated surgical morbidity is not negligible. Recent studies show that in selected oncologic cases, there is no difference in survival rates between total lymphadenectomy and removal of macroscopically enlarged lymph nodes (lymph node sampling).
Design & methods: We conducted a feasibility and survival study in six female pigs weighing 25 to 30 kg Retroperitoneal access is achieved transvaginally with a double channelled gastroscope according to N.O.T.E.S. (Natural Orifice Transluminal Endoscopic Surgery) technique. Three lomboaortic and three pelvic lymph nodes were removed. Operative site is marked with endoscopic clips.
Results: Retroperitoneal pelvic and lomboartic lymphadenectomies were performed successfully in all six pigs with no intra operative complication except two accidental peritoneal perforations, one abdominal wall diffuse emphysema and one parietal bleeding. In all pigs the operative

technique was reproducible. The mean operative time was 40 min and decreased with experience. No post operative complications were noted. All animals thrived until 3 weeks after the initial intervention. On laparoscopic second look there were no abscess, no infection and no adhesions even in on the accidental peritoneal perforation sites. On laparotomy, all animal showed no retroperitoneal abscess, but there was little fibrosis in the lymphadenectomy sites but not along the dissection without lymphadenectomy.
Conclusion: Retroperitoneal lymphadenectomy by N.O.T.E.S technique is feasible. Exposure and instrumentation must be developed. Further studies are needed to establish Its use and indications in humans.

P106

Pelviscopic cornual resection on interstitial pregnancy with endoknot tyings: a series of 8 consecutive cases

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Introduction: Cornual pregnancy can be sub-classified as angular or interstitial. An angular pregnancy is one that implants medial to insertion of the round ligament as it crosses the utero-tubal junction. An interstitial pregnancy is one that implants lateral to the round ligament at utero-tubal junction. This interstitial pregnancy is difficult to treat with curettage or hysteroscopy because of improper curettage or uterine perforation. Recently, some minimally invasive techniques have been reported. Laparoscopic cornual resection techniques suggested by some authors were cornual excision and sutures. But this techniques needs expert skill in sutures and result in moderate amount of blood loss during cornual repair. We report eight cases of interstitial pregnancy diagnosed and managed easily by pelviscopic cornual resection with endoknot tyings with minimal blood loss.
Methods: The mean age and parity of patients were 29.25± 7.85 years, 063±074. The mean gestational age was 6.38± 1.19 weeks. Pelviscopic cornual resection was performed with endoknot tyings after ipsilateral round ligament was cut. The endoknot tying should be placed at the cornual base, anchoring to the insertion portion of the round ligament as it crosses the utero-tubal junction, to avoid slipping of the tying. Because a interstitial pregnancy implants lateral to the round ligament at the utero-tubal junction, anchoring the round ligament at that junction prevent endoknot tyings slipping. In this way, the conceptus was also squeezed outward. This effect would help to remove nearly all of the conceptus tissue with less bleeding. The tied cornual portion was excised with a electrode and removed. The ligated cornual portion and ovarian pedicle were re-ligated with endoloops.
Results: The postoperative hemoglobin change and postoperative hospital stay of the patients were 2.66±1.03 g/dl, 6.13±1.55 days. There was no intraoperative or postoperative complication. The treatment of interstitial pregnancy by pelviscopic cornual resection with endoknot tyings was successfully performed.
Discussions: The pelviscopic cornual resection using the previously described technique would be performed easily and safely with minimal blood loss. It may be minimalized uterine defect with purse-string effect. The possibility of uterine rupture during a subsequent pregnancy should be evaluated with more cases and longer follow-up.

P107

The extent of adhesion induction through electrocoagulation in an experimental rat study

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Study objective: To investigate the role of electrocoagulation and suturing on peritoneal adhesion formation in a randomized, controlled experimental trial in a rat model.
Material and methods: Different modes of traumatisation were studied in 35 femal Wistar rats. For traumatisation by high-frequency current, standardised lesions were created by limited electrocoagulation (traumatisation with 40 W for 1 s) and extensive electrocoagulation (traumatisation with greater pressure for 4 s). To study the effect of mechanical traumatisation of the peritoneum, standardised lesions were created by mechanical denuding of the peritoneum. To study the additive effect of suturing, experimental lesions were created by limited electrocoagulation or mechanical denuding with additional suturing. Adhesion quantity and quality were scored 14 days post-operatively.
Results: Mechanical denuding of the peritoneum without damage to the underlying musculature lead to no adhesion formation. After limited electrocautery, adhesion coverage of the traumatised area averaged 5%. This contrasted with extensive electro-cautery, where there was 65% adhesion coverage. If the lateral body wall was further traumatised by additional suturing then 71% and 62% of the traumatised areas were covered with adhesions for superficial electrocautery and mechanical denuding respectively.

Conclusions: Mechanical traumatisation limited to the peritoneum is a negligible factor in adhesion formation. However, additional traumatisation of the underlying musculature, either by deeper electrocautery or suturing, lead to significantly increased adhesion formation. These data show that there is a spectrum concerning the extent of traumatisation by electrocautery at the lower end of which there is little adhesion formation. Thus, clinicians should use smart coagulation systems and soft default settings to limit the depth of traumatisation whenever possible.

P108

Doorstep of gasless laparoscopic surgery using the abdominal wall lifting—an analyses of 23 cases

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Objective: To discuss the impediment, advantage and doorstep of gas laparoscopist who will develop gasless laparoscopic surgery using the abdominal wall lifting.
Design & methods: Twenty three cases of gasless laparoscopic surgery using the abdominal wall lifting performed by laparoscopists who had held gas laparoscopy. The gasless laparoscopic surgeries were myomectomy eight cases; eliminate ovarian cyst six cases, surgeries of fallopian tube four cases, monitoring hysteroscopic surgery four cases, laparoscopic *adhesiolysis* one case. Twenty one cases were under general anesthesia as well as two cases epidural anesthesia. The abdominal wall of lower abdomen was lifted by abdominal wall lifting. Trocars were using in 12 cases and 11 cases using small incision with skin protect cover in which myoma and ovarian cyst can lift up and remove out while the abdominal was lay down.
Results: Nineteen cases were performed by gasless laparoscopy and three cases were completed under lower pneumoperitoneum pressure by complementary of CO_2. One case of ovarian cyst encountered severe adhesion was converted to laparotomy. Two cases suffered from pain of costal region post operation lasts 2 days. One case felt both shoulder pain and recovered spontaneously.
Conclusions: Gasless laparoscopy had the manipulation and advantages of both gas laparoscopy and laparotomy. Gasless laparoscopy is easier to handle for laparoscopists who were familiar with gas laparoscopy.

P109

Mesh for treatment of the pelvic organs prolapse: early post operative follow-up

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Objective: Aim of this study is to evaluate early post operative follow-up after the operative treatment of the pelvic organs prolapse (POP) using the polypropylene mesh.
Study design and methods. It is retrospective study of cases, when pelvic organs prolapse was treated using polypropylene mesh from April 2007 to March 2008. All patients had the III–IV degree of pelvic organs prolapse according to the POP-Q qualification. Patients' demographic data, early post operative course and complications were analyzed.
Results: Sixty patients with the III–IV degree of pelvic organs prolapse underwent surgical treatment with polypropylene mesh. All operations were performed vaginally. Patients' mean age was 65.7±10.7 years, 53 women (88.3%) were menopausal. Mean suffering time of pelvic organs prolapse was 4.1±4.3 years. Operation mean time was 67.9±23.8 min, hospitalization lasted—3.4±1.7 days. Early postoperative complications occurred in 12 patients (20%), three patients had more than one complication. Seven patients (11.7%) had fever over 38°C, duration of fever lasted less than 24 h in all cases. Dysuria, treated by urine bladder catheterization, occurred in six cases (10%). Duration of catheterization was 2.9±1.6 days. Urine bladder was injured in two cases. Bleeding occurred in one case, and was treated by wound revision and tamponade. There was no severe complication in early postoperative course.
Conclusions. Operative treatment of pelvic organs prolapse (POP) using polypropylene mesh performed vaginally is a safe operation with only a few soft early post operative problems. Post operative hospitalization time is short, no additional measures (except urine bladder catheterization in few cases) are needed.

P110

Development of a software system for processing hysteroscopic images of the endometrium

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Purpose: The development of a digital processing algorithm for the automatic evaluation of characteristic parameters on hysteroscopic images of the endometrial vasculature.
Method: It includes (a) the tracking down of picture elements belonging to the central axes of the vesicles, (b) the signalling of these vesicles, (c) the evaluation of the diameter, length, and distortion of these vesicles.

By choosing a "reference" image, the system automatically creates two daughter-images; in the first, all the areas representing the central axes of the vesicles are recognized and spotted with white colour. In the second, an overlapping of these central axes is implemented on the "reference" image.
Results: Following that, it was made possible to evaluate the diameter, length, and distortion of the endometrial vasculature.

In this way, a statistically significant series of 140 cases has already been estimated, and a pool of mathematical evidence has been gathered, on an ongoing procedure.
Conclusions: Although the study is not yet completed, the data so far demonstrate that this method seems to be promising for the identification and mapping of the endometrial vasculature, in cases of both normal and abnormal endometrium.

Nevertheless, the histologic verification of any results from this study should always be considered to be the "golden standard", until there is enough data to support an optical diagnosis.

P111

Distance between umbilicus and aortic bifurcation—measurement by magnetic resonance imaging or computed tomography

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Aim: To determine the distance between umbilicus and aortic bifurcation by computed tomography and magnetic resonance imaging to exact the veress needle insertion and its correlation with body mass index.
Settings: Birmingham Women's Hospital. Birmingham UK Tertiary referral unit
Methods: We reviewed magnetic resonance Imaging (MRI) or computed tomography (CT) of 85 female patients, which were stored in the electronic library. Two independent reviewers calculated the vertical distance between pit of umbilicus and aortic bifurcation from digital images. The results were correlated with body mass index using Pearson correlation coefficient and multivariate analysis. Regression analysis was also done to find a relationship between increasing body mass index with distance between umbilicus and bifurcation of aorta.
Results: We found a strong relationship between measured distance and body mass index reaching the level of significance $P<0.07$. The maximum distance between pit of umbilicus and aortic bifurcation was found to be 52.54 mm in normal weight group, 62.30 mm in the overweight group, 68.78 mm in the obese group and 97 mm in very obese patients. We had 15 patients in normal weight, 25 in overweight, 30 in obese and 13 patients in very obese group. All results were plotted against body mass index. Pearson correlation for this relation is $R=0.945$ reaching the 95% confidence interval. We have also devised a formula which can aid to measure the distance between umbilicus and aortic bifurcation with the help of body mass index.
Conclusion: Laparoscopic entry technique should take into account this distance. Veress needle should be inserted vertically through the pit of umbilicus not deeper than these suggested depths to reduce the vascular injury. Marked veress needle will be helpful to guide the insertion.

TOPIC 16: OFFICE HYSTEROSCOPY

P112

An audit of inpatient and day case hysteroscopies performed under general anaesthesia

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Method: A retrospective case note based audit of 100 consecutive hysteroscopies performed under general anaesthesia. After exclusion criteria were applied the notes were audited to ascertain appropriate referral for hysteroscopy.
Results: Results are currently being analysed. Initial data suggest a larger proportion of hysteroscopies could be performed in the outpatient setting without the need for general anaesthetic.
Discussion: Ambulatory gynaecology is a rapidly growing field. There are very few exclusion criteria for outpatient hysteroscopy and with appropriate selection more hysteroscopies could be performed in this setting.

P113

Diagnostic hysteroscopy in abnormal uterine bleeding: a systematic review and meta-analysis

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Introduction: This study was conducted to assess the accuracy and feasibility of diagnostic hysteroscopy (DH) in the evaluation of intrauterine abnormalities in women with abnormal uterine bleeding.
Methods: Electronic databases were searched from 1 January 1965 to 1 January 2006 without language selection. The medical subject heading (MeSH) and textwords for the following terms were used: hysteroscopy, diagnosis, histology, histopathology, hysterectomy, biopsy, sensitivity and specificity. The inclusion criteria were report on accuracy of DH in women with abnormal uterine bleeding compared to histology collected with guided biopsy during hysteroscopy, operative hysteroscopy or hysterectomy. Electronic databases were searched for relevant studies and references were cross-checked. Validity was assessed and data were extracted independently by two authors. Heterogeneity was calculated and data were pooled. The pooled sensitivity, specificity, likelihood ratios, post-test probabilities and feasibility of diagnostic hysteroscopy on the prediction of uterine cavity abnormalities were calculated. Feasibility included success and complication rate.
Results: One population of homogeneous data could be identified: patients with postmenopausal bleeding. In this subgroup the positive and negative likelihood ratios were 7.9 (95% CI 4.79–13.10) and 0.04 (95% CI 0.02–0.09), raising the pre-test probability from 0.61 to a post-test probability of 0.93 (95% CI 0.88–0.95) for positive results and reducing it to 0.06 (95% CI 0.03–0.13) for negative results. The pooled likelihood ratios of all studies included, calculated with the random effects model, were 6.5 (95% CI 4.1–10.4) and 0.08 (95% CI 0.07–0.10), increasing pre-test probability from 0.46 to post-test probabilities of 0.85 (95% CI 0.78–0.90) and 0.07 (0.06–0.08) for positive and negative results respectively. The overall success rate of diagnostic hysteroscopy was estimated at 96.9% (SD 5.2%, range 83–100%).
Conclusions: This systematic review and meta-analysis shows that diagnostic hysteroscopy is both accurate and feasible in the diagnosis of intrauterine abnormalities.

P114

The position of hysteroscopy in current fertility practice

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Background: The role of hysteroscopy in current fertility diagnosis is unclear. The RCOG clinical guidelines state that hysteroscopy should not be performed routinely as there is no evidence of fertility enhancement after treatment of uterine anomalies. Some authors still consider a hysteroscopy as a too invasive procedure This review examines the validity of these two statements.
Methods: A PubMed search was performed with the subject headings “hysterosc*” and “infertil*”.
Results: There is an abundancy of non randomized evidence on the treatment of polyps and myomas as a fertility enhancing procedure. A meta analysis of retrospective data indicates a beneficial effect on reproductive outcome after hysteroscopic treatment of septate uterus. Synechiolysis of intra uterine adhesions and Asherman syndrome may enhance the reproductive performance. Hysteroscopy may be beneficial in recurrent pregnancy loss.
Conclusions: Despite the lack of randomized data, hysteroscopy is currently gaining an important position in the diagnosis and treatment of uterine cavity disorders in the infertile patient.

P115

Outpatient hysteroscopy clinic patient satisfaction survey 2007

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Introduction: A survey of women attending the Outpatient Hysteroscopy Clinic was carried out to monitor the standard of care provided by the Hysteroscopy service and highlight areas for improvement. Clinics are held for investigation of postmenopausal bleeding and abnormal uterine bleeding in pre-menopausal women. Women in both clinics were included in the survey. Procedures may be carried out by Consultant, Registrar or Nurse Hysteroscopist.

Method: Questionnaires were given to 100 women attending the Clinic. Fifty-five completed questionnaires were returned, including 16 pre-menopausal women (29%) and 39 postmenopausal women (71%). Questionnaires were anonymous and returned either before leaving the department or by post.
Results: All women understood the leaflet and found it useful (100%). Fourteen women referred under the 2-week wait system were not aware of the need for an urgent appointment. All women were satisfied with privacy, care and staff attitude (100%). One woman did not understand explanations, two did not understand the findings and five did not know how they would receive results. 47/50 (94%) would have outpatient hysteroscopy again. All women knew whom to contact with problems (100%). All responders rated the Hysteroscopy service as either good or excellent (100%) with an excellent rating from 46/53 women (86.8%).
Discussion: Overall standard of the Hysteroscopy clinic is very good and comments showed that women were highly satisfied with the care they received. Areas for improvement are: 1. To ensure that women receive written information prior to attendance and are informed by their referrer if an urgent appointment is required. 2. To ensure that women understand explanations regarding findings and follow-up.

P116

Tamoxifen therapy: the effect on endometrium under hysteroscopic view

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Introduction: Tamoxifen is an orally active Selective Oestrogen Receptor Modulator (SERM) that is used in the treatment of both, early and advanced, oestrogen receptor positive breast cancer. Even though it is an antagonist in breast tissue, it acts as partial agonist on endometrium and has been linked to endometrial pathology, including cancer, in some women. The objective of this study is to evaluate the hysteroscopic findings in patients under this therapy.
Methods: Retrospective study of the records of 22 women under tamoxifen therapy that were submitted to hysteroscopy for endometrium evaluation, between July 2004 and December 2007. The variables in study were: indications to hysteroscopy, population age, endometrial thickness evaluated by vaginal ultrasound, hysteroscopic appearance and histological results of endometrial samples.
Results: The indications to hysteroscopy were asymptomatic endometrial thickness (13 cases) and postmenopausal vaginal bleeding (nine cases). Mean age was 65 years old (50–83). The endometrial thickness range in asymptomatic women was 4–34 mm (mean value 13, 6) and in women with vaginal bleeding was 3, 5–22 mm (mean value 10, 3). The most frequent hysteroscopic appearance was endometrial polyps (15 cases) followed by cystic hyperplasia (four cases) atrophic endometrium (two cases) and synechiae (one case). Endometrial sampling was done in 20 women. The histological results were: endometrial polyps (15 cases), atrophic endometrium (two cases), insufficient for diagnose (two cases) and irregular maturation (one case).
Discussion: The histological results confirm the literature with a high rate of endometrial polyps. We didn't find any endometrial carcinoma may be due the fact of the small size of sample population. Hysteroscopy with biopsy is a good method of endometrial assessment.

P117

Survey of women's perception of out-patient hysteroscopy

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A survey was done in a university hospital to assess patients' perceptions of the out-patient hysteroscopy service.
Aim: To know the quality of care we provide in our Out-Patient Hysteroscopy clinic by conducting an anonymous survey on women's perception of the service provided.
Materials and methods: The questionnaire was given after completion of their consultation and before departure from the clinic area. A total of 65 questionnaires were collected, two of which were discarded as they were incomplete.
Results: Eighty-four percent (84%) of the women received the information leaflet with their appointment letter. Of those women who received the information leaflet, 76% felt it was clear to read, 44% felt it was well explained, 27% found it useful and 30% found it reassuring.
Quality of care scores: The women were asked to score the overall quality of the service they received on a scale of 1 to 10 (1 being the lowest and 10 being the highest). More than half of the women (58%) gave a score of 10. The average score was 8.8.
Recommendations: Here we have listed recommendations that can further improve this service for these patients.

P118

Are expensive gadgets necessary to perform operative hysteroscopy under local anaesthetic?

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Introduction: Tradition and literature suggest transcervical resection techniques are performed under general anaesthetic.(1)
Study objective: To assess the acceptability of transcervical resection of fibroids and polyps under local anaesthesia.
Setting: Ambulatory care unit in University teaching hospital.
Patients: 50 women presenting with perimenopausal bleeding with known fibroid/endometrial polyps on outpatient diagnostic hysteroscopy.
Method: Ongoing prospective and retrospective observational study of patient satisfaction, pain scores and feasibility of performing TCR in day case setting under local anesthetic.
Interventions: After giving a paracervical block for local anaesthesia, transcervical hysteroscopic resection was performed with a 10 mm Storz resectoscope utilising Glycine for irrigation.
Results: Tradition and literature suggest transcervical resection techniques are performed under general anaesthetic. Other operative hysteroscopic procedures designed for the outpatient local anaesthetic settings require the use of expensive disposable equipment. To date we have carried out 50 hysteroscopic resections in our day unit under local anaesthetic. GA would have represented a significant risk for many of these women.

Out come measures included duration of operation, amount of local anaesthesia used, and volume of distension medium, need to abandon the procedure due to intolerance, intraoperative complications, post operative complications and pain score.

Of respondents to the questionnaire 70% would recommend the procedure to their friend, and 80% were very pleased that they avoided a GA procedure.

The average operative time was 25 min. None of the procedures were abandoned, and no patient experienced unacceptable discomfort during the procedure.
Conclusions: TCR under LA was generally well accepted by our patients. This procedure therefore could be useful in rapid access diagnostic clinics with a see and treat policy.

P119

A clinical study on transvaginal hydrolaparoscopy used in infertility—the 12 months experience of a Romanian service

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Aim: This study evaluates the role and results of transvaginal hydrolaparoscopy (fertioscopy) in the diagnostic of infertility, in a pilot study of 17 cases.
Material and methods. The study was carried out between April 2007–April 2008. The inclusion criteria were: infertility with impaired ovulation, tubal occlusion on hysterosalpingography, repeated failed intrauterine inseminations, or unexplained infertility. The exclusion criteria were: fixed retroverted uterus, rectovaginal endometriosis, pathological adnexa, pelvic inflammatory disease with Douglas involvement. The fertiloscopies were under local paracervical block, using the Soprane (TM) kit and a Wolf (TM) telescope of 2.7 mm, used also for the hysteroscopy step. In all cases a dye test was associated.
Results: There were 17 fertiloscopies in patients with a median age of 32 (limits 26–39 years). The examination was satisfactory in 14 of 17 cases, in the other three cases with limits of completion due to adherences. There were three minor complications: epiploon partial exteriorization through the vaginal port, which was solved by reintroduction and fixing it until complete liquid evacuation; and two vaginal complications demanding vaginal swabbing for 3 h. The pathologies found were: polycystic ovaries (five cases), ovarian endometriosis (one case), peri-adnexal adherence (seven cases), distal tubal occlusion or hydrosalpinx (three cases). In five cases, no pathology was found. The hospitalisation was 1–2 days if no laparoscopy was performed, and 3 days if laparoscopy (for pathology solving) was used.
Conclusion: The transvaginal hydrolaparscopy (fertiloscopy) is a reproducible and low morbidity technique, useful to replace diagnostic laparoscopy in infertility evaluation, if the inclusion and exclusion criteria are met.

P120

Postmenopausal women with uterine bleeding: correlation of hysteroscopic evaluation with histopathological results

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Objectives: Women with postmenopausal uterine bleeding need a careful diagnostic investigation mainly because this is the most frequent form of presentation of endometrial adenocarcinoma. We intend to evaluate the hysteroscopic findings in women with postmenopausal uterine bleeding and its correlation with histopathological diagnosis.
Design and methods: We have retrospectively evaluated the consecutive women with postmenopausal uterine bleeding submitted to hysteroscopy and biopsy in our center, between 2005–2007. Hysteroscopic findings were analyzed and compared with the histopathological results. The hysteroscopic endometrium descriptions were categorized as: normal, atrophy, hyperplasia, polyp, submucous myoma and endometrial adenocarcinoma.
Results: Our population consisted of 58 women (63.8± 10 years). Hysteroscopic descriptions were distributed as follows: normal (five cases), atrophy (1), hyperplasia (2), polyp (39), submucous myoma (2), endometrial cancer (7) or inconclusive (2). In seven women the histeroscopic findings were suggestive of endometrial adenocarcinoma, with only one case not histopathologically confirmed. Only two patients with hysteroscopic images suggesting non-malignant endometrial proliferation had endometrial hyperplasia with atypia. During the procedures 32 hysteroscopic operations were performed.
Conclusion: Hysteroscopy is an effective method for identifying the causes of postmenopausal uterine bleeding. In our study a good correlation was found between the histeroscopic evaluations and the histopathological results.

TOPIC 17: ONCOLOGY

P121

Laparoscopic management of a high grade uterine leiomyosarcoma: case report

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Introduction: Herein we report the case of a patient with a high grade uterine leiomyosarcoma who underwent complete management by laparoscopy.
Methods and materials: A 33 year old woman presented with menorrhagia and pelvic pain of 1 year duration. A sonogram revealed an intramural fibroid, 78 mm in diameter. A laparoscopic myomectomy was undertaken, with removal via posterior colpotomy of what appeared to be a fundo-corporal 10 cm fibroid. The pathology report informed a poorly differentiated leiomyosarcoma. A CT scan done at that time was unremarkable. Forty days after her initial operation she underwent total laparoscopic hysterectomy and bilateral salpingo-oophorectomy without complications. The pathologist reported microscopic residual malignancy, with no adnexal or peritoneal washing involvement. Treatment was complemented with external beam radiotherapy.
Outcome: Complete laparoscopic approach was done without undue complications and post operative course was uneventful. After 4 months follow-up, the patient is free of disease and doing well.
Discussion: One out of every 800 myomas is malignant, leiomyosarcomas being the most frequently reported. Experience with laparoscopic approach is limited: only five cases have been mentioned as part of endometrial cancer series, all of them with favorable outcomes. To the best of our knowledge, this the first specific case report so far. There has been one report of intraabdominal spread of a uterine sarcoma after morcellation of a fibroid that turned out to be sarcomatous, so whenever malignancy is suspected morcellation should be avoided.
Conclusion: There are few case reports of laparoscopic approach for uterine sarcomas. Positive experience with endometrial cancer managed laparoscopically allows for an optimistic outview in sarcomas. More case reports are needed in medical literature, and ideally a randomized controlled trial should be undertaken.

P122

The outcome of laparoscopic radical hysterectomy and lymphadenectomy for cervical cancer: a prospective analysis of 295 patients

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Objectives: Cervical carcinoma is likely to become one of the most important indications for laparoscopic radical surgery. The laparoscopic technique combines the benefits of minimal invasive approach with established surgical principles. In our institution the laparoscopic radical hysterectomy and transperitoneal approach lymphadenectomy have become the standard techniques for invasive cervical cancer. We report the indications, techniques, results and oncological outcome in a single center experience.
Methods: Between February 2001 and June 2007 we performed laparoscopic radical hysterectomies for cervical

cancer in 295 patients. Their initial techniques, operation data, complications, post-operative course, oncological outcome and survival were evaluated.
Results: Two hundred ninety procedures out of 295 were successful. Para-aortic lymphadenectomy was performed in 156 (52.9%) patients and pelvic lymphadenectomy was performed in all 295 patients. The median blood loss was 230 ml (range 50–1,200 ml). The mean operation time was 162 min (range 110–350) which included the learning curves of three surgeons. In five cases (1.7%) conversion to open surgery was necessary due to bleeding (three cases), bowel injury (one case) and hypercapnia (one case). Other major intra-operative injuries occurred in 12 (4.1%) of the patients. Positive lymph nodes were detected in 80 cases (27.1%), lymphovascular space invasion in 54 cases (18.3%) and surgical margins were negative for tumor in all patients. The mean hospital stay was 10.3 days. Post-operative complications occurred in 10.8% patients, uretero-vaginal fistula in five cases, vesico-vaginal fistula in four, uretero-stenosis in three cases, deep venous thrombosis in nine cases, lymphocyst in four cases, lymphedema in five cases one case with trocar insertion site metastasis. Other medical problems included 47 (15.9%) cases of bladder dysfunction and 62 (21.0%) cases of rectum dysfunction or constipation. The median follow-up was 36.45 months (range 8–76 months). Forty-eight (16.3%) patients had recurrences or metastasis. Of these patients, 43 (14.6) have died of their disease and five (1.7%) are alive with disease. The overall disease-free survival was 95.2% for Ia, 96.2% for Ib, and 84.5% for IIa, 79.4% for IIb, 66.7% for IIIa and 60.0% for IIIb respectively.
Conclusions: Laparoscopic radical hysterectomy is a routine, effective treatment for patients with Ia2–IIb cervical carcinoma. With more experience it is envisaged that IIb stage patients can be managed safely offering all the benefits of minimal surgery to the patients. Although no long-term follow-up is available our follow-up data for up to 76 months confirm the effectiveness of laparoscopic radical hysterectomy in terms of surgical principles and oncological outcome.

P123

Is laparoscopy in gynecological malignancies a reproducible method? Personal experience in Greece

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Aim: To report on results of a prospective case series study concerning the implication of minimally invasive surgery in gynecologic oncology in Greece.
Material & methods: Seventeen patients with a diagnosis of gynecologic malignancy consented and underwent laparoscopic surgical staging and/or treatment in a total of 18 operations. There were eight cases with cervical cancer, six with endometrial cancer, one case of ovarian LMT operated twice, one case of advanced ovarian cancer with ascites and rectal involvement, and one with a Krukenberg ovarian tumor with the pancreas as the primary site. Perioperative indices, safety, outcome, efficacy and effectiveness of the surgical method were the primary parameters of the study in order to evaluate its reproducibility. A direct entry technique with a total of three or four puncture sites laparoscopy was performed. In cases of endometrial cancer the fallopian tubes were coagulated before the introduction of the uterine manipulator as a preventing measure of dissemination, and a ''non-touch'' technique was attempted in all cases. In cases of cervical cancer the pelvic lymphadenectomy, when needed, preceded hysterectomy. New energy sources with multipurpose instruments (Ligasure®, Ultracision, and EnSeal) were used instead of the traditional monopolar and bipolar diathermy, in favor of oncological safety (minimizing the exchange rate of instruments) and reduction of the number of trocars used.
Results: Between Nov 2004 and Jan 2008, 11 pelvic lymphadenectomies (five sampling & six total), nine total hysterectomies (AAGL type IV) with BSO, five radical hysterectomies, four transpositions of the ovaries, two infracolic omentectomies, one peritoneoectomy, ablation of diaphragmatic implants, and three salpingoophorectomies with random peritoneal biopsies, were attempted and completed laparoscopically. The mean age was 49 years and the median BMI=26.5. The mean operative time was 180 min (range: 35–330). The mean EBL was 150 ml and the variation of Hb ranged between 0.3 g/dl to 3 g/dl. No intraoperative or major postoperative complication was noted. No conversion to laparotomy was required. Two patients with postoperative paralytic ileus and one patient with paresis of the left peroneal nerve due to pressure and concomitant subcutaneous emphysema were successfully managed conservatively without sequeale. The placement of additional sutures was needed to control vaginal bleeding in one patient on the second postoperative day. The mean LOS was 3 days (1–11) and the follow up ranged from 4 to 42 months. A total of 102 lymph nodes were retrieved (range 1–20), all negative for disease. In three patients adjuvant therapy was advised to complete therapy. In all cases the surgical staging and/or therapy was efficient and the histology revealed margins free of disease.
Conclusions: To the best of our knowledge this is the first case series in Greece reporting on laparoscopic surgery as

an efficacious, safe, and effective alternative option to traditional surgical management of gynecological malignancies. Although it seems to be a reproducible method, concerns are raised regarding the ability of immediate (within 2–3 days) adjuvant therapy in a National Health System environment due to delayed final pathology report in contrast with the private sector. The willingness of the medical community to accept this method seems to be negative, contrary to most patients view. A longer follow up is needed to extract conclusions regarding long term oncological indices.

P124

Laparoscopic organ-sparing cytoreductive surgery for recurrence of advanced stage borderline ovarian carcinoma after adjuvant chemotherapy

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Aim: To report on successful laparoscopic uterus sparing management of advanced stage borderline ovarian tumor after adjuvant chemotherapy.
Material: A 22 year old woman, G0P0, with unremarkable anamnestic and negative family history for ovarian, breast or colon cancer, presented with a symptomatic right ovarian cyst of 7 cm diameter. Six months previously (03-2007) a laparoscopic left adnexaectomy was performed uneventfully along with identification of peritoneal, diaphragmatic and appendeceal non-invasive implants and positive peritoneal washing for serous papillary borderline ovarian tumor. The macroscopic appearance of the contralateral ovary was normal, but implants were noted on mesosalpinx and adjacent peritoneum. Against our advice, she preceded with adjuvant chemotherapy with four cycles of cyclophosphamide and carboplatin that ended on July 2007. A PET-CT scan study after completion of chemotherapy was negative for residual or recurrent disease. In contrast, ultrasound studies were suggestive of a suspicious lesion of a trilobular right ovarian mass (09-2007).
Methods: Two different options to preserve her reproductive potential were offered: (a) immediate surgical treatment with uterine preservation & subsequent oocyte donation or (b) cystectomy on the remaining ovary with risk of recurrence & postponed radical therapy. We proceeded with the first approach and laparoscopic restaging and treatment was attempted. A direct entry technique with a total of four puncture sites low pressure laparoscopy was performed. Inspection of the abdomen and peritoneal lavage were the first steps. A non-touch technique was attempted with tension-free ligation of vascular supply. Nanotechnology and ultrasound based electrosurgery (EnSeal & U/C ACE) were used in favor of oncological safety and ease of use.
Results: All steps of preoperative surgical plan were completed successfully without conversion to laparotomy, with sparing of the uterus as a reproductive potential preserving approach. In the context of cytoreductive surgery and restaging, a peritoneal washing, a laparoscopic right adnexaectomy, an infracolic omentectomy, a pelvic sampling lymphadenectomy, excision of parietal peritoneum and, cautery of diaphragmatic implants completed the procedure with no intra or postoperative complications. Laparoscopic evidence of unchanged macroscopic appearance of the diaphragmatic implants pre and post chemotherapy is documented. The operating time was 210 min, with EBL: 100 ml and length of stay 3 days. Even though the frozen section of the ovary was negative for disease, the final pathology report confirmed small focal lesion of seropapillary borderline tumor on the ovary, along with similar microscopical findings on the salpinx. Non invasive implants on the right ovary, omentum and parietal peritoneum were also confirmed on pathology. Peritoneal washing was positive complying with implants and 11 pelvic lymph nodes were negative for disease. The specimens had free margins.
Conclusion: Laparoscopy, is a feasible surgical approach for staging and treatment even of advanced borderline ovarian carcinomas. Its efficacy is enhanced by following oncological rules and awareness of its limits at the present time. Cornerstone of management remains the comprehension of biological behavior of the disease. The efficacy and safety of multipurpose instruments appears to be at least comparable to other modalities with no apparent learning curve.

P125

How to make pelvic lymphadenectomy accessible

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Introduction: Pelvic lymphadenectomy is a surgical technique of relative recent introduction that creates technical difficulties to the surgeon, hugely facilitated by the dissection and previous preparation of the surgical area.
Methods: Preliminary analysis of the results of the first five cases of pelvic lymphadenectomy performed in our Hospital, a private clinic in Bilbao, between October 2007 and March 2008. After external formation, we have introduced the technique in cases of endometrial cancer,

performing a precise preparation of the anatomical landmarks prior to the pelvic lymphadenectomy.
Results: The mean time employed for the whole procedure (hysterectomy + lymphadenectomy) was 152 min. After a follow-up media of 4.2 months, we have no detected any ureteral, vascular or nervous injury. One of the patients needed, once completed the bilateral lymphadenectomy, a laparotomy to complete the hysterectomy after an intraoperatory cardiac complication (asistolia) due to an unknown congenital cardiac disease. That patient was the only to receive a blood transfusion (two units). The mean of lymph nodes obtained was 10. The patients stayed a media of 3.2 days.
Conclusions: We believe an adequate surgical dissection and preparation of the specific anatomical landmarks facilitate the pelvic lymphadenectomy making it accessible to experienced surgeons.

P126

High body mass index and laparoscopic staging of endometrial cancer

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Objective: To evaluate the different surgical approaches and morbidity in patients with Body Mass Index (BMI) over 30 kg/m^2.
Design and methods: A retrospective study between 1997 and 2007, over 92 consecutive patients with endometrium cancer and BMI over 30 were studied. Two groups were defined, whether the laparoscopic (LPS) or laparotomic (LPM) approach were used. We have studied different items such as epidemiological data, diagnosis procedures, surgical access, operating time, conversion rate, complications rate, hospital stay, transfusion rate, pathological findings, FIGO stage and survival rate. Statistical analysis was done using SPSS 15.O.
Results: Mean age was LPS 63.86±1.2 (49–83) vs LPM 66.82±1.63 (52–81) years and mean BMI LPS 34.72±0.55 (30–52) vs LPM 37±0.83 (30.33–49) kg/m^2. No differences were observed. Endometrial risk factors were seen in 66 (71.7%) patients. The initial surgical access was LPS in 64 patients (69.6%) and LPM in the remaining 28 cases (30.43%). Lymphadenectomy was possible in 18 (64.28%) of LPM group vs 59 (92.18%) cases in LPS group. Conversion into laparotomy was necessary in six (9.44%) patients mainly due to anesthetical problems. Hospital stay was shorter for LPS) 4.78±0.35 (2–12) vs LPM 7.4±1.01 (3–33)days ($p<0.001$). Haemoglobin balance was: LPS 2.74±0.27 (0.6–8.3) vs LPM 3.10±0.26 (0.8–5.2) g/dl. $p<0.001$ Global transfusion rate was 8.69%; no differences were achieved between both groups. Nodes collected were 15.06±1.44 (2–21) LPS vs 13.52±2.2 (2–21) LPM ($p=0.47$). Survival rate was similar ($p=0.29$).
Conclusions: BMI should not be considered as a contraindication for the laparoscopic approach. In addition successful laparoscopic staging shows lower hospital stay and morbidity.

P127

Laparoscopic radical hysterectomy in the treatment of early stage cervical cancer

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Introduction: Surgical treatment of cervical cancer is sustained in the principle of oncological radicality. For several years, laparoscopy has demonstrated the capacity not only to maintain that principle, but to contribute improvements to the laparotomy. The objective of this communication is to set out and to review the data of the laparascopic radical hysterectomy performed in our Service.
Design and methods: From November of 2002 to December of 2007, laparascopic radical hysterectomy have been treated to 26 patients with early-stage cervical cancer as a primary treatment of its disease. The evaluated data has been gathered from clinical records.
Results: The average of age of the patients was 45 years, with a media BMI of 26.3 kg/m^2 (19.7–37.5 kg/m^2). The mean surgical time was 233 min (120–360 min). Intraoperation complications happened in a 15%, with a case of conversion to laparotomy due to adhesions. All the patients had free margins of resection. The average post-operative stay was of 4 days (2–19 days). There were 25 epidermoid tumors, 12 adenocarcinomas and two adenosquamous. Also, four patients presented pelvic nodes affectation. Seventy-six percent of the patients were in a stage IB. Throughout the follow up, four patients presented relapse of their disease.
Conclusion: The radical laparoscopy treatment of the cervical cancer assures the necessary radicalism with a morbidity rate smaller than the classic surgery.

P128

Completion laparoscopic radical hysterectomy after external radiation and brachytherapy for locally advanced cervical cancer: a feasibility study

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Objective: To assess the safety of laparoscopic radical hysterectomy (LRH) as completion surgery in a group of patients with locally advanced cervical (LACC) cancer that had been treated with primary radiation therapy.
Materials and methods: Patients with FIGO stages IB2-IIB cervical cancer treated with external pelvic irradiation or chemo-radiation plus brachytherapy, who were subsequently submitted to LRH, as completion surgery. Investigated variables included: duration of the procedure, intra-operative blood loss, histo-pathological characteristics of the hysterectomy specimen, number of retrieved lymph nodes, intra-operative and postoperative complications (Classification of Chassagne D, et al, 1993), length of catheterization and hospital stay, recurrence and survival.
Results: Five patients had been treated with a combination of preoperative external radiotherapy and brachytherapy, and nine with chemo-radiation and brachytherapy. Of the latter group six patients received also extended field (para-aortic) irradiation. One patient did not complete the full dose brachytherapy as a result of serious side-effects. Completion surgery was terminated laparoscopically in 13/14 (91.7%) cases. Laparoconversion occurred in the remaining patient who was found with metastatic pelvic lymph nodes, in order to perform para-aortic lymphadenectomy. A Piver Class III procedure was performed in five, and a Class II in nine cases, respectively. Median duration was 320 min (range: 150–420), median estimated blood loss (EBL) 100 ml (range: 50–800), and median number of retrieved pelvic lymph nodes 11.5 (range: 2–34), respectively. There were no per-operative complications. Five patients experienced eight Grade 2/3 postoperative complications: Vesico-vaginal fistula (n=1), ureteral stenosis (n=2), obstructive ileus (n=1), skin ulceration (n=1), persistent severe lymphedema (n=2), and lymphocyst requiring drainage (n=1). After a median follow-up of 47 months (range: 12–132), five (35.7%) patients have recurred and died of their disease. The remaining nine are alive and disease-free.
Conclusions: Completion LRH is a feasible procedure in LACC, after primary external radiation and brachytherapy. It is associated with an acceptable rate of postoperative complications, and satisfactory disease-free and overall survival rates.

P129

Does preoperative brachytherapy increase the surgical risk in patients with early cervical cancer treated with laparoscopic radical hysterectomy?

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Objective: To investigate whether preoperative brachytherapy (BTH) is a safe and effective treatment modality in patients with early cervical cancer, scheduled for laparoscopic radical hysterectomy (LRH).
Materials and methods: Patients with early cervical cancer (FIGO stages IA1–IIA) who were treated with preoperative BTH, at a total dose of 60 Gy, followed after 72 h by LRH, according to a standard treatment protocol (group 1). This group was retrospectively compared to a group of patients undergoing LRH without preoperative BTH (group 2). Investigated variables included: intra-operative blood loss, duration of the procedure, number of retrieved lymph nodes, intra-operative and postoperative complications, length of catheterization and hospital stay, and recurrence and survival data.
Results: Thirty-three patients were included in group 1 and 39 in group 2, respectively. The two groups were comparable in terms of age, BMI, parity, history of previous surgery, tumor histology, and grade. They were significantly different in terms of FIGO stage (p=0.017), and pre-treatment tumor size (p=0.0016). A Piver Class II rather than a Class III procedure was more likely to be performed in the BTH group (p=0.0093). The two groups did not differ significantly in terms of their operative data: duration of the procedure (mean: 279 vs 295 min), estimated blood loss (mean: 205 vs 164 ml), rates of per-operative complications (10% vs 6%), and laparo-conversions (0 vs 2), or histopathological data: total number of

retrieved pelvic lymph nodes (mean: 14.9 vs 13.3), length of vagina (mean: 21.2 vs 21.6 mm), and rates of LVSI in the hysterectomy specimen (41% vs 42%). The two groups were also comparable in regard to the incidence of Grade 1 (31% vs 48%) or Grade 2/3 (23% vs 24%) postoperative complications. Disease-Free (DFS) and Overall (OS) 10-year projected survival rates were not significantly different between the two groups (93% vs 93%, and 89% vs 91%, respectively).
Conclusions: LRH can be safely performed in patients with high-risk early cervical cancer treated with preoperative BTH. This approach offers similar long-term DFS and OS, to that observed in patients with smaller tumors who are managed with LRH-only primary treatment.

P130

Laparoscopic radical hysterectomy in the treatment of early cervical cancer: what have we learned in the last 18 years?

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Objective: To present our long-term results with total laparoscopic radical hysterectomy (LRH) in the treatment of early cervical cancer, and discuss the lessons learned from application of this procedure, over a period of 18 years.
Materials and methods: We retrospectively analysed 72 patients with FIGO stages IA1-IIA cervical cancer treated in our Institution with LRH, from 1989–2007. Of these 33 (45.8%) had been treated with preoperative brachytherapy. A Class II LRH had been performed in 36 cases and a Class III procedure in the remaining 36 cases, respectively. Feasibility, operative safety, and histo-pathological adequacy of LRH were assessed, along with patterns of recurrence and survival. Comparisons between two time periods (A= 1989–1999 versus B=2000–2007) were also made to investigate whether the evolving experience, has altered the safety profile of this procedure and patients' outcome.

Results All but 2 (2.8%) procedures were completed laparoscopically. Mean operative time was 286 min (range: 120–510), mean blood loss 161 ml (range: 50–800), mean number of retrieved pelvic lymph nodes 14 (6–34), and the incidence of per-operative complications 8%. There were no significant differences between periods A and B, with regard to the above mentioned variables. On the contrary, Class II LRH had been performed more frequently during period B ($p<0.0001$). The rates of Grade 1 postoperative complications were 47% in period A versus 25% in period B ($p=0.0085$), whereas that of Grade 2/3 complications, 21% versus 29% (NS), respectively. After an average follow-up of 84 months (range: 12–220), five (7%) patients developed a vaginal ($n=2$) or a lymph node ($n=3$) recurrence. No port-site metastases occurred. Cumulative 10-year disease-free (DFS), and overall survival (OS) were 90% and 88%, respectively. FIGO stage and preoperative tumor size were the only independent risk factors for recurrence and survival that were identified in multivariate analysis.
Conclusions: LRH has been shown to offer excellent long-term results in terms of DFS and overall survival in patients with early cervical cancer. A Class II LRH is associated with reduced rates of Grade 1 complications. The learning curve probably exceeds that of 20 cases, which may explain the absence of significant changes between the two periods.

P131

Accuracy of intraoperative frozen section during laparoscopic management of early endometrial cancer

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Objective: The aim of our retrospective study was the analysis of correlation between intraoperative frozen section and permanent section diagnosis among our patients with early stage of endometrial cancer (FIGO stage I). Frozen section itself enables to identify a group of women with high risk in which complete surgical staging is indicated.
Methods: Retrospective analysis of clinical data. A set of 63 women who were operated by the technique of laparoscopic assisted vaginal hysterectomy between years of 2001 till 2008. All of the patients had intraoperative frozen section biopsy performed with defining the grading and myometrial invasion. These data of frozen section were then compared with permanent section diagnosis. If frozen section detected the stage of disease in which the risk of tumor spreading was low, then only lavage and laparoscopic assisted vaginal hysterectomy with bilateral adnexectomy was performed. The extent of laparoscopic pelvic and paraaortal lymphadenectomy was then decided according to the result obtained from frozen section biopsy. Statistic

evaluation was used to detect our diagnostic accuracy of intraoperative frozen section method (meaning its sensitivity, specificity and positive vs. negative predictive value, and accuracy rate). We also traced typical characteristics like average age, BMI, time duration of operation and complications during the operations found in our set of patients. Results: The average age was 61 years, BMI 31.3 kg/m^2 and time duration of operation (together with women who had lymphadenectomy) was 116 min. Due to the result of frozen section biopsy there were 13 patients (20.6%) who underwent complete surgical staging. Suboptimal surgical management due to underevaluation of frozen section biopsy compared to permanent section diagnosis occurred in two patients (3.2%). Sensitivity of frozen section was 81.8%, specificity 98.1%, positive predictive value 90%, negative predictive value 96.2% and accuracy rate 95.2%.
Conclusion: Endometrial carcinoma is the first oncology diagnosis in which laparoscopic treatment and at the same time laparoscopic staging becomes the golden standard when the diagnosis is at its early stage. Combination of laparoscopic assisted vaginal hysterectomy and use of intraoperative frozen section enables the surgeon to individualise surgical treatment for every patient to the extent of ether performing complete operation together with lymphadenectomy or not. In our set of patients the sensitivity of frozen section biopsy was 81.8% and specificity 98.1%.

TOPIC 18: POSTCAESAREAN UTERINE SCAR, COMPLICATIONS, IMAGING AND MANAGEMENT

P132

Laparoscopic repair of a large myometrial defect after methotrexate for caesarean scar ectopic pregnancy

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Introduction: Caesarean scar ectopic pregnancy may develop if the blastocyst enters a microscopic tract in the uterine scar of a previous caesarean section and implants in the deficient anterior uterine wall. Although it is still a rare entity, the incidence of caesarean section scar pregnancy has been increasing over the last decade. The available evidence does not favour any particular mode of treatment, but initial management with local or systemic Methotrexate (MTX) is the most common treatment and can be combined with suction curettage.
Methods: We report a case of a large myometrial dehiscence observed after systemic MTX for a caesarean scar pregnancy followed by laparoscopic repair.
Results: A 41 year old woman with a history of one previous caesarean section was referred to our unit from another ultrasound practice for confirmation and management of a caesarean scar ectopic pregnancy following IVF. At the time of examination the woman was at day 48 of gestation by the date of the embryo-transfer and was asymptomatic. Transvaginal ultrasound showed a gestational sac measuring 12×6×8 mm implanted within the lower anterior segment of uterine corpus. A yolk sac was visible without embryonic pole. No free fluid was detected. Initial serum hCG was 7,890 UI/l and 7,771 UI/l at 48 h (ratio 0.98). She was given intramuscular MTX (50 mg/m2). A second dose of methotrexate was necessary for successful management. Transvaginal ultrasound about 2 months later showed a severe dehiscence of the caesarean scar (see image 1). The woman underwent laparoscopic surgical repair of this large defect (see image 2).
Discussion: Even if there is some evidence that caesarean scar pregnancies are more frequent in severely deficient caesarean scars, the clinical significance of these is still unknown. Large studies are needed to prove also the association between severely deficient caesarean scars and uterine rupture.

P133

Caesarean scar ectopic pregnancy—a case report

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Introduction: Caesarean scar pregnancy is a rare form of ectopic pregnancy a complication of a previous caesarean birth. A delay in diagnosis and treatment can lead to serious maternal morbidity and mortality. We present three cases with caesarean scar ectopics that occurred in our hospital with different management plans aiming to show that early diagnosis is of utmost importance and management should be individually tailored.
Methods: Case 1, a 39 year old G3 P1+1, 8 weeks gestation, with 1 previous caesarean section presented with vaginal bleeding and abdominal pain. U/S scan showed a live gestation within the C-section scar a myometrial thickness of the scar site of 3 mm. A laparotomy was performed and hysterotomy with excision of the scar and the uterine defect repaired.

Case 2, a 29 year old G5 P2+2, 6 weeks gestation with two previous caesarean sections presented with vaginal bleeding and abdominal pain. U/S scan showed yolk sac

with no evident fetal heart and implantation into the previous scar site. Medical management was initiated with Methotrexate and serial b-HCG. A follow up scan showed a live gestation, therefore a laparotomy and hysterotomy with excision of the scar was done and the defect was repaired.

Case 3, a 31 year old G3 P2, 6 week gestation with two previous caesareans presented with abdominal pain and vaginal bleeding. U/S scan confirmed a viable fetus of 6 week gestation implanted in the caesarean scar with a myometrial thickness of 5 mm. Methotrexate was initiated and serial b-HCG follow up was done. Due to increasing values of b-HCG, hysteroscopy and suction curettage under direct vision with laparoscopy was done.

Discussion: The cornerstone of diagnosis is transvaginal ultrasound scan. A wide range of presenting symptoms can be seen though 37% of patients are asymptomatic. The treatment objectives are to end pregnancy but retain future fertility. Factors to determine management include: gestational age, viability, myometrial deficiency, maternal wishes and clinical symptoms at presentation. Early diagnosis and individually tailored management is essential.

P134

Incidence of asymptomatic scar defects after cesarean section—a hysteroscopic prospective cohort study

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Introduction: The presence of a scar defect in a previous cervical cesarean delivery scar is believed to be associated with complaints such as abnormal uterine bleeding or vaginal discharge. This scar defect is also called a niche. The scar defect can be diagnosed by vaginal ultrasonography or hysteroscopy. We performed a study to investigate the incidence of a scar defect in a group of asymptomatic women. A group of asymptomatic women with a request for hysteroscopic sterilization were included in this study.

Methods: All patients who underwent a hysteroscopic sterilization between 1 January 2006 and 1 January 2008 were included. During the hysteroscopic sterilization the area between the cervix and corpus of the uterus was investigated in all patients. We defined a scar defect as a defect in the uterus shown as a gap in the anterior lower uterus wall. All patients filled a questionnaire about their obstetric history, their bleeding pattern and contraceptive use.

Results: During 24 months 353 patients were included. All patients were referred to the hospital with a demand for sterilization. None of them came with complaints or bleeding disorders. Of the 353 patients, 300 (88%) patients did not have a history of cesarean section and 53 (12%) patients had had at least one cesarean section. No scar defects were seen in patients without a history of cesarean section. In the group patients with a history of cesarean section 36 (68%) scar defects were seen. In the other 17 patients with a history of cesarean section a normal shape of the anterior wall of the cervix was seen. There was no difference in bleeding patterns between patients with a history of cesarean section and patients without a cesarean section in the past, nor was there a difference between patients with or patients without a scar defect. There was no differences in contraceptive use between patients with or without a caesarean section or with or without a scar defect. Around 50% of patients were using oral contraceptives.

Conclusion: In a group of asymptomatic women with a previous caesarean section a scar defect was detected by hysteroscopy in 68%. The clinical significance in relation with bleeding disorders and obstetric complication is still unclear.

TOPIC 19: ROBOTICS

P135

Robotic-assisted laparoscopic hysterectomy—initial clinical experience

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Objective: To present the technique of the robotic-assisted laparoscopic hysterectomy and the preliminary results of its application on female patients with benign and malign tumors of the uterus.

Methods: From January to May 2008 robotic-assisted laparoscopic hysterectomy was performed on seven female patients. For one of them the hysterectomy was radical; for two—total; and for four—vaginally-assisted. For this purpose, the Da Vinci® S surgical system (Intuitive Surgical, USA) has been used and a specially-trained team consisting of a console surgeon, a patient-side assistant and a patient-side nurse.

Results: The basic indications for surgical intervention were: invasive cervical cancer (T1b1)—one case, myoma of the uterus—four cases, carcinoma in situ of the cervix, persisting after conization—one case and micro-invasive carcinoma of the cervix (T1a1)—one case. The operative time with the robot, calculated from connecting the patient to the system till disconnecting from the trocars varied from 180 min (at the first operation) to 90 min (at the last operation). The mean hospital stay of the patient was 4 days (3–5 days). Neither intraoperative nor technical complications resulting from the Da Vinci® surgical system have been found out.

Conclusion: The robotic-assisted surgery has taken a considerable place in the surgical treatment of benign and malign gynecologic tumors offering a technological solution to some of the limitations of the traditional laparoscopic surgery.

P136

Robotic surgery in gynecology: ease of adoption by a non-expert surgical team in an Academic setting in Greece

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Introduction: During the last decade robotic surgery is offered as a state of the art minimally invasive surgical approach that seems to overcome inherent limitations of conventional laparoscopy while being associated with a low learning curve. In our country the Da Vinci®™ surgical system is used since Oct 2006 solely in the private sector.

Aim: To present the results of a comparative study aiming to assess the ease of adoption of robotic gynecologic surgery by a non expert surgical team in the setting of an Academic Department of Obstetrics and Gynecology, in Greece.

Material: Seven consecutive patients consented and underwent advanced robotic pelvic surgery for complex gynecological benign or malignant pathology in the context of an educational-training mini programme to support a symposium on robotic surgery.

Methods: Feasibility, perioperative indices, outcome, and complications of the first four patients operated by the non-expert surgical team where compared with the next three patients operated by the expert invited faculty. A complex and challenging surgical pathology were among the primary selection criteria in all cases. The same operating room personnel supported all cases without previous training. Technical support was available in all cases without proctoring. The 3-arm Da Vinci®™ robotic surgical system by Intuitive Surgical™ was used and docked between the legs of the patients. The full range of robotic Endowrist instruments was available, except the plasma-kinetic one. Two surgeons, one between the legs and another one to the right of the patient completed the surgical team.

Results: In seven consecutive patients during the time period of 10 to 19 Nov 2006 two total hysterectomies and BSO (AAGL type IVE), one sacral colposuspension with BSO, one ovarian cystectomy, one Burch colposuspension combined with paravaginal repair, an enucleation of 10 cm myoma with reconstruction of myometrium, and a radical hysterectomy with pelvic lymphadenectomy were attempted and completed robotically without conversion to unintended laparotomy or to conventional laparoscopy. One case was completed without conventional laparoscopic assistance using a robotic multipurpose instrument, reported as the first case of total robotic hysterectomy. In the first group the median age was 50 years, the median BMI 26.6, the combined median operative time 345 min (range 150–480) and the variation in Hb 1.4 g/dl with a median EBL of 200 ml. Median length of hospital stay (LOS) was 4 days (range 1–6). This group was complicated by a cystotomy, a tear like lesion, successfully managed by robotic suturing. This was a surgeon's related complication due to lack of experience along with the absence of tactile feedback. A transverse low abdominal mini laparotomy was performed for the extraction of a 122×84×87 mm fibroid with uterus and bilateral adnexae due to malfunction of laparoscopic morcelator. In the second group the median age was 45 years with median BMI 25, 9. The combined median operative time was 240 min (range 120–270) and the variation in Hb 1.5 g/dl with a median EBL of 250 ml. The LOS was 3 days (range 2–5). Complications concerned a RBC transfusion and a blunt trauma to the bladder wall, which extended the LOS. There were no major intraoperative or immediate postoperative complications, and no robotic related complications or failure were noted. Although all cases had a successful outcome, more severe complications, mainly long-term postoperative ones (re-prolapse of vaginal vault, 18 months later), and an extended operative time were encountered in the non-expert group. A distinct and demanding new role of the next to patient surgeon was identified. In a much inconvenient ergonomic position, a combination and a wide range of skills regarding laparotomy, vaginal, laparoscopic and robotic surgery is required.

Conclusions: This new technology can be adopted with ease by non-expert laparoscopists and it is feasible to perform complex gynecological surgery in the above mentioned setting. Despite the ease of adoption of this surgical system, a systematic proctoring training programme is considered critical to overcome conventional laparoscopic habits. The low learning curve offers the possibility to incorporate this new technology in the conventional surgical therapy, especially in a multidisciplinary Academic environment. Future developments should focus in incorporating new technologies in the energy sources robotic armamentarium such as RF, the

ability of robotic suction irrigation as in NOTES procedures, and not so much in the recovery of tactile feedback (haptics). These, in combination with the new 4-arm Da Vinci® *S* ™ surgical system will allow regular solo robotic surgery without conventional laparoscopic assistance.

P137

Robotic-assisted laparoscopy myomectomy in fertile women: a critical analysis of an initial experience

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Introduction: Robotic-assisted surgery is one of the latest innovations in the field of minimally invasive surgery. We evaluated the role of Da Vinci® assisted laparoscopy to perform uterine myomectomy in fertile patients.
Materials and methods: The study was a case series of 22 patients who underwent surgeries for uterine myomas, by surgeons with expertise in conventional laparoscopy myomectomy in a tertiary Gynecology Endoscopy Center of University of Pisa. Surgeries were performed both using laparoscopic and robotic-assisted laparoscopic techniques.
Results: Docking time, procedure time and total time were measured. Surgical events and fertility outcome were evaluated. Umbilicus, suprapubic, and 2 lateral ports were inserted. Intramural myomas were present in 16 patients (mean size 6±0.2 cm) and six patients presented large subserosal myoma (mean size 9±1.5 cm). The assembly time to switch from laparoscopy to robotic-assisted surgery was 7 min (range, 3 to 27) and the disassembly time was 2 min (range, 1 to 3). Operation time results in the same range of traditional laparoscopic surgery with a significant decrease of suturing time. Three patients delivered a healthy term infant by Caesarean section after the myomectomy.
Conclusion: Robotic-assisted laparoscopic surgeries present advantages in providing a three-dimensional visualization of the operative field, decreasing fatigue and tension tremor of the surgeon. In the case of uterine myomectomy, the robotic assistance seems to improve suturing capability of the uterine wall, with positive consequences for a successful pregnancy after surgery. In addition, the robotic procedure seems to give advantages in obese patients. However, robotic procedure has still economical and technical limits especially for experienced laparoscopical surgeons and the cost–benefit ratio for patients need a critical reflection.

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Da Vinci® robotics in gynaecological surgery, evolution and retroperitoneal applications

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Introduction: The development of robotic surgery is considered to be one of the key moments in the evolution of surgical endoscopy. These systems are designed as fully robotized devices with special surgical instruments fixed to robotic arms. All the surgeon's movements are converted to the instruments by advanced computer interface and precise mechanic transmission. The final movement can be scaled according to surgeon's demand. These systems are used in general surgery, gynaecology, thoracic surgery, cardio surgery, vascular surgery and urology.
Methods: We evaluate the evolution and role of robotics in gynaecological surgery and present our experience and results in group of 51 consecutive cases of women who underwent Da Vinci® gynaecological surgery during 2 years period (2006–2008). Our surgery included robotic assisted and total robotic hysterectomies, robotic assisted prolapse surgery and initial experience in gynaecological oncology. The technical aspects are highlighted in sequentional videos.
Results: All surgeries were successfully completed with no major complication as bowel or vessel injury or massive hemorrhage. The surgery time was longer than using classic laparoscopy—POP surgery 270 min, robotic TLH 170 min, robotic assisted hysterectomy 120 min, pelvic lymphadenectomy 290 min. The blood loss was minimal. No significant postoperative complication was observed at the time of follow-up (2006–2008).
Discussion and conclusions: The robotic surgery has a potential to abolish the limits of laparoscopy especially in advanced dissection and suturing due to instruments flexibility. The learning curve is easier than in advanced laparoscopy and the setup time of the system takes for experienced team only few minutes more than in standard laparoscopy. As disadvantage we find the absence of tactile perception and costs. Our target is using the robotic system in the advanced complex laparoscopic procedures and to cooperate with other robotic centres.

TOPIC 20: THERAPEUTIC HYSTEROSCOPY

P139

Reproductive outcomes after hysteroscopic metroplasty for uterin septum

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Objective: To evaluate the reproductive outcome after hysteroscopic metroplasty.
Material and method: We analysed the reproductive outcome of 30 patients, with different degrees of septate uterus, undergoing hysteroscopic metroplasty. In all cases the procedure was performed by the resectoscope.
Result: Patients had total 74 pregnancies before metroplasty. Of these, ten (14%) were carried to term, six (8%) ended in preterm delivery, 58 (78%) ended in spontaneous abortion. At least 1 year following after hysteroscopic metroplasty was occurred total 20 pregnancy. Of these, 11 (55%) were carried to term, two (10%) ended in preterm delivery, seven (35%) ended in spontaneous abortion.
Conclusion: The correction of uterin septum significantly improves the prognosis of the pregnancies in patients with a history of severe obstetrical accidents. These results, which are similar to the results reported by the literature. Our data analysis suggest that the hysteroscopic metroplasty for uterine septum improve the pregnancy outcome of the patients who come to us with a desire to conceive.

P140

Hysteroscopic resection of sub mucosal fibroids exclusively in cervical block—is it feasible?

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Objective: To determine whether patient related satisfaction with effect of treatment is equal when performing hysteroscopic *transcervical resection* of sub mucosal *fibroids* (TCRF) in *general anaesthesia* (GA) or in *cervical block* (CB)?
Design: A patient questionnaire completed and returned at a minimum of 3 months after treatment.
Patients: A total of 153 patients underwent TCRF in the Day Surgery Unit. Of these 85 received GA and 69 CB.
Interventions: Hysteroscopic resection of sub mucosal fibroids performed either in GA or in CB combined with oral painkillers (400 mg Ibuprofen and 1,000 mg Acetaminophen). All patients received a questionnaire which included an enquiry on their general satisfaction with the effect of treatment.
Measurements & main results: Sixty-three patients (75%) in the GA group returned the questionnaire. Of these, 54 (86%) were very satisfied or satisfied, seven (11%) were dissatisfied or very dissatisfied and two (3%) did not answer this specific question. Forty-nine patients (71%) in the CB group returned the questionnaire. Of these, 34 (70%) were very satisfied or satisfied, 7 (14%) were dissatisfied or very dissatisfied and eight (16%) did not answer this specific question. Additionally, the patient's were asked about their satisfaction regarding strength and duration of bleeding and level of dysmenorrhoea. Postmenopausal women reported whether their symptoms disappeared after treatment. Both groups were comparable regarding indication to treatment; number, size, type and pathology of fibroids, and the operative technique used.
Conclusion: The women were equally satisfied with the effect of treatment whether the TCRF was performed in GA or in CB combined with oral painkillers. We therefore conclude, that TCRF performed in CB is feasible. Further studies are recommended to investigate compliance and VAS-scores of pain perception during the procedure.

P141

Hysteroscopic resection of polyps exclusively in cervical block—is it feasible?

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Objective: To determine whether patient related satisfaction with effect of treatment is equal when performing hysteroscopic *transcervical resection* of *polyps* (TCRP) in general anaesthesia (GA) or in cervical block (CB)?
Design: A patient questionnaire completed and returned at a minimum of 3 months after treatment.
Patients: A total of 257 patients underwent TCRP in the Day Surgery Unit. Of these 128 received GA and 129 CB.
Interventions: Hysteroscopic resection of polyps performed either in GA or in CB combined with oral painkillers (400 mg Ibuprofen and 1,000 mg Acetaminophen). All patients received a questionnaire which included an enquiry on their general satisfaction with the effect of treatment.
Measurements & main results: Seventy-six patients (59%) in the GA group returned the questionnaire. Of these, 59 (78%) were very satisfied or satisfied, six (8%) were dissatisfied or very dissatisfied and 11 (14%) did not answer this specific question. Seventy-eight patients (60%) in the CB group returned the questionnaire. Of these, 68 (87%) were very satisfied or satisfied, six (8%) were

dissatisfied or very dissatisfied and four (5%) did not answer this specific question. Additionally, the patient's were asked about their satisfaction regarding strength and duration of bleeding and level of dysmenorrhoea. Postmenopausal women reported whether their symptoms disappeared after treatment. Both groups were comparable regarding indication to treatment; number, size and pathology of polyps and the operative technique used.
Conclusion: The women were equally satisfied with the effect of treatment whether the TCRP was performed in GA or in CB combined with oral painkillers. We therefore conclude, that TCRP performed in CB is feasible. Further studies are recommended to investigate compliance and VAS-scores of pain perception during the procedure.

P142

Hysteroscopic myomectomy performed by high and low volume surgeons

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Objective: To determine if surgical volume influences efficiency of hysteroscopic myomectomy as a treatment for uterine fibroids.
Design: Retrospective cross-sectional study.
Setting: University teaching hospital.
Patients: All patients who underwent hysteroscopic myomectomy between 2001 and 2005 by a faculty surgeon.
Main outcome measure(s): We used three outcomes as measure of efficiency: amount of tissue resected per case, OR time per case and amount of tissue resected per minute.
Results: High volume surgeons resected more tissue than low volume surgeons (P=0.01), had shorter OR times (P=0.018) and resected more tissue per time (P=0.015).
Discussion: High volume surgeons have higher efficiency performing hysteroscopic myomectomy as a treatment for uterine fibroids.

P143

Concomitant Essure® tubal sterilization and endometrial ablation: a new approach of therapy of dysfunctional uterine bleeding

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Objectives: To evaluate the feasibility and the clinical outcome of ESSURE® sterilization combining to several techniques of endometrial ablation (EA) or resection (using monopolar or bipolar energy).
Design and methods: Retrospective study (Canadian Task Force Classification III)

This clinical study was conducted in 59 women with confirmed menometrorrhagia (unresponsive to medical treatment) with desire or medical indication of permanent tubal sterilization between December 2004 and December 2007.

Patients were treated with combined hysteroscopic placement of ESSURE® and hysteroscopic endometrial ablation procedures: THERMACHOICE® (n=36), NOVASURE® (n=5), HYDROTHERMABLATOR® (n=2), MICROSULIS® (n=2), endometrial resection using a hook with monopolar energy (n=4), and with bipolar energy (n=9).
Results: Fallopian tubes have been successfully cannulated bilaterally in 89% of cases (53/59). Essure®'s placement was attempted after EA in 18 of the 59 women (30.5%) who benefited from these combined procedures, with a successfully bilaterally placement in 83.3% of cases (15/18). No intraoperative or postoperative adverse events were reported. At 3 month follow-up, 71% of patients (39/55) underwent 3D-ultrasound and X-ray to confirm bilateral tubal occlusion, which was confirmed in 89% of cases (35/39). Amenorrhea, hypomenorrhea, eumenorrhea, and menorrhagia rates at 3 months were 47.5% (19/40), 42.5% (17/40) and 10% (4/40) respectively.
Conclusion: The current study demonstrates that combining EA and hysteroscopic sterilization is safe and effective for patients with menometrorrhagia and makes a compelling argument for their concomitant use.

P144

Hysteroscopy: 10 years experience (1999–2008) —analysis of 850 cases

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Introduction: Analysis of 850 hysteroscopy cases (diagnostic and operative) performed in St. Luke's Hospital by a single operator during the period 1999–2008.

The purpose of the study is the statistical analysis of all cases (indications, hospital stay, findings, results, complications and patient satisfaction).
Method: Eight hundred fifty medical files of patients who underwent hysteroscopy were studied. In 120 cases the data

were insufficient and the files were excluded from the study. The study is a retrospective analysis of 730 medical files of hysteroscopy cases and statistical analysis of the results.
Results: 55% of cases were operative hysteroscopy (400 patients), 15% diagnostic hysteroscopy alone (109 patients) and in 30% of cases hysteroscopy was combined with another procedure (laparoscopy, laparotomy). Hospital stay in 96% of cases was less than 24 h. Forty percent of patients suffered from infertility, 37% from abnormal uterine bleeding and 23% had other reasons for their hysteroscopy. The study compared the findings of ultrasound, hystero-salpingography, hysteroscopy and histopathology examination. The duration of the procedure was less than 1 h in 90% of cases. Blood loss was more than 500 cc in only (five) cases and blood was transfused in only one patient. In two cases patients presented serious immediate complications (serious fluid absorption). Absorption of the liquid was less than 1,000 cc in 96% of procedures. The results were generally satisfactory. One hundred thirty-four births in 318 cases of infertility (42.14% birth rate after hysteroscopy for infertility). Ninety percent of the 283 bleeding cases were treated with no further procedures. The satisfaction of the patients was considerably high (70%).
Discussion: Hysteroscopy is a safe and reliable procedure for the diagnosis and treatment of the most common gynecological problems.

P145

Hysteroscopic management of endometrial polyps—our experience of 5 years

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Objectives: To evaluate the surgical, histological, intraoperative findings and bleeding patterns of patients treated by operative hysteroscopic polypectomy and compare the accuracy of preoperative assessment tools: transvaginal ultrasound (TVUS), saline infusion sonography (SIS), diagnostic hysteroscopy (HYST), and endometrial biopsy (*Vabra* aspirator and *Novak* curette) with the final pathology.
Methods: A retrospective study was conducted of 385 polypectomy patients (mean age, 55.3 years; 24–83 years) who underwent operative hysteroscopy between March 2003 and March 2008.
Results: Main indications were abnormal uterine bleeding in 332 patients (86.2%). There were no complications on operative hysteroscopic polypectomy. Operative findings included benign endometrial polyps in 91.4%. Histological abnormalities of the endometrial polyps were detected in 33 cases (8.6%); of these, complex hyperplasia without atipia was detected in 25 (6.5%), atypical hyperplasia in five (1.3%) and three cases of cancer. Patients with histological abnormalities were post-menopausal age women, had more medical problems and seven were on tamoxifen use. Sensitivity of the preoperative assessment tools for polyps was: TVUS (16.7%), SIS (83%), HYST (89.5%), and endometrial biopsy (10.8%). There were no false-negative results with SIS or hysteroscopy. There were no complications. A total of 88.2% of the patients remained in contact after hospitalization. After long term follow-up (mean 3.2 years), successful results were obtained in 84% of the patients with polyp resection.
Conclusions: Endometrial polyps commonly contribute to abnormal uterine bleeding. Benign histology is usual. Preoperative evaluation with SIS or HYST are better predictors of intracavitary abnormalities than TVUS or endometrial biopsy. Resolution of menstrual dysfunction occurs in most patients.

P146

The malignant potential of endometrial polyps

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Objectives: To determine the pre-malignant and malignant potential of endometrial polyps, and to asses whether different clinical parameters are associated with malignancy in the polyps.
Design and methods: 452 histeroscopic resections of endometrial polyps were reviewed. Histological diagnosis and clinical characteristics (presence of abnormal uterine bleeding and polyp size) were analyzed. Statistical analysis was performed.
Results: 203 premenopausal women and 249 postmenopausal women were included in our study. The middle age of premenopausal women was 44.3±0.4 years, and 59.1± 0.5 years of postmenopausal women. The diagnosis of polyps was by ecography with or without histerosonography, or by hysteroscopy. The aim of hysteroscopy was abnormal uterine bleeding, 65.1% in premenopausal group and 74.7% in postmenopausal group. Twenty-three cases (11.3%) of hyperplasia without atypia were found in premenopausal group, and eight cases (3.2%) in postmenopausal group. Hyperplasia with atypia was found in two cases (0.9%) in premenopausal group, and in nine cases (3.6%) in postmenopausal group. 16 cases of endometrial

carcinoma were found (6.4%) all of them in postmenopausal women. In one of this 16 patients there was no abnormal bleeding but a endometrial polyp was suspected at the ultrasound. Menopause status was significant associated with pre-malignant or malignant changes. No significant association was found between the presence of abnormal uterine bleeding and polyp size with premalignancy or malignancy in the polyp.
Conclusions: Postmenopausal women with endometrial polyp, whether symptomatic or not, should be evaluated by histeroscopic resection. Asymptomatic premenopausal patients, without any risk factor, can be observed.

P147

Uterine malformation: results after hysteroscopic metroplasty

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Objectives: Retrospective evaluation of the efficacy and safety of hysteroscopic metroplasty, and preoperative three-dimensional pelvic ultrasonography.
Methods/results: Sixty patients delivered at time, 11 patients underwent premature (four) delivery or spontaneous abortion (seven) in 103 patients with septate uterus. The procedure was performed in 45 due to pregnancy loss in the first or second trimester of these 35 (80%) delivered later at time. In 27 patients the procedure was performed due to infertility and a septum was detected coincidentally and 12 (44%) delivered at time and two premature, in 21 the septum was detected during C section and 15 delivered later at time, in ten the procedure was done due to premature delivery and five delivered at time and two prematurely.
Conclusion: Compared with their previous pregnancies, the abortion rates were lower and delivery rates were higher following hysteroscopic metroplasty ($P<0.001$), 3D ultrasound eliminates laparoscopic control.

P148

The implantation after ET in IVF/ICSI after hysteroscopic resection of larger and small 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 implantation after ET in stimulated IVF and ICSI cycles.
Study design: The retrospective matched control study included 339 ETs in stimulated IVF or ICSI cycles before hysteroscopic resection of a large or small partial uterine septum (113 and 176 ETs respectively) and 538 ETs in stimulated IVF or ICSI following hysteroscopic resection of a large or small partial uterine septum (226 and 248 ETs respectively). For each ET in the study group, we found two consecutive ETs s from the IVF/ICSI registry who had a normal uterus and were matched for age, BMI, stimulation protocol, quality of embryos, the use of IVF or ICSI and for various infertility causes. The clinical pregnancy rate was the main outcome measure. Data on the septum length were obtained during hysteroscopic resection by comparing the length of the 1.3 cm long yellow tip of the electric knife to the length of the resected septum.
Results: The implantation rate before hysteroscopic metroplasty was significantly lower, both in women with a small partial septum (13.6% before resection vs. 25.6% in the normal controls, OR 2.9; $p<0.001$) and a large septum (12.4% before resection vs. 29.2% in normal controls, OR 2.1; $p<0.002$) compared to women with a normal uterus. After the surgery, the pregnancy rate was comparable to the pregnancy rate in women with normal uterus: in both women with a small partial and women with a larger septum.
Conclusions: Similar to a large uterine septum, a small partial uterine septum or arcuate uters negatively influences the implantation after ET in stimulated IVF and ICSI cycles.

TOPIC 21: TRAINING AND TEACHING

P149

A 2-year retrospective study on surgical management of ectopic pregnancy in a district general hospital in the United Kingdom

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Objective: To review our management of EP according to national guidelines, highlight training issues and to audit whether laparoscopic management is the commonest option in stable patients.
Design and methods: District Teaching Hospital in the north west of England. It was a retrospective study over a

period of 2 years (2006 and 2007). Fifty cases were identified who underwent surgical treatment of EP including 25 cases each year. Most of the surgery was carried out by middle grade training doctors. Cases offered medical treatment were excluded

Results: Majority (88%) of cases were diagnosed in up to three Early Pregnancy Assessment Unit visits. Only 12% needed >3 (four–five) visits to establish the diagnosis.

In 54%, the diagnosis achieved from two–four serial HCG samples and only 12% need >4 samples. We aimed to operate on most cases of stable EP on weekday if possible, so 86% were operated on these days and only 16% after 21:00 hour. Regarding surgical approach, laparoscopy was used in 92% of the cases.62% of cases were managed laparoscopically only. Conversion to laparotomy occurred in 30% of the cases and the main reasons were haemoperitoneum and adhesions. Only two cases resorted to laparotomy directly due to haemodynamic instability. Location of ectopic pregnancy was ampullary portion of the tube in 96% of the cases. Only two cases were non tubal pregnancy (4%), that's one ovarian and one cornual pregnancy. Also 88% of the cases were intact EP at the time of surgery.

About laparoscopic tubal surgery, ipsilateral salpingectomy was used in 27 cases in whom the controlateral tube looked healthy while salpingotomy used in one case.

Endoloop was used in 76% of the cases while the rest surgery completed by bipolar and monopolar diathermy. In genera, around 50% of laparoscopic procedures needed <1.5 h while conversion to laparotomy needed >1.5 h in 88%.

Conclusion: There were no major complications (visceral injuries) in any of the patients. Early pregnancy assessment unit played an important role in early diagnosis of EP. We still think that our conversion rate to laparotomy can be better. These highlighted vital training issues for our middle grade doctors which were addressed and plans were put in place.

P150

Laparoscopy skills and management of ectopic pregnancy by trainees in England

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Introduction: Laparoscopic procedures are becoming more common in gynaecology, with increasing indications and increasing complexity. Acute gynaecology demands adequate laparoscopy skills to minimize open surgeries there by reducing patient morbidity. It is essential that trainees receive adequate training and support in this field.

Objectives: Review of trainee experience in management of ectopic pregnancies across the country. To assess the support available to them and evaluate their skills and needs.

Methodology: An internet questionnaire survey was sent out to trainees in four deaneries across the country. Data was collected regarding their experience in operative management of ectopic pregnancy. Resources, support and guidance available to them in laparoscopic management were evaluated. Confidence in laparoscopy procedures and basic skills required were assessed.

Results: Seventy percent of questionnaires were fully completed and returned by the trainees. 57% from senior and 43% from junior trainees. Only 30% had laparoscopy as their special skills module. Fifty percent performed laparotomy for ectopic pregnancy. Reasons stated were difficulty in 22%, unstable patient in 28%, massive hemoperitoneum and lack of supervision in 25% each. 87% of trainees were confident in performing only closed entry technique for pneumoperitoneum and 30% were confident in performing procedure independently. Ninety percent agreed that a skills lab in the region and frequent training sessions will enhance their operative skills.

Discussion & conclusions: Our survey identifies that majority of residents are capable of managing ectopic pregnancy by laparoscopy. It also high lights the need for skill enhancement by using structured training methods. As laparoscopy is fast emerging as an essential diagnostic and therapeutic tool in acute as well as advanced gynaecology, training needs should be revisited and addressed accordingly by trainers.

P151

Duration of incision to entry in different entry techniques at laparoscopy

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Introduction: Creation of pneumoperitoneum is a vital first step in successful performance of any laparoscopic surgery. Most of the complications of laparoscopy are related to the entry techniques. There is a substantial difference in practise among general surgeons and gynaecologists. There are no formal studies comparing the time taken to gain laparoscopic access in open and closed techniques.

Aims and objectives: Prospective observational study to compare the time taken to gain initial access using different entry techniques and to assess the success rates and complications.

Materials and methods: The study is being conducted over a period of 6 months. Interim analysis of 50 patients undergoing laparoscopic surgery was carried out. The access techniques used were open, Veress, palmers point and other techniques. Time taken from skin incision to first

port insertion was calculated. Complications and difficulties were documented.
Results: Thirty percent patients underwent open access insufflations, 50% had closed and 14% patients underwent palmers point or other techniques. Pressures ranged between 12 mm Hg to 20 mmHg. Open access technique was the quickest with time scales ranging between 1–3 min closed techniques took more time to create pneumoperitoneum and insert the first port. The time ranged between 4 min to 30 min. Palmers point entry took 3–4 min. Open technique was done mainly by surgeons and closed techniques were practised by both surgeons and gynaecologists. There were no complications of consequence during the study period. Three cases in closed group failed to achieve pneumoperitoneum.
Discussion & conclusions: Our study shows that both open and closed techniques are safe, though it takes longer to establish pneumoperitoneum by closed technique. It also underlines the importance of mastering different access techniques by all professionals performing laparoscopic surgery.

P152

Laparoscopic resection of an interstitial ectopic pregnancy following IVF treatment in a patient with bilateral salpingectomy: case report and review of the literature

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A 31-year-old P1G5 woman presented to our Early Pregnancy Assessment Unit for threatening miscarriage, 4 weeks after the transfer of two day-3 embryos following IVF. In the past, she had an uncomplicated vaginal delivery at term and three tubal ectopic pregnancies resulting in bilateral salpingectomy. Clinical examination was unremarkable and the beta-hcg level at the time was 2,700 IU/L. Trans-vaginal ultrasound revealed an empty uterus with a gestational sac in the left cornual region and a foetal pole measuring 1 mm demonstrating foetal heart activity. The MRI examination of her pelvis confirmed the aforementioned findings, demonstrating a 1.5×1.2 cm lesion in the left uterine cornu with minimal myometrium surrounding the sac. Laparoscopic excision of the interstitial pregnancy was achieved after injecting the surrounding tissue with adrenaline and haemostasis was ensured by means of bipolar diathermy and intracorporeal suturing. The patient made an uncomplicated recovery and was discharged 2 days later. In this paper, we emphasise the role of radiological investigations (US, MRI), which are necessary for laparoscopic surgical management, and include high definition illustrations of this unusual case. Finally, our literature review addresses the current issues surrounding the surgical management of interstitial pregnancy.

P153

The effects of the inspectorate report—minimal invasive surgery (The Netherlands) on daily practice of a teaching hospital

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Introduction: The Dutch inspectorate of health care wrote a report on minimal invasive surgery (2007). This report concluded that general surgeons and gynaecologists should improve quality of minimal invasive surgery. Several suggestions and a number of measurers were formulated. These measures have to be implemented in 2008. In our teaching hospital with a lot of minimal invasive surgery in Gynaecology this report had several effects.
Effects and methods: We started to implement these measurers from January 2008 onwards. In a group of nine gynaecologists, a fellow endoscopy and a fellow perinatal care, there is a group of five endoscopists who will cover the advanced laparoscopy during day time and as an extra consultant during evening and night.

The multidisciplinary endoscopic meeting in our hospital revived. A multidisciplinary complication meeting was arranged. We counted the numbers of minimal invasive procedures (Table 1) and noted the complication rate and the number of conversions to laparotomy. The complications were discussed in a plenary session with all surgeons and residents. A number of actions were formulated to prevent future complications (Table 2). In April 2008, the residents attended five training sessions on laparoscopy and sat an examination to certificate the residents for level I and level II procedures. Training will be scheduled and continued. Protocols have to be written.
Results of registration: In total 515 endoscopic procedures were performed in the OR: 359 laparoscopies and 156 hysteroscopies. Total laparoscopic hysterectomy (TLH) was performed in 61 patients of whom four had a complication and five had a conversion. Two complications in the group of laparoscopic sacropexia were registered (2/27). More details will be presented.
Discussion: The Dutch inspectorate report has an important effect on minimal invasive surgery. It stimulates the quality of the minimal invasive surgery.

P154

Evaluation of new tools in post graduate laparoscopic learning

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Objective: Conventional postgraduate educational programs are made up of congresses and seminars. New educational tools such as the surgical e-learning and intensive courses programs become popular. We intended to evaluate these new methods of learning.
Design & methods: We sent 1,300 questionnaires by email for all the participants to courses at the EITS (European Institute for Telesurgery) during 2007. The questionnaire consisted of 21 questions about the EITS course and WeBSurg (World electronic Book of Surgery) site (which is an e-learning example). Participants answer each question according if they totally do not agree, they rather do not agree, they do not agree but do not disagree, they rather agree or they totally agree.
Results: We collected 354 answers 2 month after sending the questionnaires (i.e.,13 March to 13 May 2008) with two incomplete answers. Responders are 41.82±10.21 years old, from 54 nationalities, 62% are general surgeons and 14% gynaecologists. The number of years of surgical and laparoscopic practice is 6 to 10 years in 32%, and 0 to 5 years in 48% respectively. 57.6% totally agree that WeBSurg is useful to discover new surgical techniques and in their surgical career in general. 63.66% totally agree that EITS course is useful to improve their surgical skills 70.54% that it is useful for their surgical career in general. 52.3% concluded that intensive courses and WeBSurg are complementary.
Conclusion: Evaluation by participants of these two new educational tools is encouraging. Optimal learning results come from combining these two tools since they were report to be complementary by participants. Further randomised controlled comparative studies are needed to establish the usefulness of such learning methods in post graduate surgical laparoscopic training.

P155

Implementation of OSATS for minimally invasive surgery in the operating room: a validation study and comparison of learning curves

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Introduction: The objective of our study was twofold: to establish the construct validity of OSATS (Objective Structured Assessment of Technical Skills) in clinical practice and additionally, to compare the learning curves of minimally invasive procedures in gynaecological surgery.
Methods: During their 3 months clinical rotations in gynaecological surgery, residents were instructed to ask the attending supervisor for an evaluation by an OSATS for all procedures they performed as primary surgeon. In order to test the construct validity we studied whether and how the residents proceeded along their learning curve. We assumed that a resident's performance will improve as the caseload within each procedure increases and that most improvement will be observed in the beginning of this curve.
Results: Nine residents were recruited and their OSATS analyzed. In total 319 procedures were assessed, a median of 40 procedures for each resident (range 12–60). The average learning curve within one procedure performed was established (Fig. 2). Both assumptions fitted significantly in this learning curve. Furthermore, in general a steeper learning curve was revealed for hysteroscopic procedures than for laparoscopic procedures (Fig. 2).
Discussion: This study contributes to the validation of OSATS in clinical practice, while most research had been focused on its use in simulator settings, and gives insight in the learning curves. Therefore, this tool can fulfil a highly important role in the OR in the process of reaching proficiency in minimally invasive surgery. It can be used for evaluation, certification and guide constructive feedback on specific surgical items. This knowledge is helpful in the organization of residency programs.

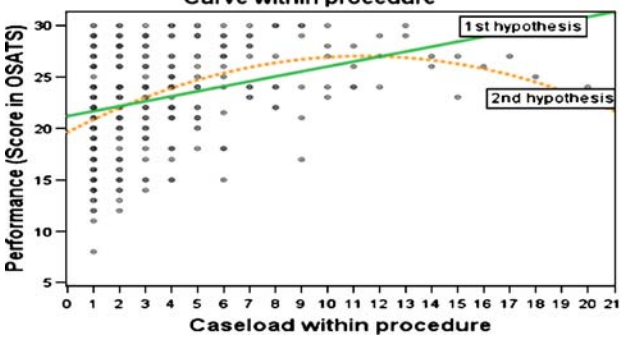

Figure 1. Scatterplot with linear (first hypothesis) and quadratic (second hypothesis) regression line. Learning Curve within procedure

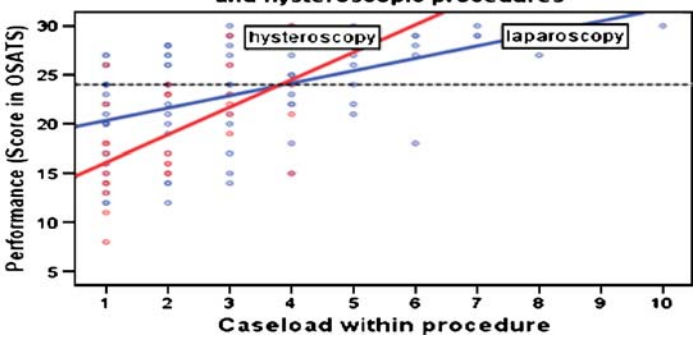

Figure 2. Scatterplot with regression line. Average learning curves in laparoscopic and hysteroscopic procedures

P156

A quality instrument (OSATS) can be used to assess the competence of established gynaecologists in learning a new laparoscopic technique

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Objectives: Experience in new surgical techniques is usually measured by numbers (quantity) instead of by competence (quality). Objective Structured Assessment of Technical Skills (OSATS) has been proven a reliable and valid method of assessing surgical competence in residency programs. A total laparoscopic hysterectomy (TLH) is an advanced laparoscopic technique and complications occur mostly during the learning curve.
Methods: From January 2005 until December 2006 a multi centre, prospective feasibility study was performed. OSATS was introduced to evaluate the competence of gynaecologists while learning a TLH according to a standardized protocol, by a visiting experienced laparoscopist. Complications were scored during and after the learning curve. An OSATS score of 28 points, with a minimum of four out of five on each item (total of seven items) was considered a 'pass grade', evaluated at two independent occasions.
Results: Eleven gynaecologists in seven hospitals participated; nine gynaecologists passed the competence score of at least 28 points. A total of 82 TLHs were performed during the learning curve during which three complications occurred. Sixty-two TLHs were performed after the learning curve during which three complications occurred.
Conclusions: The use of OSATS to evaluate the competence of established gynaecologists while implementing an advanced laparoscopic technique seems feasible. Although the complication score did not change after reaching the competence score. Instead of a quantity control, OSATS can be used as a quality instrument to assess established gynaecologists' competence in learning a new laparoscopic technique.

P157

A do-it-yourself laparoscopy simulator training kit for less than £15.00

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Introduction: One of the essential components of laparoscopic training is a skills laboratory. The conventional set up including the instruments plus the simulator usually runs into a few thousands sterling pounds. We think a much cheaper version can be developed and marketed at 1/10th of the cost.
Concept: We made a webcam based laparoscopy simulator costing £15.00. Compared to other simulators available in the market, it is cheaper, can be used on a home computer and is quick and easy to set up. If cheap instruments such as graspers, needle holders and scissors are developed solely for the purpose of dry lab training, then the cost of training will be much reduced.
At the moment there is no product in the market that offers the whole laparoscopy training kit as a package. We would like to bring this to the attention of various companies. A complete package which can be used on home computer and costs less than £ 100.00 could be a reality.

P158

Simulation-based training applied in gynaecological endoscopy learning. Setting up a Portuguese medical simulation centre

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Objective(s): Focusing on available simulation-based teaching strategies applied to gynaecological endoscopy learning, a Portuguese medical simulation centre will be presented.
Background: Endoscopic surgery also named as minimal invasive surgery, has known advantages over the traditional open surgery. However there has been some difficulty on its implementation worldwide. Arguments in favour for simulation-based training are patient safety, faster acquisition of psychomotor skills, controlled training, possibility to learn in a chosen style and own pace, to achieve homogeneity having in mind research to validate educational methods, simulators and assessment. "CESIMED—Centro de Simulação Médica do Porto" is a private self-funding medical simulation centre linked with the Department of Obstetrics and Gynaecology of the Faculty of Medicine (FMUP), Porto University. It offers laparoscopic training facilities that are the first of their kind in Portugal. Healthcare professionals training based on the best evidence-practice and according to leading organizations are the main goals. Instructors experience on simulation-based training comes from 3 years of gynaecologic and obstetric undergraduate and postgraduate teaching (individual and team-training). There are several commercially available endoscopic simulators (box trainers, virtual reality simu-

lators with OB/GYN modules). However their validity and reliability must be clearly determined.
Conclusions: We hope in the near future to have evidence-based, supported by leading organizations in gynaecological endoscopy, on the use of simulation applied to gynaecological endoscopic training. CESIMED and FMUP are receptive to simulation-based training research in partnership with recognized medical organizations.

TOPIC 22: UROGYNAECOLOGY

P159

Laparoscopic sacrospinous ligament fixation for uterovaginal prolapse: experience with 93 cases

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Objectives: To investigate the skill, efficacy and safety of laparoscopic sacrospinous ligament fixation (LSSLF) for patients with uterovaginal prolapse.
Methods: Retrospective longitudinal study. From May 2004 to December 2006, 93 patients underwent LSSLF at the department of Obstetrics and Gynecology of First Affiliated Hospital, Third Military Medical University, Chongqing, PRC. All patients had either grade 3 or 4 uterovaginal prolapse. In these cases, 75 women had uterine prolapse, 18 cases had vault prolapse (17 women had previously under hysterectomy, one was no uterine inborn had vault prolapse this time). The population characteristics were as follows: mean ages(±S.D.) was 58±13years. Mean BMI (±S.D.) was 23±6 and median(range) parity was three (0–8). Sixty-one (65.6%) cases were post-menopausal. The surgical results and complications were evaluated. The prolapse evaluation was performed using the Pelvic Organ Prolapse Quantification score.
Results: All patients had their surgery completed by LSSLF. The average time for LSSLF was 65 min (55–120 min). The average blood loss was 105 ml (60–200 ml). Bladder injuries in four cases (4.3%). All were repaired intraoperatively under laparoscopy without sequel. The concurrent pelvic surgeries included vaginal total hysterectomies, paravaginal repair, Burch colposuspension, anterior colporrhaphies, and posterior colporrhaphies. Follow-up were first provided at 1 months after operation, and then made for every 3 months. The mean follow-up was 18 months (range 6 to 37 months). Six (6.5%) cases reoccurred at 4, 13, 17, 20, 27, 31 months after operation, seven (7.5%)cases occurred anterior vaginal wall prolapse, and four (4.3%)cases occurred posterior vaginal wall prolapse. Three patients with grade II prolapse and one patients with grade prolapse accepted operation again. The others required no further repair. Minor postoperative complications were observed.
Conclusion: LSSLF can be successfully completed in patients with uterovaginal prolapse. It is a safe and effective treatment method for patients with uterovaginal prolapse. A long-term follow-up is necessary to detect therapeutic effect and late complication.

P160

Results of the Uretex TO® transobturator tape for treatment of stress urinary incontinence in women

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Introduction: Nowadays, tension-free transobturator tapes have gained widespread acceptance in the treatment of stress urinary incontinence (SUI). However, there is a need for data on specific commercially available meshes. The aim of this study is to describe the performance and complications of the Uretex TO® transobturator tape on SUI in women.
Methods: A prospective observational study was performed. All patients were treated for SUI with the Uretex TO® transobturator tape using the outside-in technique. All patients were invited to fill in the Urogenital Distress Inventory (UDI) and Incontinence Quality of Life (I-QoL) questionnaire prior to surgery, 6 weeks and 12 months postoperatively.
Results: A total of 54 women, aged 37 to 78, were included. There were no reports of intra-operative complications. The subjective cure rate of SUI was 85% and the rest of the women (15%) reported an improvement of the SUI at 6 weeks. The total UDI-score prior to surgery was 172 (SD 86). Six weeks postoperatively this score significantly decreased to 70 (SD 70; $p<0.001$). The I-QoL score was significantly improved 6 weeks postoperatively (65.8% (SD 18.1) vs 91.8% (SD 14.7); $p<0.001$). No further changes occurred in the I-QoL score 1 year after surgery (91.0% (SD 18.5)). Urge urinary incontinence (UUI) disappeared in 13 women (65%). Two patients (3.7%) reported worsening of UUI. De novo UUI was found in four patients (7%). Five patients (9.3%) reported postoperative complications for which reoperation was indicated. During follow-up, voiding difficulties requiring tape section occurred in two patients (3.7%). Two patients (3.7%) had a partial removal of the tape within 1 year of the initial operation because of vaginal erosions; one of them had a spontaneous drainage of vaginal abscess before the reoperation. One (1.9%) patient was reoperated at 21 days

for persistent vaginal blood loss from wound dehiscention. The defect in the vaginal wall was closed and the TOT stayed in situ.
Discussion: The Uretex TO® transobturator tape is effective treatment for women with stress urinary incontinence. It significantly improves the quality of life in these women. Nevertheless, the rate of postoperative complications warrant further research on this specific type of mesh.

P161

Tension-free vaginal tapes and pelvic nerve neuropathy

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Obturator nerve neuropathies after tension-free vaginal tape or transobturator tape are considered to be caused by nerve trauma, although it is unclear whether these are accidents or whether these injuries are inherent to the procedure of tape insertion. Two cases show that obturator nerve neuropathy can occur after tension-free vaginal tape without direct trauma to the obturator nerve possibly as a consequence of excessive fibrotic reaction or persisting low-grade inflammation.

PubMed Entrez, Cochrane Library, and up-to-date databases were searched for obturator and pudendal neuropathy and for neuropathies associated with tension-free vaginal tape–transobturator tape and the symptoms, diagnosis, and therapy of the pudendal and obturator nerve neuropathies are reviewed. Based on data, our experience, and data available in literature, we can conclude that, if conservative obturator nerve block confirms the diagnosis of obturator nerve neuropathy and symptoms recur shortly thereafter, a laparoscopic neurolysis can be proposed as therapy.

P162

The intra-operative and early-postoperative complications of gynecare prolift system

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Introduction: The prolene mesh has been performed in pelvic floor repair for some years and it is utilized as well in Gynecare Prolift System. Our study presents intra operative and early postoperative complications connected to this operative procedure.
Materials and methods: The Gynecare Prolift System has been used in 90 patients with pelvic floor disorders. In 67 cases isolated anterior repair was performed, in 12 cases posterior repair and in 11 patients total vaginal repair was offered. The medium age of patients was 63.5 (34–81), medium BMI—27.3 (19.1–38.1). The history revealed SUI in 42 cases (46.7%), 14 patients (15.6%) underwent previous hysterectomy.
Results: The mean operation time in Prolift anterior cases was 58 min (35–100), in Prolift posterior 63 min (45–90) and in Prolift total 109 min (60–165). The average blood lost was estimated for 194 ml (50–900), the mean hospital stay was 4 days. The complications were observed in seven cases (7.8%): four (4.4%) subvesical haematomas, two (2.2%) bleedings in early postoperative time requiring reoperation and in one (1.1%) case a perforation of the vesical bladder occurred. All the patients are in follow-up to assess the efficacy of the method and this will be the subject of the study after 1 year of the observation.
Conclusion: The Gynecare Prolift System is a safe surgical procedure for pelvic floor repair. Long term studies are needed for its efficacy evaluation.

P163

Short and long term outcome of 32 cases of complete genital prolapse treated by laparoscopic sacrocolpopexy: the experience of an expert surgeon

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Objective: To evaluate the personal experience of an expert in laparoscopic pelvic floor repair.
Design: Retrospective mono-centric analysis.
Patients: Thirty-two women treated by laparoscopy for symptomatic genital prolapse between 2004 and 2007.
Intervention: Laparoscopic sacrocolpexy using anterior and posterior meshes with subtotal hysterectomy.
Main results: Mean follow-up was 27.5 months. Mean operative time was 110 min without perioperative complication or laparotomy conversion. Mean hospitalization stay was 6.2 days. The patients had a mean degree of cystocele and hysterocele of 3 and rectocele of 2, according to the Baden-Walker classification. After 6 months of follow-up, we report a recurrence rate of 10.6% with two cases of cystocele and one of elytrocele. Three patients (10.6%) had de novo post-operative urinary stress incontinence. We report no cases of vaginal erosion or mesh infection. One patient had the anterior mesh removed because of retraction and one had the posterior mesh removed for constipation.
Conclusion: Laparoscopic sacrocolpopexy is a safe and effective surgical procedure for complete genital prolapse

treatment. Surgical expertise helps obtaining a low operative time and a low morbidity rate. The good overall results achieved in skilled hands may facilitate the diffusion of this technique.

P164

Use of meshes in vaginal surgery for prolapse: a new "gold standard"?

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Aim: To present a series of 158 cases of pelvic organ prolapse, which have been treated by vaginal surgery assisted by use of biological or synthetic meshes. Also, we review literature about surgery using meshes in comparison to practice without the assistance of this material.
Methods and results: We used monofilament polypropylene synthetic meshes or biological porcine meshes in the surgical treatment of uterine prolapse(or vaginal vault prolapse) in our Department during the last 3 years. The biological mesh was used in 90 cases and the synthetic one was used in 68 cases. The overall failure rate (recurrence of prolapse) was 10% for the first group (nine cases) and 6% for the second group (four cases). In the porcine xenograft group there were no infections and only 1 erosion, but in the second group there were 8.9% erosions(six cases) and two cases of infection.
Discussion: A recurrence rate of 20% is referred for vaginal surgery for prolapse (colporrhaphy with or without vaginal hysterectomy) without the use of meshes. In an attempt to improve the outcomes of surgery for prolapse, a large variety of synthetic or biological materials have been used. The ideal mesh does not yet exist. Anyway, it seems that the use of meshes(especially the biological ones)is a relatively safe method. It is referred that the long term cure rates of synthetic meshes are better than these of the biological materials. The lack of large randomized control trials cannot lead us to certain conclusions.

It is of great importance that new literature is been published supporting the traditional vaginal surgery without use of any kind of mesh, suggesting improvements in methods for midline or paravaginal repair. From another point of view, we notice the increasing use of mesh tapes (minimal invasive process) for the treatment of stress urinary incontinence. It seems that synthetic tapes of monofilament polypropylene (pores>75 μm) are more frequently used with extremely good short term cure rates.

It remains unclear if the long term cure rates after the introduction of meshes in surgical treatment of prolapse will be high or the prolapse will still be an unsolved problem for the modern gynaecologist.

P165

Trans-obturator vaginal tape for female stress incontinence: 1 year follow-up. The effect on quality of life. First experience

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Introduction: The purpose of our study was to evaluate effectiveness of the trans-obturator vaginal tape (TOT) in the female incontinence surgical treatment and to analyse short and long term clinical outcomes and the effect on quality of life.
Methods: Non-randomized, prospective, single centre, observational study including 32 patients with urinary incontinence underwent TOT. Started in November 2006, ended in October 2007 for this analysis. T-sling mesh of non-absorbable polypropylene with absorbable central part was used. Specific quality-of-life questionnaire were supplied and assessed before operation, 1 week, 1 month, 3 month and 1 year post-operatively. There were used open, close questions and visual analogical scale (VAS) in questionnaire.
Results: Mean age of patients was 53 years (range 38–69), parity mean 2 (range 0–4), all vaginal birth. All women rated urinary incontinence as a problem before operation in 7.9±2.7 (average ± SD) points (by VAS). The problem significantly decreased after operation: in 1 week—1.46± 2.22 points, in 1 month—1.6±2.56 points, in 3 months—1.6±2.6 points, in 1 year—4.6±3.8 points ($p<0.05$). Patients complained that this disability causes biggest discomfort at work or other public places nor at home—8.7±2.2 points and 6.3±4 points respectively. Ninety-two percent patients on 1 year follow up showed significant improvement, 6.3% fails 3 month after operation. Twenty-six percent of patients were completely dry after 1 year and 66% were greatly improved. The quality of life improved in 92% patients, and improvement occurred immediately after operation. Ninety-two percent patients will recommend this type of operation. Complications rate—6.3% (two cases). No vascular injury observed. In one case a re-intervention

for postoperative bleeding was necessary and in second one —bladder injury occurred.
Conclusions: TOT appears as a safe, simple and effective minimal invasive long-term cure technique in the surgical treatment of the stress urinary incontinence. The majority of patients showed symptomatic improvements following TOT with low complication rates. This operation improves quality of life immediately after operation with long efficiency.

P166

Voiding dysfunction following surgical treatment for endometriosis

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Introduction: Normal micturition is a complex process dependent on a co-ordinated interplay between intact somatic and autonomic nervous systems and appropriately functioning bladder, urethral and pelvic floor muscles. Laparoscopic surgery to treat severe endometriosis invariably involves extensive pelvic dissection. The effect of this surgery on bladder function is unknown.
Methods: All women attending for laparoscopic treatment of endometriosis between Oct 2006 to Dec 2007 were invited to participate in the study. Only women graded at surgery as moderate or severe endometriosis were included into the study protocol. A record was made of the extent of pelvic dissection. All study participants had their urinary catheter removed at 6.00 am the following morning after surgery. A trial of void protocol was then instituted and bladder urine residuals were recorded.
Results: Fifty women were included into the study, satisfying the inclusion criteria. The mean age was 34.3 years (sd 5.69). All women included had either stage 3 or 4 disease, and the median AFS score was 48 (IQR 34–69). Seven women (14%) failed their trial of void on day 1 following surgery. There was found to be no significant relationship between stage or AFS score and passing trial of void on the first postoperative day. The only significant surgical dissection associated with failing the trial of void on the first postoperative day was for rectovaginal dissection (Fisher's exact test 0.004).
Conclusions: In our study we have found a significant association with the presence of rectovaginal dissection when treating women with moderate–severe endometriosis and the incidence of postoperative incomplete bladder emptying. We hypothesise that the observed phenomenon of increased voiding dysfunction is a result of the pelvic dissection that occurs.

P167

Mesh implantation in laparoscopic surgery of urogenital prolapse, technique, individualisation and results

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Introduction: The surgical repair of pelvic organ prolapse (POP) has a major role to play nowadays, but due to aging the population will be even more important in the future. There are many innovative changes in the concept of POP surgery during last decade, especially in new techniques and implants to reach the optimal tissue support. The (POP) is a multicompartmental disorder and usually consists of urethrocele, urethral hypermobility, cystocele, uterine or vaginal vault prolapse, enterocoele or rectocele. The simmilar aethiology explains frequent coincidency of occult or evident urinary incontinence as well.
Methods: We evaluate the current role of laparoscopy in POP surgery and present our experiences and results in prospective cohort of 174 consecutive cases of women who underwent laparoscopic global prolapse mesh repair including sacrocolpopexy during 5 years period (2002–2007). One hundred thirty-five women underwent concomitant antiincontinence surgery (transobturator urethropexy—TOT) and 39 women prolapse mesh repair only. Mean follow-up was 39.1 months (5–57 months). Our aim was to assess the success of the procedure and to compare the impact on the urinary continence in these groups.
Results: The cure rate in prolapse surgery was 97.7% (170 pts) at the time of follow up. 94.8% women were dry in TOT group and 82.1% in prolapse surgery alone group. Mean surgery time was 189 min, average blood loss 79 ml and complication rate of prolapse surgery 5.12%.
Discussion: We conclude that laparoscopic approach in POP surgery allows the multi-compartmental reconstruction with low complications rate. Mean operating time is related to the intraabdominal finding after previous surgery as well. Laparoscopic surgery of POP has difficult learning curve but superior postoperative effect at the time of our follow up. To decrease the risk of postoperative GSI we perform the concomitant transobturator urethropexy in women with preoperative occult or evident urinary incontinence.

TOPIC 23: OTHER

P168

Audit of laparoscopic complications at a tertiary hospital

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Introduction: Laparoscopy has revolutionized modern gynaecological surgery. However, as laparoscopic procedures are not without risks, patients must be fully informed of these during the consent process. Laparoscopic procedures undertaken over a period of 12 months in our unit, a large teaching hospital in a city in the United Kingdom were audited for complications and compared with published data.
Method: Operation records stored electronically were analyzed retrospectively for all laparoscopic procedures performed over a 1 year period (2006). Procedures were divided into diagnostic, minor, major or advanced. The complications sought included injury to bowel, blood vessels, urological structures, returns to theatre and conversions to laparotomy. These were then compared to data published by Chapron et al., 2003.
Results: Data was available for 944 (97%) of the 971 cases identified. No patient died as a consequence of a laparoscopic procedure. The rate of major complications was 10.2/1,000

Complication rates per 1,000	Chapron et al.	Our unit
Mortality	0.03	0
Overall	4.64	20.6
Requiring laparotomy	3.2	5.1
Bowel injury	1.6	8.16
Haemorrhage	1.5	10.2
Urological injury	1.27	2.04
Diagnostic + minor	1.34	6.06
Major + advanced	6.81	37.8

No. of returns to theatre: 8
Conversions to laparotomy: 30 (7 due to complications, 23 due to surgeon choice)
32/38 (84.2%) of complications were directly as a result of the laparoscopic approach.
Discussion: Overall, the complication rates appear higher, but it is difficult to compare various studies because of underestimation, different definitions of complications and different patient populations.

P169

Laparoscopic hysterectomy in very large uteri: advantages and limits

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Introduction: To argue the usefulness for performing total laparoscopic hysterectomy with primary uterine artery coagulation at its origin for a series of women presenting with an enlarged benign uterus.
Method: Twenty-one women having undergone the procedure consecutively during a period of 22 months were studied retrospectively. The inclusion criteria were an enlarged benign uterus weighing more than 280 g, managed by total laparoscopic hysterectomy with primary uterine artery coagulation at its origin. The relationship between uterine weight and operative time was estimated using the correlation coefficient *r*.
Results: Women median values (10th and 90th percentiles) [range] for age, body mass index, and parity were respectively 47 years (41; 52) [38–53], 25.5 kg/m^2 (19.5; 33.9) [19.3–38] and 2 pregnancies (1; 3) [0–3]. The uterine weight was 550 g (295; 850) [280–1,600], and duration for the surgical procedure was 190 min (120; 280) [105–280]. The longest procedures were due to associated deep endometriosis resection (two cases), extensive adhesions (one case) and to a uterus weighing 1,600 g, if hard myomas lead to difficult morcellation. The duration of the intervention tended toward a significant correlation with uterine size (correlation coefficient r=0.40, P=0.08). No intraoperative complication was recorded. The difference between preoperative and day 1 value of hemoglobin levels was 1.3 g/dL (0.1; 2.7) [0–3.5]. A woman presenting with a 1,600 g uterus, whose operative time was 280 min, presented painful symptoms postoperatively, evocative of bilateral peroneal compartment syndrome which spontaneously regressed within 48 h.
Conclusion: The selective coagulation of the uterine artery at its origin is a reproducible technique that allows total laparoscopic hysterectomy in enlarged uteri. This procedure avoids unexpected preoperative hemorrhage requiring conversion to the abdominal route and provides optimal protection for the ureter. However, when myomas are large and hard, the morcellation procedures available to date may be less efficient, leading to excessive operative time.