Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Gynecologic Pathology Presenting As Urologic Symptoms: A Lesson on Pelvic Nerves

Pinho G.N.1*, Kolesnikova K.2, Steel L.2, Shakiba K.3, Obstetrics, Gynecology & Women’s Health, Rutgers New Jersey Medical School, Springfield, NJ; Obstetrics, Gynecology & Women’s Health, Rutgers New Jersey Medical School, Newark, NJ; Obstetrics and Gynecology, Hackensack University Medical Center, Hackensack, NJ
*Corresponding author.

Study Objective: Patients with underlying gynecologic pathology often present with a combination of seemingly unrelated and non-specific complaints such as pelvic pain, urinary frequency, urgency, and gastrointestinal symptoms. Thus, patients are often misdiagnosed and mismanaged. A thorough understanding of pelvic nerve anatomy is important in properly diagnosing and treating these patients.

Design: N/A

Setting: N/A

Patients or Participants: This video will highlight two patient cases which demonstrate how gynecologic pathology can present as urologic symptoms secondary to disease involvement of certain pelvic nerves. The first patient is a 32 year old female who struggled with urinary frequency, urgency, nocturia, and pelvic pain; all of which were secondary to endometriotic implants overlying the hypogastric nerve. The second patient is a 31 year old female who also presented with urinary urgency, nocturia, and pelvic pain which was secondary to a large broad ligament fibroid impinging the hypogastric nerve and causing mass effect on her bladder.

Interventions: The first patient underwent robotic assisted laparoscopic excision of endometriotic tissue. The second patient underwent robotic assisted laparoscopic myomectomy.

Measurements and Main Results: Each of these patients had pathology either directly compressing the pelvic nerves or causing chemical irritation to the nerves. Postoperatively, after removal of endometrial implants resulting in decreased nerve irritation, the first patient’s pain and urinary symptoms improved. Likewise, in the second patient, when the fibroid was removed the compression of the surrounding pelvic nerves and bladder were relieved and the patients, symptoms subsequently resolved.

Conclusion: Understanding pelvic nerve anatomy is important in properly diagnosing and managing patients who do not present with conventional gynecologic symptoms. It is important to remember that with structural and biochemical irritation of these nerves, gynecologic pathology can present as urologic or even gastrointestinal symptoms. Proper diagnosis saves the patient from unnecessary testing and ineffective treatments.

Modified Ubess and CA-125 Endometriosis Severity Prediction Model Protocol

Tharmarajah B.;1,2* Reid S.2, 1Gynaecology, Liverpool Hospital, Sydney NSW, NSW, Australia; 2Western Sydney University, Sydney, NSW, Australia
*Corresponding author.

Study Objective: The Ultrasound-Based Endometriosis Staging System (UBESS) has demonstrated accuracy in predicting the laparoscopic skill required for maximum cytoreductive endometriosis surgery. However, UBESS does not account for the need for ureterolysis, an advanced laparoscopic skill, nor does it differentiate between isolated peritoneal disease and no disease. The Modified-UBESS and Ca-125 endometriosis severity prediction model aims to account for these short-falls by incorporating ultrasound (ovarian fixation, endometrioma, uterosacral endometriosis) and biochemical (Ca-125) markers to improve the prediction of intraoperative ureterolysis and isolated peritoneal disease, thereby improving the UBESS accuracy in predicting surgical complexity.

Design: This prospective study assesses the diagnostic accuracy of the endometriosis severity prediction model in predicting the ASRM endometriosis stage (American Society of Reproductive Medicine) and AGES laparoscopic skill (Australasian Gynaecological Endoscopy & Surgery) required for maximum cytoreductive surgery for women with suspected endometriosis undergoing laparoscopic surgery at Liverpool, Campbelltown and Nepean Hospital over a 5-year period.

Setting: N/A

Patients or Participants: 200 women of reproductive age with suspected endometriosis (chronic pelvic pain and/or infertility) will be recruited.

Interventions: Participants will undergo a standardised history and Ca-125, followed by a 5 domain TVUS (transvaginal ultrasound) by an expert sonologist. Women will be assigned a modified UBESS score, which incorporates the likelihood of requiring ureterolysis. All women will undergo laparoscopic surgery within 6 months of their TVUS and Ca-125, with ASRM stage and AGES skill recorded.

Measurements and Main Results: The diagnostic accuracy of our model in predicting the ASRM stage and AGES skill required for maximum cytoreductive surgery will be calculated.

Conclusion: If this study demonstrates that our model is effective in pre-operatively predicting the ASRM stage and AGES skill required for maximum cytoreductive endometriosis surgery, after external validation, it can be implemented worldwide to reduce the risks and health care costs associated with multiple laparoscopic surgeries for women with suspected endometriosis.

Laparoscopic Excision of Recurrent Pelvic Lymphocyst Following Pelvic Lymph Node Dissection for Clear Cell Carcinoma of Ovary

Addley S.,* Alazzam M., Jackson E., Soleymani M.H. Gynaecological Oncology, Oxford University Hospitals, Oxford, United Kingdom
*Corresponding author.

Study Objective: Demonstration of safe laparoscopic technique for definitive excision of recurrent pelvic lymphocyst developing following pelvic lymph node dissection for clear cell carcinoma of the ovary; overcoming
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 gynae-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 × 3.3 × 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**

**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 the skills portion was moderately reflective of subjects taught in residency. Thirty-three (22%) respondents felt the skills portion was slightly representative of subjects taught in residency. Thirty-two (21%) respondents felt the skills portion was not at all or slightly reflective of laparoscopic skills needed in gynecologic surgery.

**Conclusion:** The laparoscopic box trainer appears to be most useful in preparing 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.