Tips, Tricks & Controversies in Laparoscopic Hysterectomy

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Learning Objectives

- Incorporate new surgical techniques into your practice
- Understand the recent controversy with Power Morcellation
- Share strategies for minimizing risk of disseminating occult malignancies
- Review incidence of sarcoma in patients presumed to have fibroids

Keys to success

No disclosures
Keys to success

- Laparoscopic entry: port placement, cosmetic incisions
- Visualization: seeing around corners
- Uterine manipulation: delineate vaginal fornices, displace ureters
- LSH: cervical transection made easy
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- Specimen removal: the most challenging part of surgery today

Laparoscopic entry: Port Placement
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Always have your scope higher than the fundus (with maximum cephalad displacement)

Laparoscopic entry: Cosmetic incisions

Umbilicus
- Incision types: Vertical and Omega
- Cosmetically appealing
- Minimize # of incisions

Omega Umbilical Incision
Omega Umbilical Incision

Visualization:
Seeing around corners

Angled scopes:
- 0°, 30° & 45°
- Invaluable for seeing over and around large fibroids

Visualization:
Uterine manipulation

- Places tissue on tension
- Separates ureter and uterine artery
- Delineates vaginal fornix
Tools for Cervical Amputation

- Electrosurgical loop - monopolar or bipolar
  - Fast but potentially dangerous

Specimen Removal: Vaginal route

- Great option for TLH
- Less practical for a very large uterus or patient with narrow pubic arch
- Not an option for LSH

Specimen Removal: Supra-pubic mini-lap

- Addition incision
- Cosmetically less appealing
- Increased pain
Specimen Removal: Intracorporeal Power Morcellation

- Introduced in 1993
- Spinning blade cuts specimen into long strips
- Passes through a 15 mm port (8-20 mm)
- ~40,000 cases per yr in US

Specimen Removal: The Controversy

Power Morcellation:

- November 2013 - News story about dissemination of unsuspected sarcoma
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- July 2014- FDA review panel

FDA Warning issued 4/17/2014

- Prevalence of unsuspected uterine sarcoma in patients undergoing hysterectomy or myomectomy for presumed benign fibroids is 1 in 352, and the prevalence of unsuspected uterine leiomyosarcoma is 1 in 498.

- “If laparoscopic power morcellation is performed in women with unsuspected uterine sarcoma, there is a risk that the procedure will spread the cancerous tissue within the abdomen and pelvis, significantly worsening the patient’s likelihood of long-term survival. For this reason, and because there is no reliable method for predicting whether a woman with fibroids may have a uterine sarcoma, the FDA discourages the use of laparoscopic power morcellation during hysterectomy for uterine fibroids.”
Can we differentiate a fibroid from a sarcoma?

- Age
- Menopausal status
- Tamoxifen
- Pelvic radiation
- HLRCC

Findings that do NOT reliably predict sarcoma

- Rapidly growing mass NOT necessarily c/w sarcoma
- Benign fibroids can double in size in 6 mo (Pedadda 2008)
- Large uterine size (>20wks) NOT associated w sarcoma (West, Fertil Steril 2006 and Schwartz 1993)

Investigational screening protocols
Potential ways to differentiate sarcoma from fibroids:

- Dynamic gadopentetate dimeglumine-enhanced MRI combined with serum LDH isoenzyme analysis
- Diffusion-weighted MRI

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Endometrial Biopsy

• EMB can sometimes detect sarcomas (Sagae Oncology 2004 and Jin in *J Gynecol Cancer* 2010)

Prevalence of Sarcoma

• Retrospective case series
• 10 - 15 studies
• Prevalence ranged from 1 in 1000 (0.1%) to 1 in 352 (0.28)
• mostly LMS, some cases ESS

What is the prevalence at UCSF?

- Pre-op dx of fibroids
- 1999-2014
- # treated by hysterectomy or myomectomy- 2454
- # of unsuspected sarcomas- 8
  - 3 LMS, 3 ESS, 2 AS
- Prevalence is 8/2454 = 1/306 = 0.33%

Minimizing harm/Maximizing safety

1. When possible, use alternative to uncontained power morcellation
   - mini-lap, vagina, contained morcellation
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   • written, signed informed consent

2. Never morcellate known or suspected cancer

3. PreOp evaluation for occult malignancy

• Endometrial sampling and imaging
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ACOG

• “Minimally invasive surgery, including with power morcellation, continues to be an option for some patients when performing hysterectomy and myomectomy. At the same time, it is critical to minimize the risk for patients undergoing these surgeries who may have an occult gynecologic cancer.”

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   • Cytologic or molecular screening of cervix
   • Avoid uncontained morcellation of ovaries

AAGL

“Power morcellation is an important tool in treating symptomatic uterine fibroids which allows 150,000 women each year to undergo minimally invasive surgery when they would otherwise require laparotomy for TAH. While research, education, and improved tissue extraction techniques can probably further enhance the safety profile of power morcellation, the elimination of power morcellation and conversion of these women to open surgery would likely increase morbidity and mortality from open surgery and cause harm to more patients. Our obligation is not only to patients with leiomyosacoma, but to all of our patients. We must not sacrifice our patients in response to a rare event. Thus, it is the AAGL’s position that we should improve but not abandon power morcellation, and that power morcellation with appropriate informed consent should remain available to all appropriately screened, low-risk women.”
Specimen Removal: Options for L/S myo & LSH

- Colpotomy
- Uncontained power morcellation (with informed consent)
- Contained scalpel morcellation
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Contained Power Morcellation
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Iatrogenic complications from dissemination tissue fragments

- Peritonitis, abscess, obstruction (Lieng, J Minim Invasive Gynecol 2006)
- Case reports of iatrogenic myomas on bladder, appendix and retroperitoneally (Kho, Obstet Gynecol 2009)

Thank you
• MV analysis: higher stage (OR 20.34 1.27-325.58) and morcellation (OR 3.11, 1.07-9.06) significantly associated with death at the 5-yr time point

Fig. 1. Disease-free survival (left) and overall survival (right) relative to tumor morcellation in 26 patients with apparently early uterine leiomyosarcoma.