Endometrial Challenges in Ultrasound

Oksana H. Baltarowich, M.D.
Department of Radiology, Thomas Jefferson University
Philadelphia, Pennsylvania

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Neither I nor my immediate family members have a relevant financial relationship to disclose.

Endometrial Pathology

Polyps
Submucous myomas
IUDs
Endometrial hyperplasia
Endometrial cancer
Endometrial sarcoma
Retained products
Invasive mole

Before we start.....an important principle

Pelvic Ultrasound

The endometrium needs to be adequately evaluated, otherwise the study is not complete
- esp. PMB to exclude endometrial cancer
If the endometrium is not visualized, then this should be stated in the report and it should be pursued with
  - Sonohysterography
  - Biopsy
  - MRI

Suboptimal EM Visualization

Suboptimal visualization of endometrium on TVS
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Suboptimal EM Visualization
Abnormal bleeding
Pursue with sonohysterography

Suboptimal EM Visualization
Abnormal PM bleeding
Biopsy: Endometrial CA

Suboptimal EM Visualization
Pelvic MRI showed adenomyoma

Polyps

Endometrial Polyps

3DUS Endometrial Polyps
Giant Endometrial Polyp

Hx polyp removal 9 months ago

Giant Endometrial Polyp

Protrudes through external os, but no one has done a pelvic exam

IUP and Endometrial Polyp

Mistaken for blood clot in cervix
MisDx: threatened AB

Submucous myomas

Submucous Myomas

Adjacent to endometrium, protrude into endometrial cavity and distort

Sx: heavy menstrual bleeding, infertility, recurrent pregnancy loss

Classifications of types of submucous myomas (FIGO, ESGE) (from inside cavity outward):
  - 0 pedunculated, intracavitary
  - 1 <50% intramural
  - 2 >50% intramural
  - 3 abuts endometrium, 100% intramural
Submucous Myomas

0  0% intramural
1  <50% intramural
2  >50% intramural

Based on proportion of the lesion's diameter that is within the myometrium

Submucous Myoma

>50% intramural (Type 2)
Hysteroscopic resection is possible, but greater risk of perforation

Myoma Location: SHG (SIS)

Submucosal Myoma

How much is submucosal?
Need sonohysterography

Prolapsing, polypoid, submucosal myoma
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**Prolapsing Uterine Submucous Myoma**

**Uterine Inversion From Prolapse of Submucous Myoma**

**Uterine Inversion**
- Rare event
- May be puerperal (Ob) or nonpuerperal (Gyn)
- In nonpuerperal cases the underlying cause in 80-85% of cases is prolapse and extrusion of a submucous myoma of the fundus
- Less common with polyps and neoplasms
- Etiology: thin myometrium, rapid growth of mass, attachment to fundus, dilatation of cervix, sudden expulsion of tumor
- Often ends with abdominal hysterectomy

**Malpositioning of IUD**
- Risks for malposition:
  - Inexperienced operator
  - < 6mo postpartum or lactating
  - Nulliparous
  - Recurrent miscarriage
  - Retroflexed uterus
  - Cesarean scar

**Intrauterine Devices**
“Fun with IUDs”
3DUS: Rotated IUD

IUD stem in left cornua, string coiled around device in fundus

Rotated IUD

Stem toward left ostium

3DUS: Rotated IUD

Upside down IUD with myometrial penetration

Malpositioned IUD

IUD in LUS, short arms imbedded in wall

IUD in Cervix

Arms of IUD embedded in cervical walls

Malpositioned IUDs

Low, rotated, and short arms imbedded in walls
**Penetrated IUD**

Long stem has penetrated into the posterior myometrium

**Perforated IUD**

Collection has formed around stem and rectal wall needed repair (deserosalized)

**Perforated IUD**

Arms of IUD sit on top of uterine fundus!

**IUD with Pregnancy**

15 week pregnancy with IUD

**IUP with Malpositioned IUD**

Septate or bicornuate uterus

IUD in cervix
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3DUS: Lippes Loop IUD

2DUS

3DUS

Spiral IUD

Kept it in for 39 years!

Other Types of IUDs

Bell-shaped IUD

O-shaped IUD

Endometrial Carcinoma

Endometrial Carcinoma

Cancer extends into cervix

Endometrial Carcinoma

Hematometrium
Endometrial Carcinoma
Sonographic Findings
Most are hyperechoic, some isoechoic, others mixed hypo & hyperechoic
Cystic changes may be seen
Rarely calcification
Size range 0.7-7 cm, mean 2.7 cm
Hematometrium
Variable color Doppler blood flow

Endometrial Sarcoma
• Arises from nonepithelial tissues
• Endometrial stromal sarcoma (<1% all uterine malignancies)
• Undifferentiated sarcoma <1%
• Carcinosarcoma <1%
  • Malignant mixed mullerian tumors
  • Malignant mixed mesodermal tumors
• DDx: Uterine leiomyosarcoma 2%

Endometrial Sarcoma
Endometrial sarcoma invaded to within 1 mm of serosa

Retained Placenta
Pregnancy:
Retained products of conception
Molar pregnancy
Invasive Mole
SAB 21 week, retained placenta
1 month later bleeding. HCG 296.
Retained Products of Conception

36 yo 3 months post delivery of triplets, vaginal bleeding

Note: shadowing

Retained Products of Conception

Path: RPOC, necrotic placental tissue, degenerated fetal membranes, calcified areas

Invasive Mole


HCG took 3.5 weeks to become zero

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Thank you for your attention!