Vesalius SCALpel™ : Gynecology (see also: gynecology folios)

Infancy and premenarche

ovarian cysts rare < 6mo, occasionally large, transilluminate
- do not resect: affects fertility
- if torsed untwist, tack
- only remove if solid mass, may be testicle

most tumors outside infancy are malignant, most germ cell v epithelial
- when in doubt get FS, intraoperative consult

PID

initial infection: gonorrhea, chlamydia
once in pelvis polymicrobial, predominantly anaerobic
elevated sed rate, C-reactive protein
pt > 35 diverticulitis more common than PID
large tuboovarian abscess does not need to be drained
surgery
- > 10 cm 70% need drainage
- ruptured tuboovarian abscess (33% of cases)

increased incidence of ectopic (2%), infertility, pelvic pain after PID
Fitz-Hugh-Curtis: ascending perihepatitis
- mimic cholecystitis, pneumonia, hepatitis, PID
- acute pleuritic RUQ to shoulder pain, chronic dull ache
- cervical culture chlamydia, neisseria, US, CT

Endometriosis

endometrioma: pain, enlargement with menstrual cycle
- med Rx: danazol/gonadotropin releasing hormone, treats pain, does not enhance fertility
- surgical: laser or resection
  - extensive may need TAH/BSO, bowel resection
- laparoscopic Rx better results for fertility

Ectopic

young woman with pelvic pain always think ectopic
differentiate from early appendicitis, late PID
- T > 101, WBC > 15k more likely PID
- beta HCG blood, urine
  - >1500 95% chance it is pregnancy
  - transvaginal US 90% accurate

terminate
- MTX 50mg/M^2

inject gestational sac (if not immediate risk of rupture): prostaglandin, hyperosmolar glucose, NaCl
potential benefit for future pregnancy
betaHCG < 1000, decreasing likely absorbing, observe

Pregnancy

trauma: treat the mother, best outcome for fetus
physiologic changes:
50% increase in blood volume, 30% increase RBC mass
= hemodilution, normal Hct 34
loss of 2L/30-40% of volume before tachy or drop BP, rapid deterioration > 2,500cc
CO increases 50% 1st trimester, uterine blood flow 20%, dependent on MAP
20 weeks aortocaval compression decreases CO 30% supine
decreased BP due to progesterone induced decreased SVR
CVP drops from 9 to ~4 as uterus enlarges, HR increases ~15BPM
15-20% increased O_2 consumption
20% decrease FRC, rapid desaturation with decreased respiration
increased minute ventilation, decreased $PaCO_2$ 25-30, (normal level of 40 in pregnant trauma patient is concerning)
compensatory renal excretion bicarb, slight metabolic acidosis is normal
increased PaO_2 ~105
maintain maternal O_2 sat > 95 to maintain PaO_2 > 70
fetal compromise < 60BPM
decreased gastric tone and motility and decreased LES tone, risk aspiration
lower ext. pooling increases blood loss in leg injury & increases risk of thrombosis
pelvic pooling increases risk retroperitoneal bleeding, hematoma
leukocytosis 15-25K normal
increased procoagulant factors helps hemostasis
low fibrinogen, split products, low platelets suggests DIC
increased risk DVT/PE, prophylaxis after stable
abruptio 3% with minor trauma, 50% with life-threatening
vaginal bleeding (80%), uterine tenderness, change fetal heart rate
US not sensitive for abruptio
if shock cannot be controlled with fetus > 26w do C-section
hyperthyroid: PTU preferred in pregnancy and lactation (carbimazole: fetal toxicity)
if poor control, total thyroidectomy during 3rd trimester
RAI option post partum
appendicitis:
prompt surgery all trimesters
US Dx
1st trimester hi risk fetal loss; open or laparoscopic appendectomy
as pregnancy advances, increasing rate of misdiagnosis, rupture
3rd trimester can do open appendectomy or laparoscopic with fetal monitor
same complication rate

3-5% fetal loss with acute appendicitis
perforation, peritonitis, abscess results in 20-36% fetal loss
cholecystitis: 2nd most common surgical emergency in pregnancy
less Murphy's sign
surgery better outcome than observation unless near term, then defer
pancreatitis rare in pregnancy, gallstone related
breast cancer: mastectomy or delay radiation to post partum if do breast conservation (BCT)
no sentinel lymph node
chemotherapy 2nd, 3rd trimester little risk to fetus

hot flashes: clonadine, gabapentin (selective serotonin reuptake) inhibit

overactive bladder: oxybutyrin (anticholinergic)

Ovarian

adnexal mass
benign ovarian teratoma most common, shell out
cyst: explore at 8-10cm
endometrioma shell out
Meigs: hydrothorax, ascites associated with benign ovarian fibroma
also associated with ovarian stimulation from fertility Rx
torsion:
from mass: consider malignancy in older
more common during pregnancy (first pregnancy, 3rd trimester)
sudden onset with marked nausea and vomiting to OR
detorse, observe for color, necrotic do oophorectomy
if suspect cancer do most conservative thing first, unilateral
most present as stage III
pelvic exam and pelvic US only screening tools
marker CA125, also elevated in endometriosis, PID, liver disease, pancreatitis
contralateral Bx, not wedge
palpate opposite, if in doubt do FS
spreads by exfoliation
Bx suspicious areas, PAP diaphragm, washings
risks for ovarian: family history, older, early menarche, late menopause, BRCA1 16% lifetime risk, nulliparity
BCP may decrease risk
proven ovarian cancer: TAH/BSO (facilitate F/U exam), omentectomy, debulk, leave no tumor > 1cm
cytoreduction affects prognosis, more important than size or number of mets
platinum based systemic chemo
chemoresistance assay useful only for recurrent or refractory
bowel obstruction most common complication
post-menopausal adnexal mass = ovarian cancer until disproven

Endometrial cancer

most common GYN cancer
most detected early by bleeding
90% 5y survival
risks: increased estrogen exposure
- exogenous
  - HRT
  - 2X risk with TAM in women > 50
- endogenous
  - obesity
  - anovulatory cycles
  - nulliparity
  - late menopause
  - FH
  - HNPCC

reduced risks: OCP, multiple pregnancies

Cervical cancer

screen starting 3y after 1st intercourse and < age 21
liquid-based PAP more sensitive
55% sensitive for cervical intraepithelial neoplasia
human papilloma virus implicated, potential for future testing