SURGICAL MANAGEMENT OF ENDOMETRIOSIS

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Objectives

At the end of this presentation, the participant will be able to:

1) Compare the pros and cons of excision vs ablation for surgical treatment of endometriosis (and learn some tips for carrying out both methods)
2) Identify the optimal surgical treatment technique for endometriomas and be able to perform them in a more fertility preserving and hemostatic manner
3) Understand the surgical management of deep infiltrating endometriosis

Endometriosis

- Presence of endometrial glands and stroma outside the uterus
- Prevalence ~ 11% but up to 87% in women with CPP
- Indications for surgical management:
  - Fail or decline medical management
  - Need for diagnosis
  - Exclude malignancy in an adnexal mass
  - Treatment of infertility
- Tools used for surgical treatment:
  - Electrocautery
    - Monopolar: l-hook, scissors
  - Laser:
    - CO2
    - KTP
  - Sharp dissection
Ablation vs Excision

- Meta-analysis of 5 RCTs comparing laparoscopic excision/ablation to diagnostic laparoscopy found significant improvement in pain at 6-12 months (75% vs 32%)

- 2 RCT’s comparing excision with ablation:
  - Wright et al 2005: 12 in each arm
  - Healey et al 2010: 89 in each arm

- No difference in pain at 6-12 months f/u

- Largely dependent on surgeon preference and skill

Benefits of Excision:
- Pathologic diagnosis
- Removal of endometriosis that is close to a vital structure (i.e. ureter, vessel or bowel)
- Removal of deep infiltrating endometriosis

Excision

- Lesion should be evaluated for proximity to surrounding vital structures and depth
- Wide excision
- Hydrodissection can aid in separation
- Traction and counter traction
Excision Examples

Ablation Example
Management of Ovarian Endometriomas

- Considerations in deciding on surgical management:
  - Pain
  - Previous Endometriomas
  - Exclusion of Malignancy
  - Fertility

Ovarian cystectomy

- Aspiration alone is ineffective with a recurrence rate of 88% at 6 months
- Cochrane Review of Excision vs Ablation of ovarian endometriomas showed lap excision:
  - Reduced recurrence (OR 0.41)
  - Reduced requirement for further surgery (OR 0.21)
  - Reduced recurrence of dysmenorrhea (OR 0.15), dyspareunia (OR 0.08) and nonmenstrual pelvic pain (OR 0.10)
  - Increased rate of spontaneous pregnancy in women with subfertility (OR 5.21)

Tips and Tricks for Performing Ovarian Cystectomy
Tips and Tricks for Performing Ovarian Cystectomy

- MOST IMPORTANTLY: Make sure you’re in the right plane!!
- No cyst is “too large to save the ovary”
- Traction and counter-traction close to the tissue you’re manipulating
- Use blunt instruments on ovarian tissue
- Minimize thermal damage to normal ovarian tissue
- Microbipolar cautery

Ovarian Cystectomy
Deep Infiltrating Endometriosis

- Deeply Infiltrating Endometriosis (DIE): lesions that penetrate to a depth of 5mm or more
  - US ligaments
  - Rectovaginal space
  - Bowel: infiltrating the bowel wall reaching at least subserous fat or adjacent to subserous plexus
  - Ureters:
    - Intrinsic: presence of endometriotic lesion within a thickened ureteric wall, with fibrosis and proliferation of the ureteric musculature
    - Extrinsic: involvement of overlying peritoneum with extrinsic compression of ureteric wall
  - Bladder: infiltrating the detrusor muscle

Symptoms:

- GI Tract:
  - Dyspareunia
  - Diarrhea
  - Constipation
  - Abdominal bloating
  - Dyschezia
  - Cyclic rectal bleeding, change in stool calibre, bowel obstruction RARE

- GU tract:
  - Bladder: SYMPTOMATIC
    - Dysuria, frequency, urgency
    - Urinary retention
    - SP pain
    - Cyclic hematuria
  - Ureteric: ASYMPTOMATIC
    - Can lead to silent loss of renal function
    - Colicky flank pain
    - Gross hematuria
Signs:
- Physical Exam:
  - US ligament tenderness with nodules
  - Non-mobile uterus
  - RV uterus
  - Visible lesions in the vagina
  - Bilateral ovarian masses

Pre-operative evaluation
- TVUS +/- bowel prep
- Rectal Endoscopic Ultrasound
- Renal US: hydronephrosis
- Renal function testing
- Colonoscopy
- Cystoscopy
- MRI

Treatment of GU and GI Tract Endometriosis
- Medical vs Surgical
- Depends on:
  - Severity of symptoms
  - Extent of disease
  - Desire to conceive
  - Willingness to accept risk/side effects of therapy
- Multidisciplinary Approach is Key for Diagnosis and Management
  - General Surgery
  - Urology
  - Pain Specialist
  - Psychiatry
Medical Treatment of GI/GU Tract Endometriosis

- High rate of recurrence of symptoms when treatment is stopped
- Large/obstructive lesions unlikely to respond to medical management
- Does not treat fibrotic component of the lesion

Case report from Sunnybrook of relief of bilateral ureteric obstruction and bowel obstruction with Lupron


Surgical Management

GI:
- Laparoscopic resection of superficial lesions
- Nodulectomy/Full thickness disc resection
- Segmental bowel resection:
  - Single lesion >/= 3cm in diameter
  - Single lesion infiltrating >/= 50% of bowel wall
  - >3 lesions infiltrating the muscular layer
- Transvaginal resection
- Appendectomy

*Must balance success of treatment with complications
Surgical Management

- GU Tract:
  - Shaving superficial bladder lesions
  - Full thickness bladder wall resection with repair of cystotomy
  - Ureterolysis with excision of endometriotic lesion +/- post-op stent
  - Resection of portion of affected ureter with repair:
    - Middle/Upper third: U-U anastomosis
    - Distal third: Ureteroneocystotomy +/- psoas hitch
  - **Difficult to decide intra-op whether or not to proceed with resection + repair vs stent**

Complications of Surgical Management

- Anastomotic dehiscence: 3-7% increasing to 20% for low rectal anastomosis
- Transient bowel strictures
- Perineal abscess
- Rectovaginal fistulae
- Stoma (temporary vs permanent)
- Ureteric or Vesicovaginal fistulae
- Ureteric re-stenosis

*Complication rates range from 7%-12.5%*

Excision of Deep Infiltrating Endometriosis
Conclusions

- Ablation and Excision both have a role in the surgical management of endometriosis.
- Ovarian cystectomy should be performed for the treatment of a symptomatic endometrioma:
  - Make sure you are in the right plane
  - Traction and counter traction
  - Protect the ovary
- Multidisciplinary management of DIE is key with a thorough pre-operative work-up to optimize surgical success.

Post-op Medical Management

- Endometriosis is a lifelong chronic condition...

Questions?

- Thank you!