Evaluation of a Pelvic Mass

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Learning objectives:

1. Review the physiologic changes that occur during the normal female estrous cycle.
2. Recognize the important historical and physical features of a pelvic mass.
3. Establish a concise, reasonable differential diagnosis to develop an initial diagnostic and treatment plan.
4. Identify the features of a pelvic mass that require urgent specialty evaluation.

Pelvic Mass

- Incidental finding or problem related, with or without pelvic pain
- May or may not be clinically significant
- May regress spontaneously or require intervention
- Age related
  - Reproductive age
  - Post-menopausal
  - Pre-menarchal
• Physiologic cyst (cycle related)
  - follicular (PCOS)
  - corpus luteum
• Pregnancy
  - Normal
  - ectopic
  - trophoblastic disease
  - cysts: theca lutein, corpus luteum
• Torsion
  - Almost always associated with an ovarian cyst

• Gyne related infection
  - Salpingitis
    • Hydrosalpinx, chronic PID
    • TOA
• Non-gyne related mass
  - Neoplasm
    • Colon, rectum
    • Metastatic disease
  - Inflammation
    • Infection, appendiceal, diverticular abscess
    • IBD
• Neoplasm
  - Non-malignant
    • Leiomyoma (fibroids)
    • Endometrioma
    • Cystic teratoma (dermoid cyst)
    • Cystadenoma
  - Malignant
    • Ovarian cancer
    • Cervical
    • Endometrial

Clinical features

• History
  - Timing (cycle)
  - Menstrual hx, quality, frequency
  - Pain (presence or absence)

• Exam
  - General: body habitus, VS, pallor, hair distribution
  - Atrophic changes, d/c, tenderness, RV

Estrous Cycle
Ovarian cysts

- Normal ovaries 2-3.5 cm (non-palpable in post menopausal)
- Follicular
  - Usually found incidentally, painless
  - Smooth, discrete, <5cm, non-tender
  - Frequently a simple cyst, small, smooth
- Corpus luteum
  - Without pain unless with torsion, or ruptured
  - Complex, irregular, enlarged: 5-10 cm

Torsion

- Painful, often severe
- Neg pregnancy test
- Cervix appears nl
- Adnexal mass, often w CMT
  - Assd w ovarian cyst
  - U/S w doppler flow

PCOS

- Classic: obese, hirsute, and anovulatory.
  (characterized by infrequent, heavy and prolonged menses, and infertility)
- Usually painless
- Ovarian enlargement (bilateral)
  - Multiple cysts by ultrasound
Pregnancy Related Mass

- Missed period
- Positive pregnancy test
- Accurate gestational age
  - Exam may be difficult due to uterine size, evaluation of adnexa may require U/S
- Hx: pain or bleeding

Pregnancy

- Normal
  - Corpus luteum cyst - early pregnancy
- Ectopic
  - Pain, bleeding, low HCG
- Trophoblastic disease – assd w high HCG, hyperemesis
- Cysts
  - Theca lutein cysts - HCG responsive follicles, may be assd w trophoblastic dz
  - Luteoma -
Inflammatory conditions

• Gyn infectious - Fever, discharge and usually pain or dyspareunia
  - Purulent cervical d/c, CMT
  - Chronic PID w hydrosalpinx or TOA/TOC
• Non-gyn infections
  - Appendicitis
  - Diverticular disease

Benign neoplasm

• Leiomyoma (fibroids)
  - Menorrhagia, dysmenorrhea, dyspareunia
  - Pelvic pressure, constipation
  - Abd mass, pelvic mass
• Endometriosis
  - Cyclic pelvic pain, Infertility
  - Pelvic mass - “chocolate” cyst

Benign neoplasm, cont

• Teratoma
  - Usually painless
  - U/S complex mass
• Ovarian cystadenoma
  - May be asymptomatic
  - Often with palpable abd mass
  - 5-20 cm or larger, thin walled
  - Serous or Mucinous - multiloculated
Neoplasms

- Ovarian cancer
  - More common after age 40
  - Wt loss, nulliparity, family hx, no hx OCP
  - If premenopausal - no menstrual irregularities
  - Mostly asymptomatic until they become large
    - Obstruction
    - Ascites
  - Majority are complex, cystic on U/S
- Leiomyosarcoma - rare
  - Rapid increase in size

Neoplasms, cont

- Non-gyn neoplasms
  - Colon CA
  - Mets to pelvis
  - Mets to ovaries - breast, uterine, colon
    (Krukenberg tumor)
Evaluation

- Character of the pain
  - Sudden onset, dyspareunia- torsion, hemorrhagic or ruptured cyst, abscess or ectopic, ruptured appendix
  - Cyclic - endometriosis (often w dyspareunia) or fibroids (if assd w menorrhagia)
  - Chronic with peritoneal sx - PID/TOA
  - Vague but progressively worsening assd w constitutional sx - neoplasm

Evaluation

- ROS constitutional sx, wt loss, fever
- Gyne hx
  - Obstetric - pregnancy
  - Menstrual pre/post menopausal
    - Timing of menses, regularity
  - Contraception - less likely pregnant, less likely to have physiologic cysts, non-barrier consider PID

Evaluation – physical exam

- General - cachexia, defeminization, obesity, VS
- Breast/axilla - masses
- Abdomen - ascites, masses
- Pelvic -
  - Defeminization, masculinization
  - Cervical d/c
  - Uterine enlargement, adnexal mass, CMT
  - RV
- Adenopathy
  - Cervical, supraclavicular, axillary, groin

Lab data

- Urine HCG, serum HCG
- WBC, Hg/Hct
- GC/Chlam

- CA125 NON-SPECIFIC!
  - Endometriosis, adenomyosis, fibroids, pregnancy, diverticulosis, cirrhosis, PID
Imaging

- Pelvic U/S
  - Transabdominal - less sensitive if mass is small and pt is obese. Increased bowel gas will affect accuracy.
  - Transvaginal - limited to pelvis, very accurate in determination of size and quality of structures
  - Doppler -

Imaging

- CT abdomen/pelvis
  - Accurate
  - Excellent for needle guided biopsy

- MRI
  - Not always able to define adnexal structures

Work up

- Bimanual: Highly unreliable, but must be done!
  - Body habitus, stool, full bladder
  - Normal ovaries of postmenopausal women are not usually palpable.

- Recto-vaginal
  - Posterior cul-de-sac, rv septum nodularity
  - Shortened or tender uterosacral ligaments
  - Lateral displacement of the cervix
Management

- Fibroids are characterized by an enlarged, mobile uterus with an irregular contour. Pedunculated fibroids are smooth, firm, and mobile, but not tender.

- A non-painful, small (<5cm) pelvic mass that is mobile, smooth, nontender (full bladder, stool, sm functional cyst).

Management  simple cyst

- Premenopausal
  - <5 cm, almost certainly benign and do not need follow-up
  - 5-7 cm usually benign, referral, or yearly follow-up
  - >7cm further imaging and/or referral

- Postmenopausal
  - < 1cm inconsequential, no follow-up
  - >7cm referral

Management  cont

- Complex cyst <5cm- w low malignant tendency
  - Hemorrhagic cyst
  - Endometrioma
  - Dermoid cyst

- Complex cyst >5cm
  - Thick, multiple septations
  - Central bloodflow

Referral

- Emergent
  - Torsion, Ectopic, TOA

- Further evaluation
  - Dermoid
  - Suspect non-gyn malignancy
  - Any “functional” cyst that does not resolve
  - Any complex cyst – U/S shows septations
  - Any “functional” cyst in a patient on OCP’s
Referral to gyn-onc

- Premenopausal women
  - CA 125 greater than 200 U/mL
- Postmenopausal women
  - CA 125 greater than 35 U/mL
- Any age with
  - Ascites
  - Abdominal or distant metastases
  - Family history of breast or ovarian cancer in a
    first degree relative
  - Nodular or fixed pelvic mass

Summary

- H&P
  - Pelvic, Bimanual, RV
- HCG
  - Qual, Quant, Ur, Se
- CBC
- U/S
- Further labs, imaging
- Referral

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