

Cost Comparison of Laparoscopic versus Open Procedures at the Sydney Women's Endosurgery Centre

Danny Chou, MD, Gregory Cario, MD

ABSTRACT

Objectives: The objective of this study was to provide a cost comparison between laparoscopic surgery and open surgery from January 1996 to January 1998. The setting for this study was three private hospitals and one public hospital associated with the Sydney Women's Endosurgery Centre. Cost analysis was done using the costing provided by the private and public hospitals representing the total amount charged to the patient or the fund for their entire stay including disposable laparoscopic instruments and miscellaneous charges. We looked at laparoscopic hysterectomy, abdominal hysterectomy, vaginal hysterectomy, laparoscopic Burch colposuspension and open Burch colposuspension. Despite the difficulties and limitations using our method of cost analysis, it appears that laparoscopic surgery is a less costly alternative to open abdominal surgery, particularly where the amount of disposable instruments are kept to a minimum. When the added advantages of early return to normal activities, family and workplace are added in, it is clear that providers of health care in the public and private sector will see laparoscopic surgery as an increasingly desirable option.

Microlaparoscopy under Local Anesthesia and Intravenous Sedation: Technique and Tolerance. Report of 100 Patients

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ABSTRACT

Objectives: To determine feasibility, indications, and patient tolerance of microlaparoscopy performed under local anesthesia with intravenous sedation in Gynecology.

Design: A prospective longitudinal study.

Materials and Methods: One hundred patients (mean age: 31 years, range: 20-46) were scheduled to undergo microlaparoscopy for conditions which included infertility, acute or chronic pelvic pain (ectopic pregnancy, salpingitis), pelvic adhesion disease (second look), and endometriosis. Microlaparoscopy was performed under local anesthesia (Xylocaine) with intravenous sedation (Alfentanyl and Midazolam) in the operating room. The microendoscope (2 mm

diameter) was placed through a Veress needle inserted subumbilically after creation of a pneumoperitoneum with a maximum of 2.5 L of carbon dioxide. The patients were always conscious during the operative procedure.

Results: The diagnosis was obtained in 90 patients with this procedure. In ten cases, we performed classic laparoscopic conversion because of abdominal pain during the creation of the pneumoperitoneum in four patients, and severe intraperitoneal adhesions obstructed the view in six cases. The average surgery time was 24 ± 12 minutes, with a mean dose of $1300 + 1149$ microg of Alfentanyl and $3.25 + 1.79$ mg of Midazolam utilized. The mean diagnostic time was 13 ± 6 minutes. There were no intraoperative or postoperative complications. Subjective assessment of intraoperative pain in the recovery room revealed that 85% of the patients had limited recall of the procedure.

Conclusions: Microlaparoscopy under local anesthesia and intravenous sedation is a safe and effective method for diagnosis and is well accepted by the patient. However, we need several controlled trials with larger studies to validate this procedure and establish its indications in gynecology.

Laparoscopic Tubal Ligation Utilizing the MOLLY™ 3 mm Bipolar Forceps

Roosevelt McCorvey, MD, Beverly Love, MD

ABSTRACT

Objective: Compare 3 mm to 5 mm bipolar forceps thermal trauma to fallopian tubes in patients having a laparoscopy endoloop Pomeroy bilateral tubal ligation.

Methods and Procedures: Full institutional review board (IRB) approval. Patients desiring bilateral tubal ligation between the ages of 21-50. All procedures were done in the outpatient operating room under general anesthesia. The tubal ligation technique was the Pomeroy method, using an endoloop to ligate the tubes. We bipolar coagulated three contiguous thermal burns on the left tube with the 3 mm forceps and the right with the 5 mm forceps. The coagulated section of the tubes were endolooped, excised and sent to a special pathologist.

Results: The 3 mm bipolar showed a 100% efficiency rate in ligating the fallopian tubes.

Conclusion: The MOLLY™ 3 mm bipolar forceps allowed for minimal trauma to the patient. If this device is approved for bilateral tubal ligation by the FDA, it is possible for a patient to have bipolar bilateral tubal ligation with small scopes in an office setting under local anesthesia.

Technical Aspects and Retrospective Evaluation of Classic Intrafascial Supracervical Hysterectomy after 277 Cases

J.E. Morrison, Jr., MD, V.R. Jacobs, MD

ABSTRACT

Objective: The laparoscopic intrafascial supracervical hysterectomy (CISH) procedure was introduced by Semm in September 1991 and started at Fayette Medical Center in November 1991. The 277 cases up to now are the largest number of cases performed and reported by one general surgeon in the United States. We report about the long-term experience in a local community hospital.

Methods and Procedures: Indications for CISH are similar to open or vaginal hysterectomy. Contraindications in addition to those for standard laparoscopy are malignancy and obesity (>185 kg). The CISH procedure is described in detail. In a retrospective study, we found the following.

Results: *Period of report:* 11/92 - 03/98; *cases:* 277 patients / 1 surgeon; *age:* average 44 years (22-92 years); *length of operation:* average 1 h 15 min (50 min-6 h 10 min); *blood loss:* average 125 ml (55-765 ml); *hospital stay:* average < 24 h (max 5 d); *return to work:* average 2 weeks (1-4 weeks); *complications:* 3 early cervix bleedings at day 3, 5 and 7 (1 return to OR); 1 internal bleeding (return to OR); 1 ileus (conservative treatment with insertion of NG tube); 1 pelvic hematoma at day 5 (conservative treatment); 3 late cervix bleedings 2, 2½ and 4 y postop (1 conization); *conversions:* 2 (1: morbid obesity, 1: uterus pelvis ration). The advantages of CISH include leaving the pelvic floor intact; cost-effectiveness; short hospital stay; short recuperation; and high patient satisfaction. Disadvantages are those of an advanced laparoscopic procedure; technically challenging; and the learning curve.

Conclusions: CISH is the procedure of choice for hysterectomy because it keeps the normal anatomy of the pelvic floor intact. It has been proven a safe, cost-effective technique that can be performed in a community hospital. Long-term experience encourages use of CISH.

Total Laparoscopic Hysterectomy Using the Laparoscopic Coagulating Shears

Gregory Cario, MD, Danny Chou, MD

ABSTRACT

The laparoscopic coagulating shears (LCS) is a very versatile ultrasonic activated instrument. It has evolved from the well-established harmonic scalpel. It appears to have great benefits

for gynecological endoscopy and in fact may be the energy source of choice for endoscopic pelvic surgery as it allows single instrument dissection, cutting and coagulation with the inherent safety and lack of spread to adjacent tissues. We present a technique of total laparoscopic hysterectomy using the LCS to do the top pedicle, complete dissection with skeletonization of the uterine arteries which are sutured and divided and preparation of the bladder flap and uterosacral ligaments. Colpotomy is done using a combination of the LCS and the harmonic hook scalpel in association with a plastic vaginal tube and uterine manipulator. The vault is then sutured laparoscopically. We have now performed over 20 cases using this technique and now find it our operation of first choice with the LCS as the sole energy source for the entire operation.

Laparoscopic-Assisted Vaginal Hysterectomy

Anil Khetarpal, MD

ABSTRACT

Objective: Presented is a series of 850 cases of laparoscopic-assisted vaginal hysterectomy from July 1995 to June 1998.

Common indications for using this procedure are a) uterine fibroids; b) menorrhagia; c) dysuterine uterine bleeding; d) adenomyosis; e) endometriosis; and f) cervical dysplasia.

Methods and Procedures: *Anesthesia:* All the cases were done under spinal anesthesia. *Position of patient:* Lithotomy position with head end low by 5-13 degrees. *Position of surgeon:* Surgeon was to the right of patient and assistants. *Position of assistants:* First assistant was to the left of patient and second assistant was to the perineal side. *Ports used:* Three ports were used sizes 3-10 mm (1. for telescope, 2. for tripolar cautery/babcock and 3. for tripolar cautery/babcock). *Laparoscopic instruments used:* a) tripolar cautery; b) Babcock forceps (10 mm); c) curved scissors (5 mm); and d) suction irrigation (10 mm).

Results: Operative time in this procedure was between 35 minutes to 1 hour. The average hospitalization stay was between 36-48 hours. Only three complications occurred: two cases of bladder injury and one case of pelvic hematoma. Follow-up of our cases varied from three months to three years.

Conclusions: We have found this procedure to be very effective and successful on the basis of the reasons cited: a) Procedure time is shorter as compared to abdominal or vaginal hysterectomy; b) Post-convalescence time is shorter; c) In this procedure during vaginal aspect, only single mass closure was done; d) Vault prolapse was prevented by tightening of ligaments and scarring created during tripolar cauterization; e) In this procedure, no suturing or stitching or staplers were required; and f) It is overall cost-effective for operative and postoperative management.

Mapping and Treatment of Endometriosis in the Awake Patient

Lawrence A. Demco, MD

ABSTRACT

Objective: To demonstrate the advantage of having the patient awake during the laparoscopy to aid in the diagnosis and treatment of endometriosis.

Methods: Patient Assisted Laparoscopy (PAL) is a technique used to enable the patient to participate in the surgery. The patient aids the physician in mapping the pain associated with endometriosis. Therapy using the argon beam coagulator to vaporize the lesions is carried out, and the effectiveness of the treatment is immediately confirmed by the patient.

Conclusions: Pain of endometriosis has no correlation to the visible lesion and may extend to the normal peritoneum up to 2.7 cm. Patient input is necessary for correct diagnosis and confirmation that therapy has relieved the pain associated with endometriosis.

Pain Mapping of Endometriosis Using Patient Assisted Laparoscopy

Lawrence A. Demco, MD

ABSTRACT

Objective: To determine by means of Patient Assisted Laparoscopy (PAL) the relationship of the lesions of endometriosis to pelvic pain.

Methods: Fifty patients with endometriosis were assessed by PAL. The lesions were examined as to the color and size. These areas were then mapped for pain.

Results: Lesions in all categories of color and shapes would be palpated and not produce a pain response. In the lesions that did provoke a pain response, red or vascular lesions were most painful followed by clear lesions with subsequent vascular patterns, followed by white scarred lesions, and least tender were black lesions. The pain was noticed to extend beyond the lesion onto the normal-looking peritoneum. An attempt to measure how far revealed up to 2.7 cm away but was not consistent in respect to the type of lesion.

Conclusions: Treatment of the pain associated with the lesions of endometriosis by observation made during the standard diagnostic laparoscopy under general anesthetic seems to have little value. The pain of endometriosis has no relationship to the size or color of the lesions. The pain can extend beyond the visible lesion onto the normal peritoneum. To adequately clarify and treat the painful lesion, the input from the patient via pain mapping or PAL seems to be essential to achieve successful therapy.

Outpatient Laparoscopic Surgery for Myomas

J.E. Carter, MD, PhD

ABSTRACT

Objective: To determine whether laparoscopic myomectomy could be performed as an outpatient surgical procedure without complications in a day surgery setting.

Methods: Fifty laparoscopic myomectomies were performed. All myomas greater than 150 grams were pretreated with GnRH agonists for two months prior to surgery. The sizes of the myomas ranged from 100 grams to 475 grams. Myomectomies were performed in standard fashion utilizing laparoscopic visualization, Pitressin injection of the myomodette, unipolar and bipolar dissection and stapling and suturing techniques for closure of the myoma bed and uterine surface. Eight of the first 30 cases were performed with the patients remaining overnight as 23-hour stays. During the last 20 cases, no patients remained overnight. All of the 42 patients who were discharged on the same day of surgery were sent home within 8 hours of the completion of the procedures.

Results: No complications occurred in 50 cases of laparoscopic myomectomy performed as an outpatient. Pain medication for home therapy was limited to Vicodin 1 to 2 tabs q4h PRN pain. No patients experienced urinary retention and no patients were readmitted to the hospital. There were no infections and no transfusions.

Conclusions: Laparoscopic myomectomy can be performed safely as an outpatient procedure, and patients can be discharged home the same day of the procedure with a telephone follow-up.

VPSAM: Versa Point Ablation of Submucous Myomas

Beverly Love, MD, Roosevelt McCorvey, MD

ABSTRACT

Objective: To use the versa point for treatment for submucous myomas in the hospital operating room and office setting using local anesthesia.

Methods and Materials: These were all office patients between the ages of 24-45 years. All procedures were completed with the small Wolfe Hysteroscope with normal saline as the insufflating medium. The first two patients had their procedures completed in the hospital outpatient operating room under general anesthesia. The other two cases were done in the office operating room under local/IV sedation.

Results: All ablations were completed successfully, whether in the hospital under general anesthesia or in the office under local

anesthesia. All procedures were well tolerated by the patients.

Conclusion: Versa point worked well for ablation of submucous myomas. It is of note that these procedures can be performed in the office setting under local anesthesia.

The Role of Uterine Artery Embolization in the Treatment of Uterine Leiomyomata and Severe Menorrhagia in a Private Hospital Setting

J.E. Carter, MD, PhD, Fred Burbank, MD

ABSTRACT

Objectives: To evaluate the role of pelvic embolization for the treatment of uterine leiomyomata, severe menorrhagia and for presurgical preparation for laparoscopic supracervical hysterectomy, for large uteri in a private community hospital setting.

Methods: Ten patients with symptoms of severe bleeding and/or pain secondary to large leiomyomata were referred for pelvic embolization. In addition, three patients with severe uterine bleeding and one patient with severe uterine bleeding and pain were referred for embolization. All patients were monitored for relief of symptoms post-embolization. Embolization was performed with 3 mm or 5 mm Gianturco coils and Ivalon particles 250 to 355 micrometers.

Results: Eight of the ten patients with symptomatic leiomyomata became asymptomatic within one month of the embolization procedure. One of the ten had requested a laparoscopic supracervical hysterectomy, and the embolization was performed in preparation for the procedure for this 750 mg leiomyoma plus uterus. In one patient, embolization was not possible due to a lack of a dominant uterine artery. At surgery, this patient was found to have a leiomyoma sarcoma. Of the three patients with severe uterine bleeding (one with placenta accreta, one with bleeding from the bed of a previously resected intramural leiomyoma and one with menorrhagia from severe adenomyosis who was on Coumadin anticoagulation for protein S deficiency), the first two were successfully treated. The third with adenomyosis was found to have no dominant uterine artery, and embolization could not be performed.

In the only case in which pain was dominant with associated bleeding and no leiomyoma on ultrasound, the bleeding was controlled but pain persisted. At hysterectomy, no significant uterine pathology was found. However, the patient's pain resolved postsurgically.

Conclusion: Uterine artery embolization is an appropriate procedure for patients with symptoms from large leiomyomata and for severe uterine bleeding from endometrial and myometrial pathology. Its place in patients with combined significant central pain and associated bleeding is not clear.

Hysteroscopic Resection of Cervical Nerve Sheath Tumor

Robert S. Goldfard, MD, Brent N. Davidson, MD

ABSTRACT

Objectives: Isolated nerve sheath tumors of the uterine cervix are very rare entities. This is especially true for benign nerve sheath tumors. We present here, to the best of our knowledge, the first case of a benign nerve sheath tumor of the uterine cervix resected hysteroscopically. Our patient is a 69 year old white female with a history of post menopausal bleeding. Initial workup included an endometrial biopsy and an ultrasound. A cervical mass was identified on that study. Further characterization of the mass was obtained with MRI. Oncology consultation was obtained, and the opinion was that this was a cervical myoma. The patient continued to have bleeding and was taken to the operating room for a hysteroscopy and dilatation and curetage. At surgery, a large cervical mass was resected hysteroscopically. Final pathology report showed this to be a benign nerve sheath tumor.

OBAULA: Office Balloon Ablation under Local Anesthesia

Beverly Love, MD, Roosevelt McCorvey, MD

ABSTRACT

Objective: To test the efficacy and safety of balloon ablation vs. the Rollerball as a part of the Gynecare Pre-Market Analysis Clinical Trial.

Methods and Materials: Full independent institutional review board (IRB) approval was obtained. Patients had to have a diary score of greater than 150. Their uterus had to sound 4 to 10 cm. No endometrial pathology by ultrasound, biopsy and hysteroscopy. All studies were done in 1996. All procedures were performed in the office under local IV sedation.

Results: Most cases were done in 15 minutes or less. There were no significant complications. The results were comparable to Rollerball ablation. All procedures were well tolerated by the patients.

Conclusions: Balloon ablation is both efficient and safe. This study suggests that balloon ablation could easily become an office procedure.

ROOHULA: Rollerball Operative Office Hysterectomy under Local Anesthesia

Roosevelt McCorvey, MD, Beverly Love, MD

ABSTRACT

Objectives: Rollerball endometrial ablation was traditionally performed in the operating room or an alternate area of the hospital. We wanted to see if it would be feasible to do Rollerball ablation in the office under local anesthesia.

Methods and Procedures: Twelve patients with menorrhagia. Uterus sounds 4-10 cm. Normal endometrial cavity. No endometrial cancers or atypical endometrial hyperplasia. All procedures were done in the office operating room. All procedures were performed with the 24 French Resectoscope by Wolf with video camera, the Aquasense Fluid Monitoring System using a Wolf electric surgical generator with local anesthesia (paracervical block/IV sedation).

Results: Good clinical resolution of menorrhagia. Procedure ranged in time from 10-37 minutes (mean 17 minutes). The fluid used was Cold Sorbitol. The volume of hysteroscopic fluid used ranged from 1800 cc to 4640 cc (mean 2452 cc). There were no intraoperative or postoperative complications.

Conclusions: The small Wolf Resectoscope allowed us to perform endometrial ablation with minimal dilation of the cervix. The Aquasense system provided us with the added level of assurance that we could avoid fluid overload complications. ROOHULA is a significant addition to office endoscopy.

Laparoscopic Intrafollicular and Intraovarian Injection of Bee Venom in the Treatment of Polycystic Ovarian Disease

Ali Farid Mohamed Ali, MD, Wadi El-Nil, MD

ABSTRACT

Objectives: To use for the first time laparoscopic intrafollicular and intraovarian injection of bee venom in the treatment of polycystic ovarian disease.

Nature of the Study: Prospective study.

Materials and Methods: Fifteen sterile patients with polycystic ovarian disease resistant to medical treatment were treated by laparoscopic injection of 0.1 ml of bee venom in each follicle and injection of 2 ml of bee venom directly in the ovarian stroma.

Results: A statistically significant decrease in LH, androstenedione, and testosterone was observed ($p < 0.0001$); ovulation occurred in 75% of cases; the pregnancy rate was 50% in those who ovulated; no complications were observed with this new technique.

Conclusion: Laparoscopic intrafollicular and intraovarian injection of bee venom in the treatment of polycystic ovarian disease is a new, safe, easy method, free of complications for induction of ovulation in resistant polycystic ovarian patients.

Electrosurgical Laparoscopic Linear Ovariectomy: A New Technique for the Treatment of Polycystic Ovarian Disease

Ali Farid Mohamed Ali, MD

ABSTRACT

Introduction: Patients who fail to ovulate or to become pregnant using clomiphene therapy present a challenging management problem. Several laparoscopic techniques for the treatment of polycystic ovarian disease have been described (ovarian biopsy, ovarian drilling, wedge resection, with electrosurgery or laser).

Objective: To introduce a new laparoscopic technique called electrosurgical linear ovariectomy and to introduce a new instrument called the Farid Electroirrigation Needle. To compare the results of Farid linear ovariectomy and other laparoscopic ovarian drilling.

Materials and Methods: Forty patients with polycystic ovarian disease (PCO) were enrolled in the study. The diagnosis of PCO was based on endocrinological basis and vaginal ultrasound. All patients had failed to ovulate after increasing doses of clomiphene citrate up to a maximum of 150 mg/day. We measured the ovarian volume. A new equation has been put forth: volume of polycystic ovary divided by the normal ovarian volume—gives the number of longitudinal lines which can be fashioned by cauterization (overdrilling) and underdrilling (persistence of pathology). A formula for use of the Farid needle has been found: The Farid Formula equals the depth of penetration in mm equal to the number of lines; the average number of lines for each ovary was 17 lines. The average time for each ovary was 3 minutes, and the discharge time from the hospital was 4 hours postoperatively. Twenty patients operated upon by the previous technique of ordinary ovarian drilling were enrolled in this study.

Results: There was a statistically significant difference ($P < 0.05$) in hormonal profile after linear ovariectomy using the Farid Technique versus ovarian drilling (testosterone, androsterone DHEA, S estradiol, prolactin LH, FSH pregnancy rate 90% ovulation rate 97% in ovarian drilling pregnancy rate 78% and ovulation 85%).

Conclusions: Advantages of linear ovariectomy by the Farid Needle were better response regarding the hormonal profile, better ovulation and pregnancy rate, no adhesion formation, and avoidance of under-treatment or over-treatment.

Laparoscopic Local Injection of Bee Venom for Treatment of Adenomyosis

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ABSTRACT

Introduction: Adenomyosis is an enigmatic disease. It is well known that endometriosis is associated with various autoimmune phenomena. In adenomyosis, an intense immune reaction takes place mainly within the uterus.

Objective: To assess for the first time the use of bee venom injected directly for the treatment of adenomyosis. Bee venom is used on the basis of its immune mechanism, anti-cancer effect myolysis rhabdomyolysis, GnRH agonist-like action (minimal), anti-inflammatory-like action, 100 mg (hydrocortisone) and analgesic effect 100 times that of morphia.

Patients and Methods: Eight patients with severe dysmenorrhea, chronic menorrhagia not infertile, refusing hysterectomy were enrolled in this study. 0.2 ml of bee venom were injected in four points in the uterus at 6, 12, 3, and 9 o'clock. The diagnosis of adenomyosis was based on transvaginal ultrasound and magnetic resonance imaging; for histological diagnosis, a 5 ml thick strip of endomyometrium approximately 2 + 0.3 cm long and 3.5 and 5 mm wide was transcervically resected from the posterior wall of the uterus. Total uterine volume was calculated using the prolate ellipse equations: $\text{volume} = 0.521 \times D1 \times D2 \times D3$, where D1, D2 and D3 represent the three largest diameter length, transverse, and anteroposterior.

Results: Statistically significant reduction in the uterine volume after three months of treatment occurred in five out of eight cases; 78.5% reduction of uterine volume after treatment ($P < 0.001$) in parallel with complete disappearance of symptoms occurred in four out of five cases (80%).

Conclusion: Laparoscopic injection of bee venom is an excellent line of treatment for adenomyosis.

Laparoscopic Intraovarian Injection of Nitric Oxide (NO) on the Treatment of Ovarian Endometriosis. A Modern Trend

Ali Farid Mohammad Ali, MD, Hoda Abd-ElAziz, MD

ABSTRACT

Objective: To use for the first time nitric oxide (NO) injection through a laparoscope for the treatment of ovarian endometriosis. The scientific base of this work depends on previous work of Dr. Ali Farid, who demonstrated decrease production of NO in ovarian endometriosis.

Patients and Methods: Ten female patients were diagnosed during laparoscopy as having ovarian endometriosis grade II, according to American Fertility Society (AFS) grading. They were presented clinically with infertility (100%), dysmenorrhea (100%), dyspareunia (60%), abnormal uterine bleeding (70%), and backache (60%). Sodium nitroprusside as a source of NO was used; the method of injection was through laparoscopy. The amount of sodium nitroprusside injection depends upon the Farid equation, which entails the volume of endometriotic ovary divided by the volume of the normal ovary equals the total amount of sodium nitroprusside injected. The amount is divided to four fractions, and each fraction is injected in the ovary at fixed points: 6, 12, 9, 3 o'clock, either clock-wise or anticlock-wise.

Results: Disappearance of dysmenorrhea, dyspareunia occurred in all cases (100%); correction of abnormal uterine bleeding occurred in 60%; improvement of backache occurred in 80% of cases; pregnancy rate was 60% per cycle. In cases where abnormal uterine bleeding was not corrected after treatment, other pathology was demonstrated in the uterus—endometrial hyperplasia, endometrial polyp, fibromyoma or adenomyosis uteri. No complications of the method were reported.

Conclusions: A safe, cost-effective, new method of treatment of ovarian endometriosis has been introduced.

Transcervical Resectomy Combined with Local Nitric Oxide (NO) Tablet for Treatment of Severe Uterine Synechia. A Modern Trend

Ali Farid Mohammad Ali, MD, Hoda Abd-ElAziz, MD

ABSTRACT

Introduction: Uterine synechiae is a frustrating problem to gynecologists. There are several lines of treatment, but no one treatment is justified. We introduce here nitric oxide (NO) locally to improve the cervical factor (increase vascularity and dilatation of the cervix) for the first time in the treatment of synechiae. Informed consent was taken from all patients after explaining to them the detailed treatment.

Materials and Method: Four patients with secondary amenorrhea were diagnosed as having severe uterine synechiae by hysterosalpingography and hysteroscopy. One nitroprusside gel was put in the cervix as a source of delivery of NO. (This will dilate, soften, and increase the vascularity of the cervix.) This was followed by the introduction of a transcervical resectoscope.

Results: All patients not only achieved normal menstruation but also normal uterine cavity; in addition, three of the patients became pregnant and continued the pregnancy to full term.

Conclusions: A safe, cost-effective, new line of treatment of uterine synechiae has been presented.

Ovarian Reserve in Women with Endometriosis and Its Implications in Laparoscopic Management

Ali Farid Mohammad Ali, MD, Hoda Abd-ElAziz, MD

ABSTRACT

Introduction: The purpose of this study was to determine if ovarian reserve as documented by day 3 FSH and estradiol level is altered in patients with endometriosis who were treated laparoscopically.

Design: A retrospective study which evaluates FSH and E2 for patients undergoing laparoscopic treatment of endometriosis.

Subjects and Methods: Fifteen cases diagnosed laparoscopically with stage III endometriosis, according to American Fertility Society (AFS) grading, and ten cases of infertility due to male factor undergoing medical insemination as control group. All patients with endometriosis were treated with electrocoagulation of the endometriosis found laparoscopically. Day 3 FSH and E2 levels were compared before and after laparoscopic treatment.

Results: In the endometriosis group, the mean FSH was 13.25 mIU/ml and mean E2 was 49.95 pg/ml, which in the control group had a mean FSH level of 7.85 mIU/ml ($P < 0.05$) and mean E2 of 31.22 pg/ml ($P < 0.05$). Thus, the patient with grade III endometriosis had significantly elevated FSH, E2 level before treatment. This is consistent with a status of decrease ovarian reserve. After treatment, in the endometriotic group, the mean FSH level was 15.85 mIU/ml, and the mean level of E2 was 40.71 pg/ml with statistically significant increase and decrease ($p < 0.05$) in FSH and E2, respectively, after treatment than before treatment.

Conclusion: Endometriotic patients after treatment have decreased ovarian reserve. Two processes may be involved. Endometriosis itself may interfere with ovarian function directly or through biologically active chemical mechanisms. In addition, the treatment with laparoscopic cases decrease in blood supply or destruction of ovarian tissue to be a cause of the decrease of ovarian reserve.

Laparoscopic Injection of Bee Honey in the Treatment of Ectopic Pregnancy (A New Modality)

Ali Farid Mohammad Ali, MD, Hoda Abd-ElAziz, MD

ABSTRACT

Objectives: To test for the first time the use of bee honey in the treatment of undisturbed tubal pregnancy.

Design: Prospective clinical study.

Subject and Methods: Eight patients diagnosed as undisturbed tubal pregnancy by laparoscopy. Vaginal ultrasound, inclusion criteria: ectopic pregnancy visualized by laparoscopy and ultrasound with pretherapeutic score < 13 as assessed by six criteria graded from 1 to 13. Gestational age, HCG, P level, abdominal pain, volume of hemoperitoneum, diameter of hemesalpinx. Sterilized 3 grams of pure bee honey dissolved in 10 cc distilled water. Second-look laparoscopy was done after six months.

Results: The success rate was defined by HCG level that returned to normal. Seven of 8 patients (87.5%) HCG returned to normal within 14 days. Follow-up laparoscopy after six months revealed tubal patency in all seven cases. Mechanism of action of Bee Honey in tubal pregnancy: high glucose content (34%), change in osmolarity of the sac, swollen, disruption, prostaglandin content, increased tubal motility, decreased level of inhibin in the tubal fluid, increased energy substrates in the tubal fluid; pyruvate, lactate, glucose and glycogen, coagulant activity in the decidual blood vessels led to formation of thrombosis, actinomycin D-like action, immunostimulator increase level of IgG, IgA, IgM in the sac and in the tubal fluid, increased level of enzymes amylase, catalase, and phosphatase in the sac.

Conclusion: A safe, cheap, new method for treatment of undisturbed tubal pregnancy has been presented that has no discernable complications and preserves tubal patency.

Iatrogenic Adenomyosis as a Complication of Laparoscopic Myomectomy (A New Concept)

Ali Farid Mohammad Ali, MD, Hoda Abd-ElAziz, MD

ABSTRACT

Objectives: The aim of this study is to report for the first time a new complication of laparoscopic myomectomy performed for infertility patients.

Design: Prospective.

Patients and Methods: Ten infertile patients diagnosed as having myomata uteri (mean number of myomata: 4 ± 1.2 ; mean size of myomata: 6.2 ± 1.6 cm) were subjected to laparoscopic myomectomy. Five patients were sutured laparoscopically; five were left unsutured. After six months, flexible office hysteroscopy, contrast ultrasonography and magnetic resonance imaging (MRI) suggested the presence of focal adenomyosis in all of the non-sutured group. Second-look laparoscopy was done for 6 cases: one from the sutured group and all of the non-sutured group (5 cases). It revealed focal adenomyosis in all the non-sutured cases and peritubal adhesions in the sutured case.

Conclusion: Non-suturing of the uterus leads to iatrogenic adenomyosis. Suturing of the uterus is very important during laparoscopic management to prevent this complication.

Femoral Venous Flow during Laparoscopic Gynecological Surgery

Danny Chou, MD, Gregory Cario, MD

ABSTRACT

The combination of general anesthesia and a 12-15 mm Hg pneumoperitoneum has been shown to significantly reduce the normal functioning of lower limb venous return. The resultant venous stasis has been postulated to be a major factor in the increased incidence of Deep Venous Thrombosis (DVT) associated with advanced laparoscopic surgery. However, the rate of DVT for gynecological laparoscopy is low—0.2/1000 for diagnostic and minor laparoscopy. This may be due to the fact that these are relatively short procedures, or due to the position of the patient during these procedures. Reverse Trendelenburg, as utilized by general surgeons for laparoscopic upper GIT surgery, compounds the limitation of venous return and was not found to display adaptation to position with time. It has been shown that the combination of factors—reverse Trendelenburg, pneumoperitoneum and general anesthesia—are associated with a high incidence of DVT following laparoscopic cholecystectomy, with rates as high as 55% reported in one study.

Advanced gynecological laparoscopic surgery shares many of these features: prolonged operating time, 12-15 mm Hg abdominal pressure and general anesthesia. Furthermore, pelvic surgery is associated with an increased risk of DVT. However, this surgery is best performed in the Trendelenburg position with legs supported and therefore elevated. It is postulated that this position of elevation relative to the inferior vena cava should offset the stasis-inducing effects of general anesthesia and pneumoperitoneum. To gain an understanding of the potential effect of the Trendelenburg position on femoral venous flow, and by extension the potential effect on development of intraoperative venous thrombosis, we undertook a study to look at this flow with and without the Trendelenburg position.

Statistical analysis of our results will be presented.

A New Endoscopic Threaded Imaging Port: EndoTIP

Artin Ternamian, MD

ABSTRACT

Objective: As endoscopy evolves, more sophisticated procedures are performed laparoscopically in high-risk patients. Particular attention must be paid to access safety and new innovative endo-technologies and methods developed to avoid complications. Four factors are identified as being dangerous during accessing: excessive penetration force, uncontrolled insertion,

blind entry/exit and sharp/pointed trocars. A new reusable Endoscopic Threaded Imaging Port EndoTIP is described that eliminates all four factors. Accessing is therefore safer.

Methods and Procedures: A prospective clinical trial to evaluate method and instrument. A 1.2 cm vertical umbilical skin incision was made and subcutaneous tissues dissected, and rectus fascia exposed. Pre-insufflation is optional. A 7 mm transverse incision is made to create a window. The laparoscope is loaded into the port and the EndoTIP's blunt end is rotated clockwise to engage the anterior rectus fascia. The fascia then muscle stretch radially, lifts then transposes onto the cannula's outer thread. Peritoneal entry is controlled, visual, without trocar and with no penetration force. Counter-clockwise rotation during exit disengages tissues atraumatically, without risk of tissue entrapment along exit tract. EndoTIP consists of a hollow threaded cannula, with a blunt distal end.

Results: Two hundred seventy-five consecutive diagnostic and operative laparoscopies were performed. No technique- or instrument-related complications were noted. Forty-four percent of patients had previous pelvi/abdominal surgery, 24% had previous laparoscopy, and 5.1% had more than one laparoscopy.

Conclusions: EndoTIP is safe. It offers controlled entry, visual access and exit, uses no pointed or sharp trocars and applies no perpendicular penetration force.

Laparoscopic Management of Carcinoid Tumor of the Ileum with Metastases to the Ovary: A Case Report

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ABSTRACT

Objectives: A 49 year old white female presented with a three-month history of intermittent right lower quadrant (RLQ) abdominal pain associated with nausea, vomiting and weight loss. She was diagnosed with irritable bowel syndrome following an extensive negative abdominal workup. A second evaluation that included enterocolysis revealed a loop of dilated ileum proximal to a focal stenotic area.

Diagnostic laparoscopy demonstrated a circumferential stricture in the ileum with adjacent mesenteric adenopathy. Carcinoid tumor in both the stricture and lymph nodes was diagnosed by frozen section. A laparoscopic-assisted small bowel resection with wide margins and extracorporeal anastomosis was performed. No other abnormalities were identified. The primary ileal tumor measured 1.8 centimeters [Stage III, T2N2M0]. Abdominal and pelvic CT, urine 5-hydroxyindoleacetic acid (5-HIAA), and I-131 metaiodobenzylguanidine (MIBG) scans were negative, and she received no adjuvant therapy.

Eighteen months postoperatively, the patient presented with crampy RLQ pain associated with anorexia, nausea and weight loss. A small bowel follow-through revealed obstruction near the anastomosis. The patient underwent a diagnostic laparoscopy with extensive lysis of adhesions and right salpingo-oophorectomy for a suspicious ovarian cyst. There was no evidence of gross metastatic disease; however, histologic evaluation revealed metastatic carcinoid tumor throughout the right ovary and mesosalpinx. Since being diagnosed with stage IV metastatic carcinoid tumor, the patient has remained asymptomatic for ten months without evidence of further metastases.

Review of the literature reveals only 44 cases of metastatic carcinoid tumor to the ovaries. This is the first documented case of metastatic carcinoid tumor diagnosed and treated laparoscopically.

Adhesive Membrane Formation on Cauterized Ovarian Surface

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ABSTRACT

Objectives: To show that superficial adhesive membrane can cause infertility in PCOD patients with a history of ovarian cauterization.

Methods and Procedures: Second-look laparoscopy performed on three infertile PCOD patients (patient 1: after one year; patient 2: after three years; patient 3: after three years) in whom laparoscopic ovarian cauterization was previously performed without any benefit.

During the operations, a very thin, transparent adhesive membrane was seen on the cauterized ovarian surfaces of each of the three patients and was removed. There were no adhesions between the ovaries and other organs.

Results: Two of the three patients (patients 1 and 2) became pregnant within two months after second-look laparoscopy was performed.

Conclusions: 1) This kind of adhesive membrane cannot be classified in accordance with AFS classifications for adhesion formation; 2) This experiment shows that ovulation may occur from the cauterized surface of the ovary, which contradicts the previous concept that provided that "Wedge resection in one ovary can cause ovulation to occur from the other ovary."; 3) This kind of membrane formation after ovarian cauterization may prevent ovulation and fertility.

How Effective Are Workshops in Laparoscopic Surgery?

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ABSTRACT

There are now multitudes of workshops on advanced laparoscopic surgery all over the world. Despite the widespread availability of these workshops and the early enthusiasm in gynecological laparoscopic surgery, there has been a poor long-term conversion rate, with less than 10% of laparoscopic hysterectomies being performed using laparoscopic assistance. The Sydney Women's Endosurgery Centre has been doing small group workshops since January 1996. These workshops are entirely practical and hands-on and are for experienced surgeons and their theater sisters, exposing them to ten major cases over three days. We have designed a phone questionnaire to evaluate their effectiveness. We conclude from this study that small, intensive, practical workshops are effective in converting gynecologists to more advanced laparoscopic procedures. ■