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the additional surgical challenges of close proximity to vital anatomical structures and dense post-operative adhesions.

**Design:** Surgical video detailing a systematic approach to laparoscopic excision of pelvic lymphocyst - describing individual surgical steps and highlighting relevant anatomy.

**Setting:** Surgery was undertaken by a gynaec-oncology consultant with one surgical assistant. The patient was positioned in modified Lloyd-Davis – with table height and stack adjusted for optimal ergonomics.

**Patients or Participants:** A 68 year old lady underwent total abdominal hysterectomy, bilateral salpingo-oophorectomy and omentectomy in April 2018 for stage 1A clear cell carcinoma of ovary; followed by completion laparoscopic pelvic and para-aortic lymphadenectomy. The patient subsequently developed a right pelvic lymphocyst, causing pain. Pre-operative imaging described a 3.9 x 3.3 x 3 centimetre right pelvic lymphocyst, with internal septations and thick wall. Two attempts at percutaneous drainage were unsuccessful due to difficulty penetrating the cyst capsule and loculated interior.

**Interventions:** Laparoscopic excision of pelvic lymphocyst was undertaken. Pneumoperitoneum was maintained at a pressure of 12mmHg throughout. The pelvic peritoneum overlying the lymphocyst was opened and plane developed using a combination of monopolar, bipolar and advanced energy devices. The ureter and iliac vessels were systematically identified to avoid inadvertent injury; and avascular pelvic spaces developed to aid cleavage of the capsule with minimal blood loss.

**Measurements and Main Results:** No intra or post-operative complications occurred. Histopathology confirmed a benign lymphocyst. At post-operative review, the patient reported resolution of pain and improved mobility.

**Conclusion:** This video demonstrates a safe laparoscopic approach to excision of a densely adherent pelvic lymphocyst, abutting important pelvic structures – facilitated by the step-wise identification of pelvic anatomy and relevant pelvic spaces.

**Fundamentals of Laparoscopic Surgery Exam: A Cross-Sectional Survey of In-Training Obstetricians and Gynecologists**

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**Study Objective:** Physicians seeking specialty certification in Obstetrics and Gynecology are now required to successfully complete the Fundamentals of Laparoscopic Surgery (FLS) exam in order to meet the American Board of Obstetrics and Gynecology (ABOG) certification requirement. We conducted a survey of U.S Obstetrics and Gynecology physicians in training in an attempt to assess their laparoscopic surgical training and perceived barriers and limitations to successfully obtain FLS certification.

**Design:** Observational.

**Setting:** Internet-based survey of United States Obstetrics and Gynecology residency programs.

**Patients or Participants:** U.S Obstetrics and Gynecology residents.

**Interventions:** Participants were asked to self-evaluate their confidence in conducting laparoscopic procedures.

**Measurements and Main Results:** Of the 237 U.S Obstetrics and Gynecology programs, 146 residents responded. Seventy-one (48%) respondents felt preparing for this exam was not at all or slightly helpful in clinical or surgical practice.

**Conclusion:** The laparoscopic box trainer appears to be most useful in preparation for the FLS exam. Most respondents agree the skills portion of the exam represents skills required in Obstetrics and Gynecology. Concern remains whether the cognitive portion of the exam is applicable to Obstetrics and Gynecology residents or if residency programs need to broaden their laparoscopic education. Alterations likely need to be made to the exam to more specifically evaluate fundamental laparoscopic surgical skills in gynecologic surgeons.

**A Resident’s Guide to Laparoscopic Isthmocele Repair**

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**Study Objective:** The objective is to demonstrate laparoscopic repair of a c-section scar isthmocele using hysteroscopic guidance.

**Design:** N/A

**Setting:** 40yo G1P1 with secondary infertility was found to have fluid within her c-section scar. Pelvic ultrasound revealed a fluid-filled 11 x 9 x 17mm defect spanning the width of the cervix, consistent with a c-section scar isthmocele. Informed consent was obtained for laparoscopic repair with hysteroscopic guidance; however, she was counseled on the risk of recurrence, infertility, uterine rupture and need for future c-section. Hysteroscopy demonstrated a narrow diverticulum along the anterior aspect of the upper cervix with scar tissue. On laparoscopy there were dense uterine to abdominal wall adhesions.

**Patients or Participants:** N/A

**Interventions:** The case begins with lysis of abdominal wall adhesions using the harmonic scalpel. The bladder is mobilized past the level of the cervical-uterine junction. A hysteroscopy is performed concurrently during which the cephalad and caudal borders of the isthmocele are transilluminated and marked with the harmonic scalpel. Dilute vasopressin is injected into the area of resection. The harmonic scalpel excises the scar, using the prior marks as a guide and taking care to avoid the uterine vessels. The defect is closed in three layers, which involves interrupted sutures to reapproximate the endocervical canal, then two barbed imbricating layers in a running fashion. Once hemostasis is assured the bladder flap is reapproximated.

**Measurements and Main Results:** At her postoperative visit, the patient felt well without pain or abnormal bleeding. She has not been seen for imaging due to the COVID-19 pandemic, however as of May 2020 she is attempting to conceive again.

**Conclusion:** C-section scar isthmocles are amenable to laparoscopic excision with primary repair. The concurrent use of hysteroscopy facilitates identification of the isthmocele borders. Patients should be counseled regarding the risk of uterine rupture and need for future c-sections.

**Robotic-Assisted Laparoscopic Repair of Post-Hysterectomy Vesicovaginal Fistula Using Omental Interposition Flap**

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**Study Objective:** To demonstrate, via robotic-assisted laparoscopy, a transperitoneal technique for repair of post-hysterectomy vesicovaginal fistula (VVF) using an omental interposition flap.

**Design:** Video article.
Setting: University Hospital and referral center for Gynaecological disease.

Patients or Participants: A 52-year-old woman with VVF after laparoscopic hysterectomy.

Interventions: Repair of post-hysterectomy VVF with omental flap interposition.

Measurements and Main Results: A 52-year-old woman with a history of menorrhagia refractory to medical treatment underwent a total laparoscopic hysterectomy and bilateral salpingectomy. Histology of the uterus showed multiple uterine fibroids and adenomyosis. Twelve days following the hysterectomy, she developed leakage of urine per vagina. Computed tomography scan and cystourethrogram demonstrated normal ureters and presence of a vesicovaginal fistula. An indwelling catheter was inserted to rest the bladder and allow the acute inflammation surrounding the fistula to subside prior to definitive surgical repair six weeks later. The repair consisted of seven steps:

1. Restoration of anatomy
2. Opening the vaginal vault
3. Identification of fistula defect
4. Resection of fistula tract
5. Dissection of vesicovaginal space
6. Closure of vesical and vaginal defects
7. Interposition of omental graft

The patient was discharged 48 hours after surgery. The indwelling catheter was maintained for 14 days. Cystourethrogram was carried out to confirm the integrity of the bladder prior to catheter removal. There was no further vaginal loss. Clinical follow up at six weeks and three months post-repair showed no bladder or vaginal dysfunction.

Conclusion: Robotic-assisted laparoscopy is a feasible approach for repair of VVF, which can be performed systematically using seven steps. This technology lends itself well to procedures requiring intricate dissection and multi-layered suturing as demonstrated in this case.

Three Degrees of Separation: Complete Uterine Septums

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Study Objective: The goal of this video is to review how to diagnose and surgically manage three variations of incomplete Mullerian duct fusion and reabsorption. We focus on the differences between a complete septate uterus with a single septate cervix (unicollis), a septate uterus with duplicated cervix (bicornis), and a complete duplication of the uterus and cervix (uterine didelphys).

Design: N/A

Setting: All procedures were conducted at an academic medical center in the operating room setting. The patients were positioned in dorsal lithotomy with the legs supported using yellowfin stirrups.

Patients or Participants: Photos and video footage of three patients were collected during their respective surgeries in the operating room.

Interventions: We demonstrate the operative methods for safe vaginal, cervical and uterine septoplasty. In particular, we show different techniques that can be used for uterine/cervical septoplasty in the case of a complete septate uterus bicollis. We contrast this with the surgical management of a complete septate uterus unicollis.

Measurements and Main Results: N/A

Conclusion: This video explores the diagnosis and treatment of three Mullerian anomalies. Prior to surgical correction, it is essential to determine the specific type of anomaly. A complete septate uterus may be unicollis or bicornis; this is an important distinction due to their differing surgical management. In the case of a bicornis, we assert that it is best to avoid incision and repair of the two caval canals due to the potential risk of cervical incompetence. A didelphys uterus does not require surgical intervention unless there is an accompanying symptomatic vaginal septum.

Risk Factors for Blood Transfusion in Women Requiring Surgical Management of Ectopic Pregnancy

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Study Objective: To identify preoperative risk factors associated with blood transfusion in women undergoing surgery for ectopic pregnancy.

Design: Retrospective cohort study.

Setting: Academic-affiliated community hospital system.

Patients or Participants: Patients who underwent surgery for ectopic pregnancy between January 2014 and October 2017.

Interventions: Review and analysis of patient characteristics and perioperative care.

Measurements and Main Results: In this cohort of 252 women, the overall transfusion rate was 8.7% (n=22). Increasing age (mean 33.1y vs 29.8y, p=0.0087), decreased systolic blood pressure (SBP) on presentation (113.0mmHg vs 123.1mmHg, p=0.0024), lower minimum SBP (93.8mmHg vs 111.9mmHg, p<0.0001), lower minimum diastolic blood pressure (51.3mmHg vs 63.9mmHg, p<0.0001), and lower preoperative hemoglobin (10.0g/dL vs 12.0g/dL, p<0.0001) were associated with higher rates of blood transfusion. History of cesarean section was more common in women who were transfused (47.1% vs 19.2%, p=0.0134). Complex free fluid was seen on ultrasound in 90.5% of women who were transfused, compared with 59.2% of women who were not transfused (p=0.0185). Pain alone was the chief complaint in women who required transfusion (77.5%, p=0.0079). Receiving care in a women’s specific triage area (compared with presentation to an emergency room) was protective against transfusion (rate of transfusion 2.1% vs 27.1%, p<0.0001). Women who had prior care for the pregnancy were less likely to be transfused (p=0.0012). Heart rate, quantitative HCG, ectopic size (by ultrasound), and history of pelvic inflammatory disease were not associated with transfusion risk. Patients who were transfused arrived in the operating room in less time, although this was not statistically significant (287min vs 385.3min, p=0.067).

Conclusion: There is a high rate of transfusion in women undergoing surgical treatment of ectopic pregnancy. Identification of preoperative, potentially modifiable risk factors should aid in targeting interventions to improve transfusion rates in this young population.

Hysteroscopic Resection of an Interstitial Ectopic Pregnancy

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Study Objective: We demonstrate a novel approach for treatment of an interstitial ectopic pregnancy via hysteroscopic resection under laparoscopic guidance.

Design: N/A

Setting: The patient was a 29 year old G2P0010 with an enlarging interstitial pregnancy despite treatment with methotrexate. The surgery was performed in an ambulatory center affiliated with a tertiary teaching hospital.

Patients or Participants: N/A

Interventions: We performed a resection of an interstitial ectopic pregnancy hysteroscopically with the aid of laparoscopic visualization. This surgical approach was undertaken after both hysteroscopic and laparoscopic evaluation determined its feasibility.

Measurements and Main Results: N/A

Conclusion: Interstitial ectopic pregnancies are rare, and factors such as hemodynamic stability, gestational age, and surgeon expertise must be considered in surgical planning. Hysteroscopic resection of an interstitial pregnancy under laparoscopic guidance can be employed safely in select