Laparoscopic myomectomy

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Disclosures

• Consultant
  – Storz, Applied Medical, Caldera Medical
• Proctor
  – Bayer
Objectives

• Review uterine injections, incisions, approaches based on myoma locations
• Demonstrate surgical techniques for laparoscopic myomectomy
• Review standards for safe tissue extraction

Fibroids

• Benign monoclonal proliferations of myometrial smooth muscle cells
• 70-80% of women have fibroids by age 50
• In a study of hysterectomy specimens, 77% contained fibroids

Laparoscopic myomectomy

- First performed by Kurt Semm in 1979
- Meta-analysis compared LSC to open myomectomy:
  - Less EBL
  - Fewer transfusions
  - Less postop pain
  - Shorter hospital stay
- 1-7 fibroids, 3-10cm in size
- Cochrane review:
  - Postop fever reduced
  - No difference in risk of recurrence


What makes a successful laparoscopic myomectomy?

- Patient selection/preoperative work-up
- Port placement
- Uterine manipulator
- Laparoscopic tools
- Hemostatic techniques
- Suturing skill
- Fibroid extraction management
Choosing the laparoscopic approach

- MRI
  - 97% sensitive/83% specific
  - Ultrasound accuracy 88% with solitary fibroids and inversely proportional with increasing number, down to 59%
- CBC, T&S, HCG
  - Identify and treat anemia preoperatively
- EMB
  - RS cohort study, 51% of patients with leiomyosarcoma had LMS or atypical spindle cell proliferation on EMB

Choosing the laparoscopic approach

Port positioning
Port positioning

Suturing anterior to posterior
Port positioning

Suturing anterior to posterior
Port positioning

Port positioning
Uterine manipulator
**Laparoscopic tools**

- Storz 5mm tenaculum
- Aesculap 10mm tenaculum

**Hemostatic Techniques**

- Vasopressin
  - 20 units in 200 mL normal saline
  - Reduces EBL and need for transfusion in both laparoscopic and open myomectomy
  - Don’t inject more than 10 units at a time
  - Half-life is 20 minutes, may safely redose in an hour
  - Inject over fibroid and into myometrium

Hemostatic Techniques

• Vascular clips
  – Small improvement in hemoglobin drop, no difference in blood transfusions
  – Adds 15 minutes per case
• Hemostatic agents
  – Fibrin patch (Tachosil) – 25 mL decrease in EBL
  – Gelatin-thrombin matrix (Floseal) – decreased EBL, need for transfusion in open myomectomy


Hemostatic Techniques

• Barbed suture
  – Reduced suturing time
  – Reduced operative time
  – Reduced hemoglobin drop
  – Reduced EBL

Making your incision

- Video

Making your incision

- Video
Fibroid removal

• Video

Fibroid removal

• Video
Suturing

- Video

Suturing

- Video
Managing fibroids

- Video

Safe tissue extraction for myomectomy?

Pelvic washings:
+ for myometrial cells after morcellation
+ for myometrial cells after LSC myomectomy

Pelvic washings:
+ for myometrial cells after OPEN myomectomy

If a patient values cancer risk reduction over uterine preservation and has no plans for future childbearing, an intact hysterectomy may represent a better option than myomectomy
Contained Tissue Extraction

In summary ...

- Pre- and intraoperative planning is key to a successful laparoscopic myomectomy
  - Patient selection/preoperative work-up
  - Port placement
  - Uterine manipulator
  - Laparoscopic tools
  - Hemostatic techniques
  - Suturing skill
  - Fibroid extraction management