open.michigan

Author(s): Caren Stalburg, M.D., M.A., 2009

Citation Key

for more information see: http://open.umich.edu/wiki/CitationPolicy

Use + Share + Adapt

{ Content the copyright holder, author, or law permits you to use, share and adapt. }

PD-GOV **Public Domain – Government:** Works that are produced by the U.S. Government. (17 USC § 105)

PD-EXP **Public Domain – Expired:** Works that are no longer protected due to an expired copyright term.

PD-SELF **Public Domain – Self Dedicated:** Works that a copyright holder has dedicated to the public domain.

ZERO **Creative Commons – Zero Waiver**

BY **Creative Commons – Attribution License**

BY-SA **Creative Commons – Attribution Share Alike License**

BY-NC **Creative Commons – Attribution Noncommercial License**

BY-NC-SA **Creative Commons – Attribution Noncommercial Share Alike License**

GNU-FDL **GNU – Free Documentation License**

Make Your Own Assessment

{ Content Open.Michigan believes can be used, shared, and adapted because it is ineligible for copyright. }

PD-INEL **Public Domain – Ineligible:** Works that are ineligible for copyright protection in the U.S. (17 USC § 102(b)) *laws in your jurisdiction may differ

{ Content Open.Michigan has used under a Fair Use determination. }

FAIR USE **Fair Use:** Use of works that is determined to be Fair consistent with the U.S. Copyright Act. (17 USC § 107) *laws in your jurisdiction may differ

Our determination **DOES NOT** mean that all uses of this 3rd-party content are Fair Uses and we **DO NOT** guarantee that your use of the content is Fair.

To use this content you should **do your own independent analysis** to determine whether or not your use will be Fair.

Clinical Aspects of Gynecologic Diseases

M2 - Reproduction Sequence

Caren M. Stalburg, M.D. M.A.
Clinical Assistant Professor
Obstetrics and Gynecology
Medical Education

Winter, 2009

University of Michigan
Medical School

Learning Objectives

- For diseases of the vulva, vagina, cervix, uterus, and ovaries understand and describe:
  1. The presentation of disease
  2. The evaluation of disease
  3. The basic treatment of disease

Overlying Themes

- Age of patient
- ? Pregnant
- History and symptoms
- Physical exam and pertinent findings
- Diagnostic testing
- Medical versus Surgical management
- Future fertility concerns

Patient Scenarios

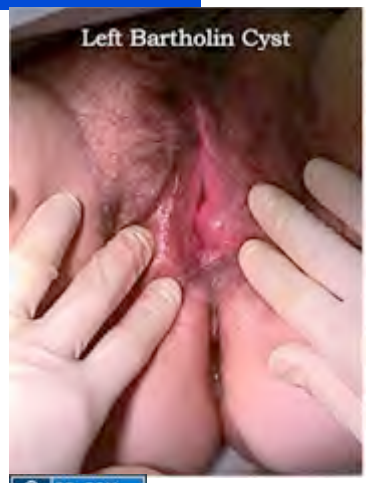
- Young woman with vaginal itching and discharge
- Middle aged woman with pelvic pain and heavy periods
- Post-menopausal woman with vague history of bloating and vaginal spotting
- Peri-menopausal woman with chronic yeast infection
- College-aged student with painful periods and pain with intercourse
- Young woman with pelvic pain and irregular periods

Diseases of the Vulva

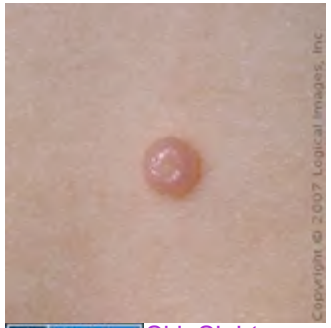
- **Presentation:** Irritation/pruritis/burning, lesions
- **Evaluation:** History, inspection, palpation, culture, biopsy
- **Differential Diagnoses:**
  - **Infection**
  - **Dermatologic condition**
  - **Neoplasia**

Vulvar Infections

- Candida
- Condyloma acuminatum
- Herpes simplex
- Bartholin's gland abscess
- Molluscum contagiosum
- Pthirus pubis (crab louse)
- Sarcoptes scabiei (itch mite)



Operational Medicine 2001

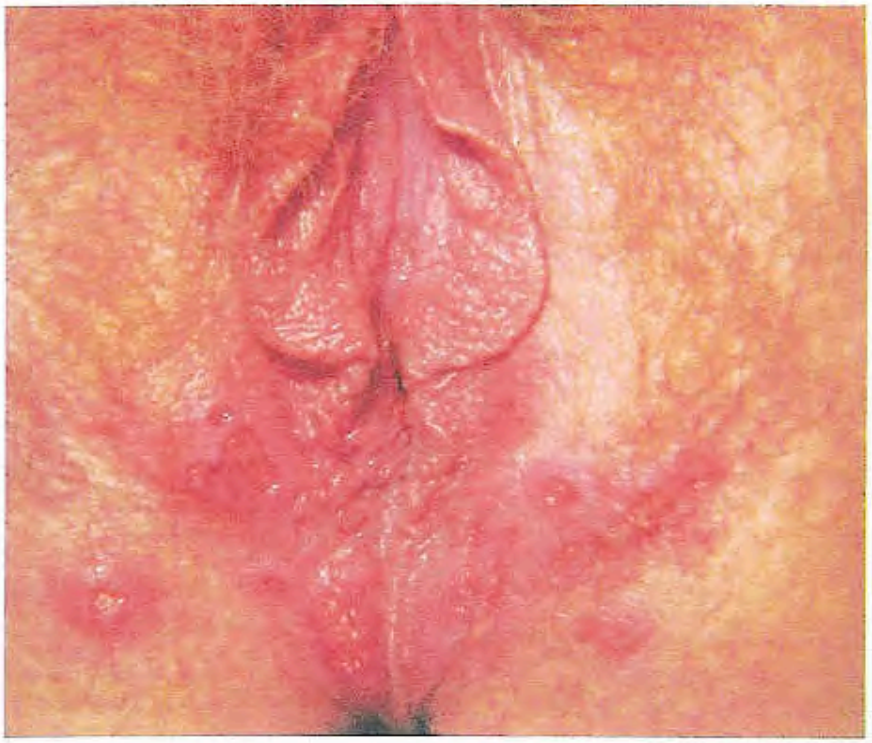


SkinSight

Genital Herpes Simplex Virus

- Double-stranded DNA virus
- Primary outbreak
- fever, malaise, lesions, urinary symptoms
- Recurrent outbreak
- less severe, prodrome, lesions
- Acyclovir: inhibit viral thymidine kinase
- HSV and pregnancy

HSV of vulva



PD-INEL Source Undetermined

Ulcerative lesions
Erythematous base
Bilateral

Dermatologic Conditions of Vulva

- Chemical irritation/contact dermatitis
- Squamous cell hyperplasia
- Lichen sclerosis
- Psoriasis
- Nevi
- Seborrheic dermatitis
- Fibroma/Lipoma

Lichen sclerosis

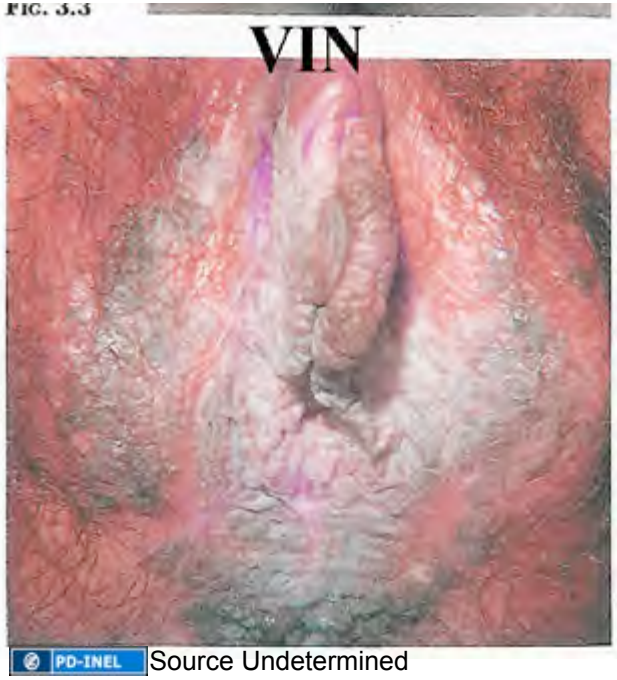
PD-INEL Source Undetermined

Vulva appears thin
"Tissue paper"
On biopsy:
Loss of rete pegs
Inflammatory cells

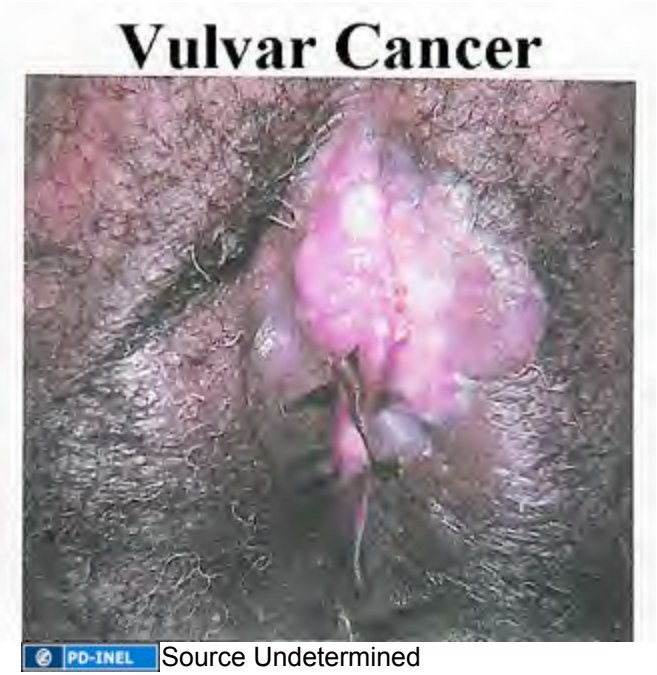
VIN/Vulvar carcinoma

- Women aged 60-70, now more bimodal
- Pruritis, mass, pain, ulceration
- Increased RR: coffee, occupation, h/o vulvitis, HPV
- Melanoma
- Local invasion via lymphatics
- Treatment involves wide local excision
- Good prognosis

Biopsy lesions for diagnosis!



PD-INEL Source Undetermined



PD-INEL Source Undetermined

Diseases of the Vagina

- Abnormal vaginal discharge
- What's normal?
  - Acidic lactobacilli
  - Variations with menstrual cycle/hormones

DIFFERENTIAL

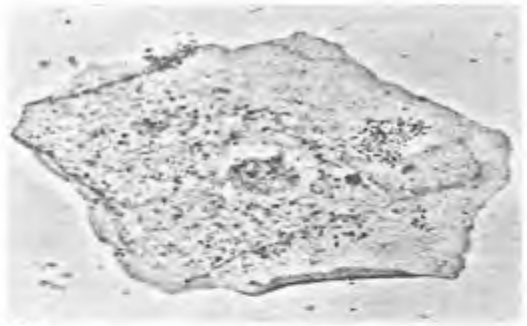
  - Infections
  - Vaginal Carcinoma

DIAGNOSIS

  - Wet prep
  - Culture
  - Biopsy

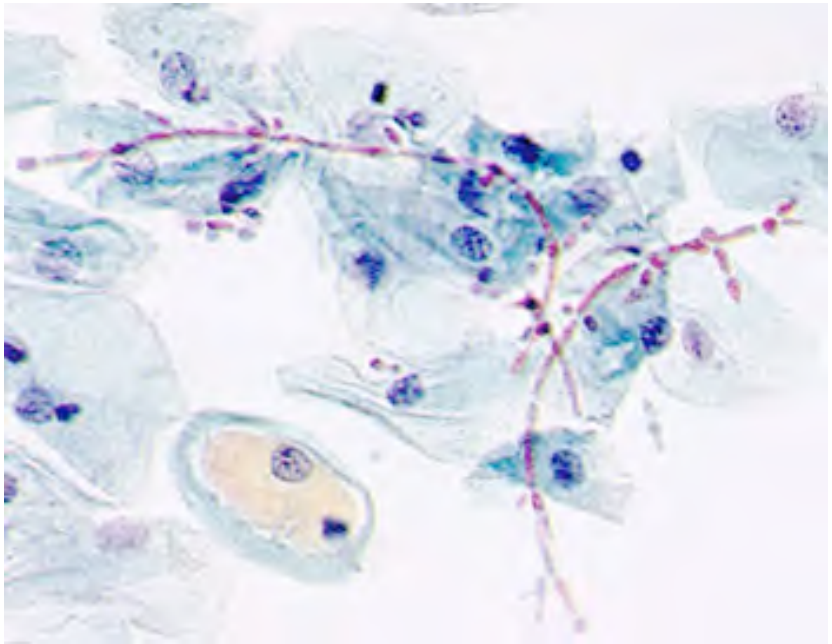
Bacterial Vaginosis

- Grey, homogenous, non-inflammatory discharge
- pH of 5.0-5.5
- Clue cells
- Amine odor with addition of 10% KOH
- Polymicrobial
- Lack of lactobacilli
- Role in pre-term labor
- Treatment with metronidazole or clindamycin



Candida

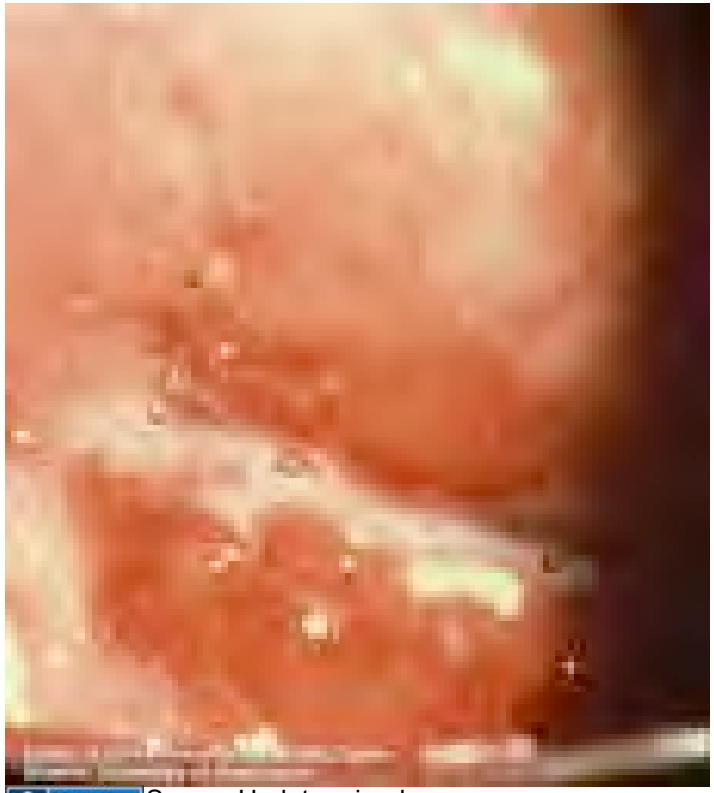
- Vulvovaginal yeast
- DM, Pregnancy, Antibiotics, Obesity
- Itching, irritation, dyspareunia
- Thickened white d/c adherent to side walls
- Pseudohyphae on KOH wet prep, pH <4
- Antifungal treatment



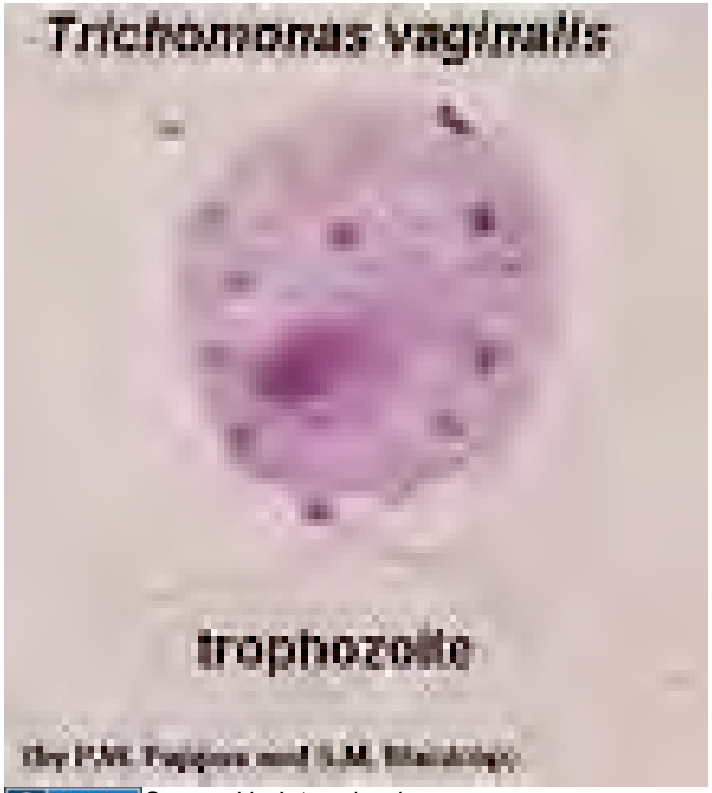
Trichomoniasis

- Protozoan T. vaginalis, sexually transmitted
- Diffuse, malodorous, yellow-green d/c, itch
- Flagellated, mobile protozoa on wet prep
- +WBC's on wet prep
- Metronidazole
- 2 grams orally
- 500 mg po BID for 7 days

T. vaginalis



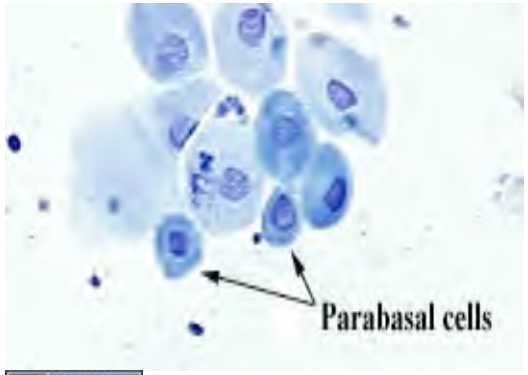
PD-INEL Source Undetermined



PD-INEL Source Undetermined

Atrophic vaginitis

- Due to low estrogen levels
  - Menopause
  - Breast feeding
- Itching, irritation, burning
- Immature squamous epithelial cells on wet prep, rounded basal cells
- Systemic or intravaginal estrogen



Vaginal Carcinoma

- Rare, mean age 60-65
- Presents with vaginal bleeding, foul discharge
- SCCA as metastatic spread
- Clear cell carcinoma and DiEthylStilbesterol (DES)
- Sarcoma botryoides: < 5 yo, red-tan grape clusters

- BIOPSY

- Treatment—radiation, surgical excision

Diseases of the Cervix

- Variety of presentations: discharge, pain, post-coital bleeding, incidental
- Differential
  - Cervicitis: GC/chlam/HSV/trich
  - Cervical polyps
  - Cervical dysplasia: HPV
  - Cervical cancer: SCCA, adenoCA

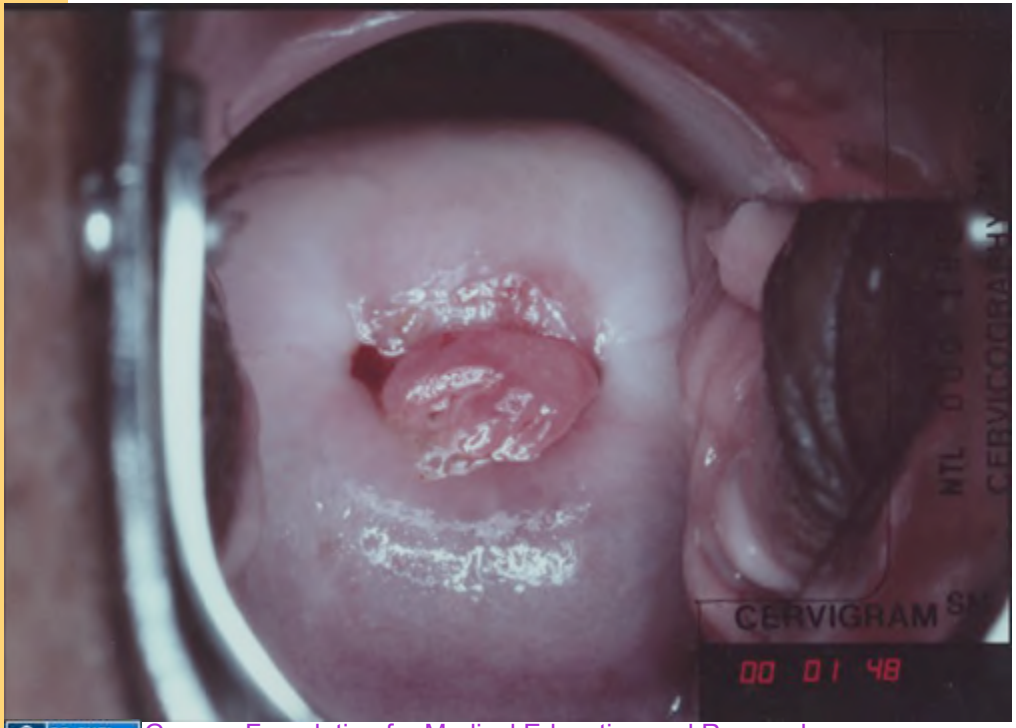
Chlamydia trachomatis

- Most common, often present with GC
- Obligatory intracellular bacterium
- Cervicitis, salpingitis, urethritis
- Infertility
- Ectopic pregnancy
- Neonatal conjunctivitis, blindness, pneumonitis
- Azithromycin, EES, Doxycycline, Ofloxacin

Neisseria gonorrhea

- Humans as only host
- Urogenital tract
- Disseminated gonoccal infection
- bacteremia
- vesicular, centrally necrotic skin lesions
- arthritis
- Ceftriaxone 125 mg IM etc. + Doxy

Cervical polyps



PD-INEL Geneva Foundation for Medical Education and Research

Also see: http://health.allrefer.com/health/cervical-polyps-cervical-polyps.html

Common
Benign
Irregular spotting
Post-coital bleeding
Polypectomy

Cervical dysplasia

- Risk factors
  - Early coitarche
  - Multiple/Serial partners
  - Tobacco use
  - HPV 16,18,31,33,35,39
  - Immunosuppression/HIV
  - Other STDs

Cervical Cytology

PD-INEL
Source Undetermined

- Papanicolau smear, ThinPrep
- Exfoliative cytology
- HPV typing
- Screening tool
- Must biopsy for diagnosis

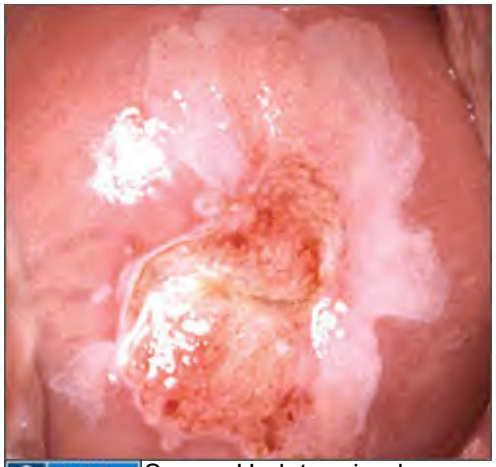
Image of Pap smear procedure removed

Original image can be viewed here

Colposcopy


PD-INEL S. Kellam

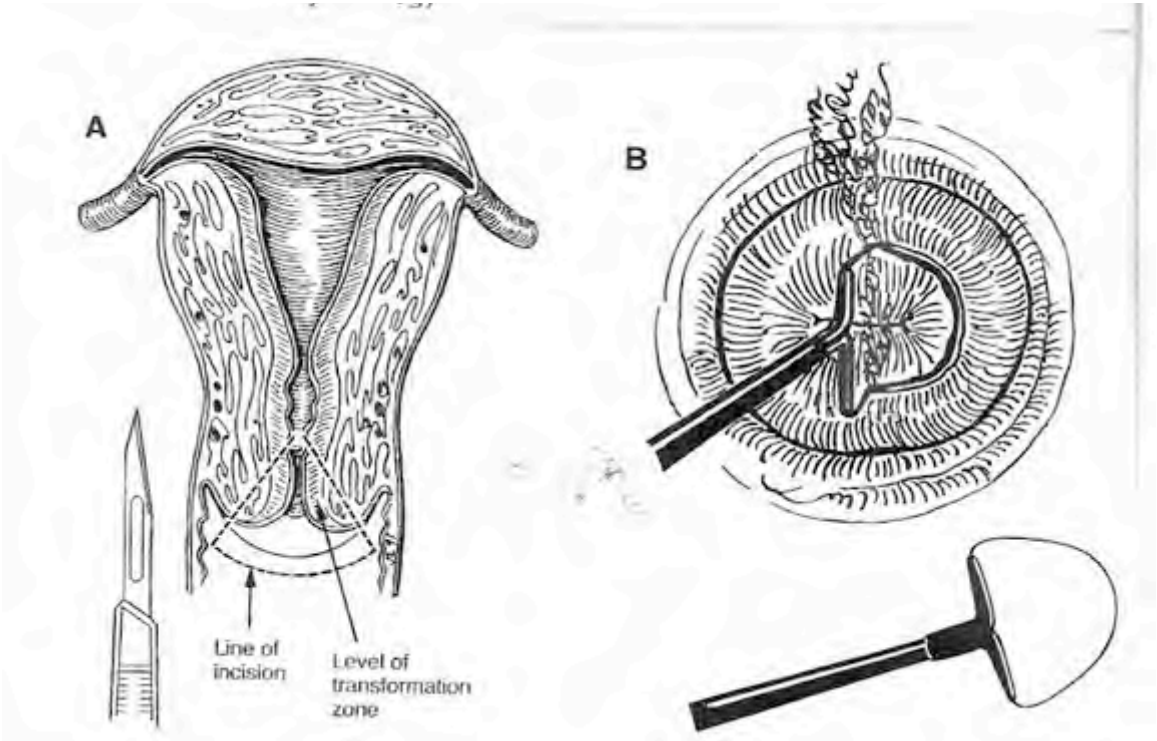
- Visualization of cervix under magnification
- Must see entire transformation zone
- Acetic acid
- Assess for vascular changes
- Biopsy
- Endocervical currettage


PD-INEL Source Undetermined

Management of abnormal pap www.asccp.org

- Majority of CIN I regresses in one year
  - Ok to follow with serial pap smears q 3-4 months
- Smoking cessation
- High grade abnormalities likely to progress therefore treat
- AGUS
- Cone biopsy, Loop electrosurgical excision procedure (LEEP)

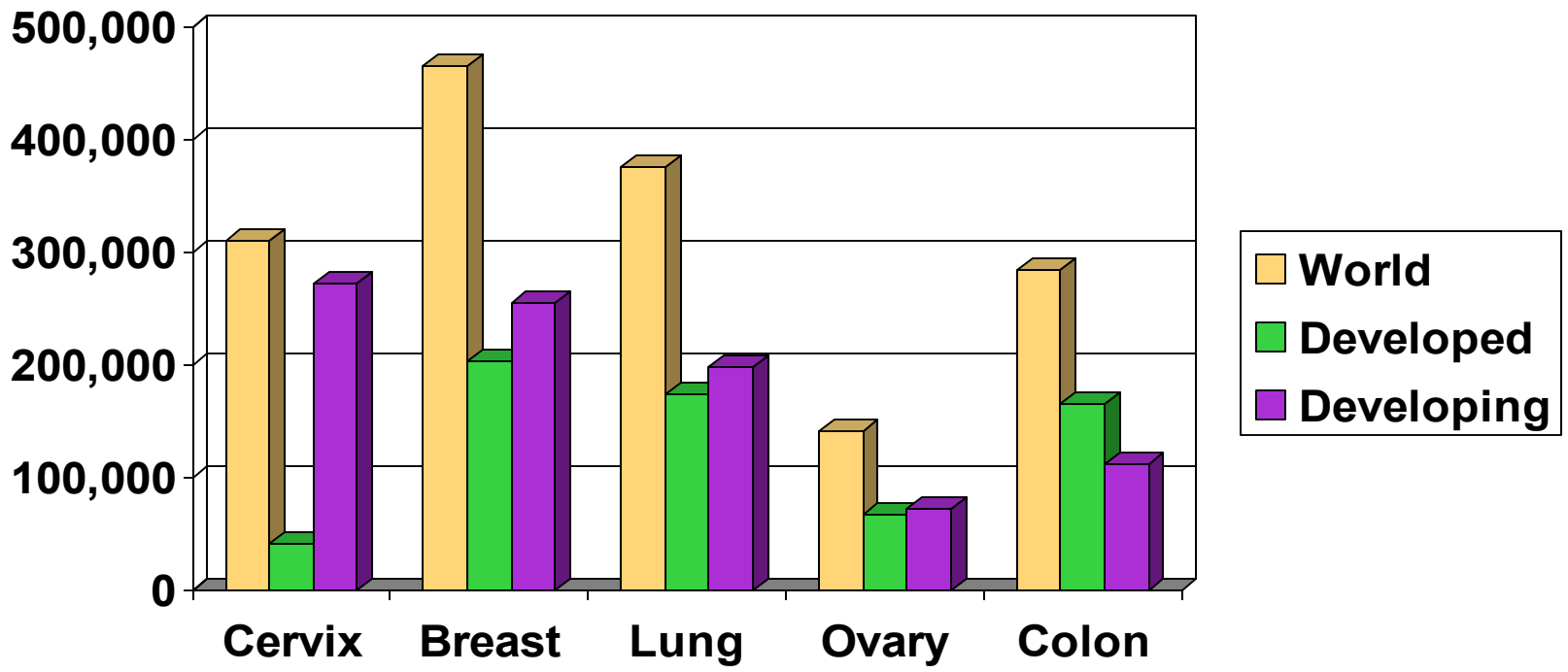
Cone biopsy, LEEP



PD-INEL Source Undetermined

Female Cancer Deaths, 2007

estimates from www.cancer.org



Cervical Cancer

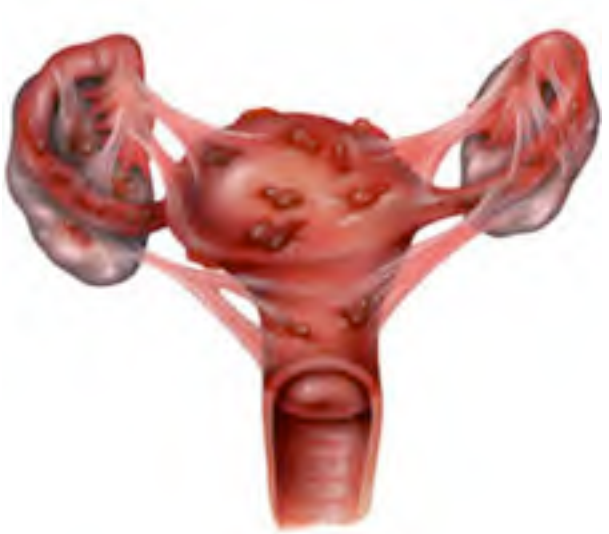
- Majority is squamous cell
- HPV related
- Present with AUB, PCB, often painless
- Late symptoms: back pain, wt. loss, foul d/c
- Invasion via local spread/extension
- Early stages treated with radical hysterectomy
- Later stages treated with radiation

Endometriosis

- 1-2% of general population
- 30-50% women with infertility
- 20% patients with chronic pelvic pain
- Pathogenesis
  - Retrograde menstruation, vascular/lymphatic dissemination, coelomic metaplasia, iatrogenic, hereditary?
- Location of lesions
  - Dependent portions of pelvis
  - Distant sites

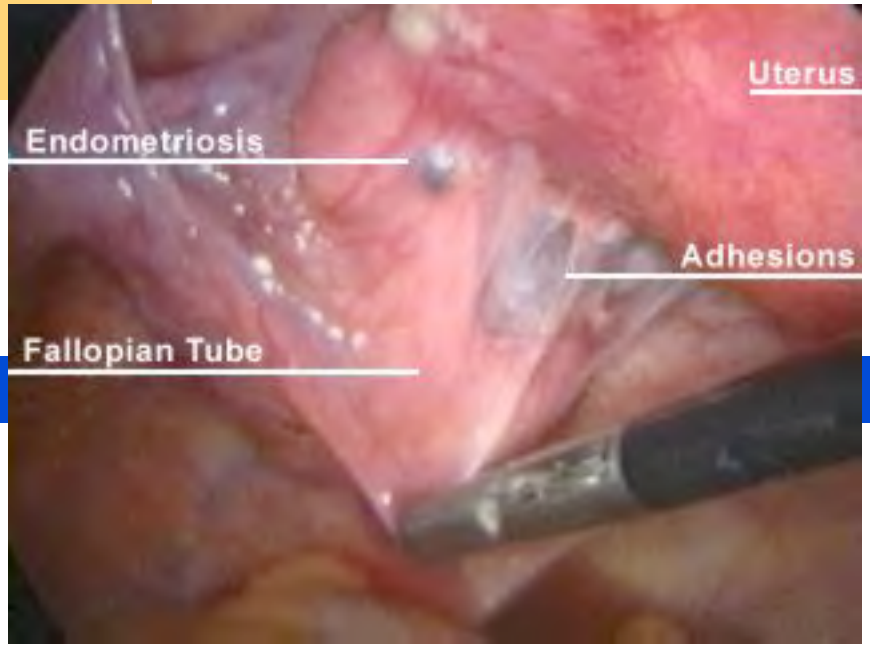
How do patients with endometriosis present?

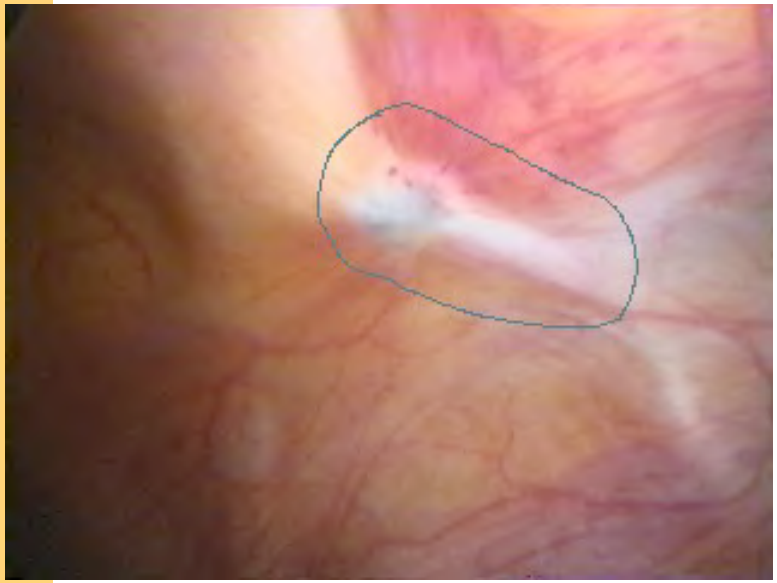
- Pelvic pain
- Infertility
- Dysmenorrhea
- Dyspareunia
- GI symptoms/dyschezia
- Some with AUB
- Severity of disease does NOT correlate with symptoms

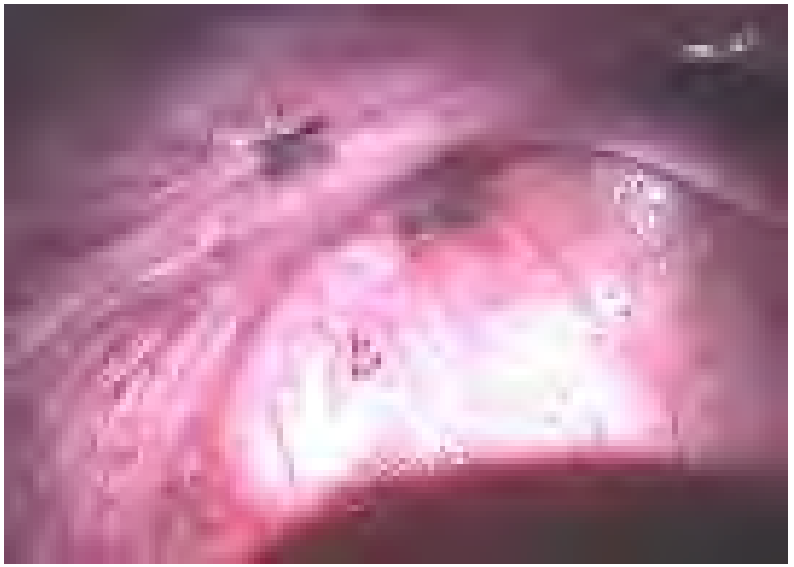


Management of endometriosis

- On exam: fixed retroverted uterus, uterosacral nodularity, tender ovaries
- Diagnostic tests??
  - laparoscopy
- Treatment based on:
  - Symptoms
  - Severity
  - Location of disease
  - Future fertility







Management of endometriosis

- Surgical
- Medical
  - Goal is amenorrhea, decrease pain
  - OCPs
  - Progestins
  - Danazol
  - Lupron/GnRH agonist

Adenomyosis

- Endometrial glands/stroma in the myometrium
- Incidental finding on hysterectomy specimen
- Dysmenorrhea, menorrhagia
- Enlarged, soft uterus, globular, tender
- ?pathogenesis
- Temporize with NSAIDs, hormonal suppression
- Hysterectomy

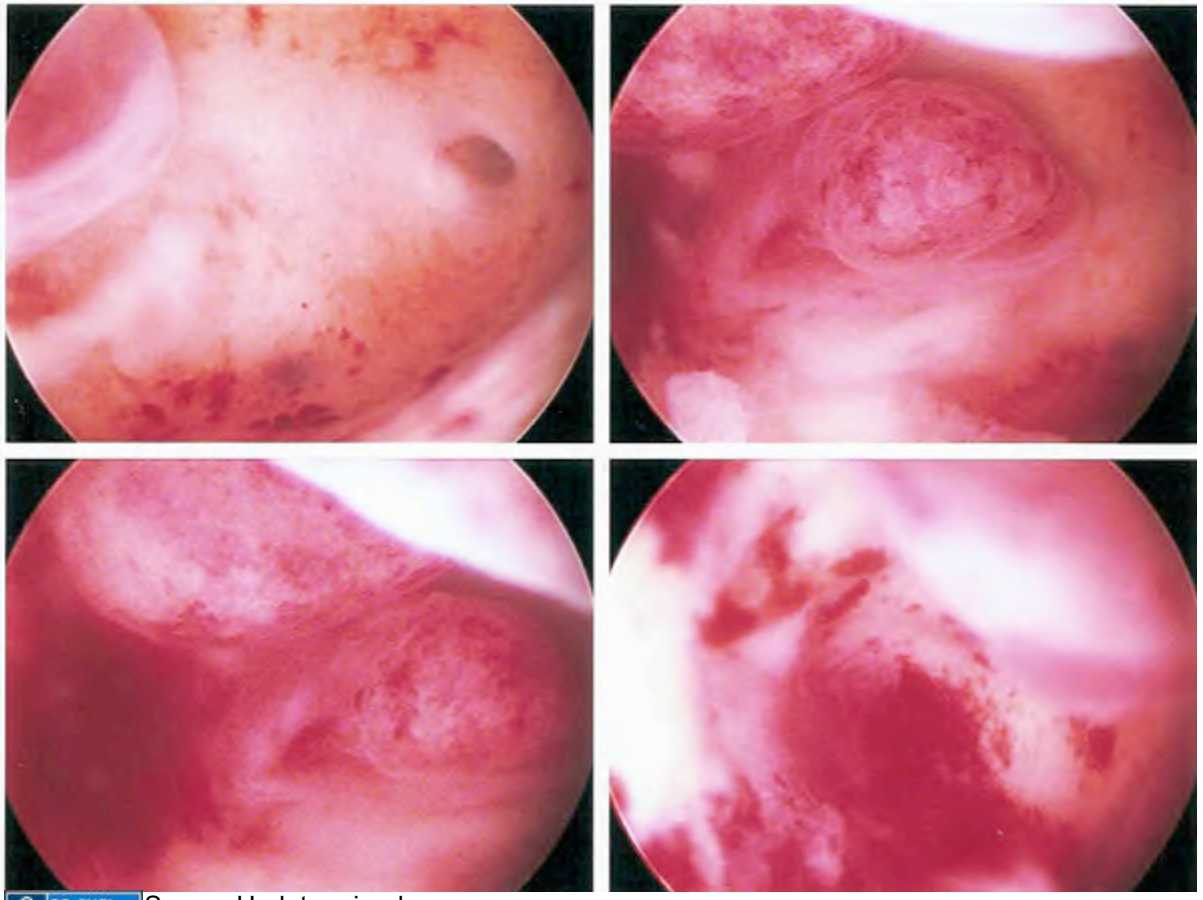
Diseases of the Uterus

- Presentation: AUB, dysmenorrhea, menorrhagia, pain, pressure, infertility
- Differential
  - Endometrial polyps
  - Leiomyomata
  - Endometrial hyperplasia
  - Endometrial carcinoma

Endometrial polyps

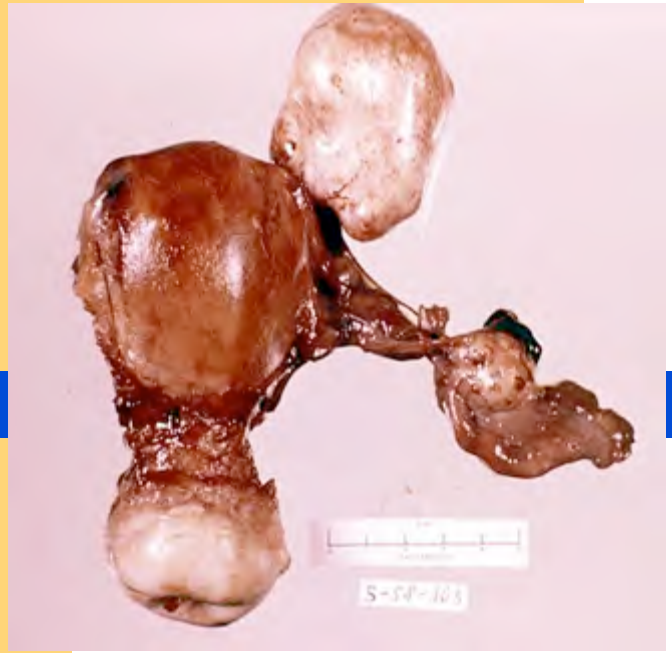
- Overgrowth of endometrial glands/stroma
- Peak incidence age 40-49
- ?etiology
- Irregular/abnormal bleeding
- Ultrasound with hysterosonogram
- +/- endometrial biopsy
- Hysteroscopy, D&C

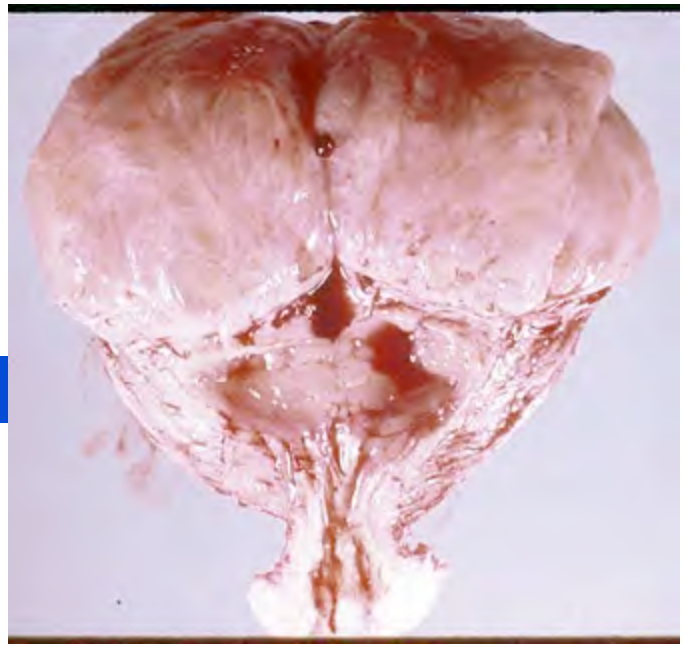
Endometrial polyps

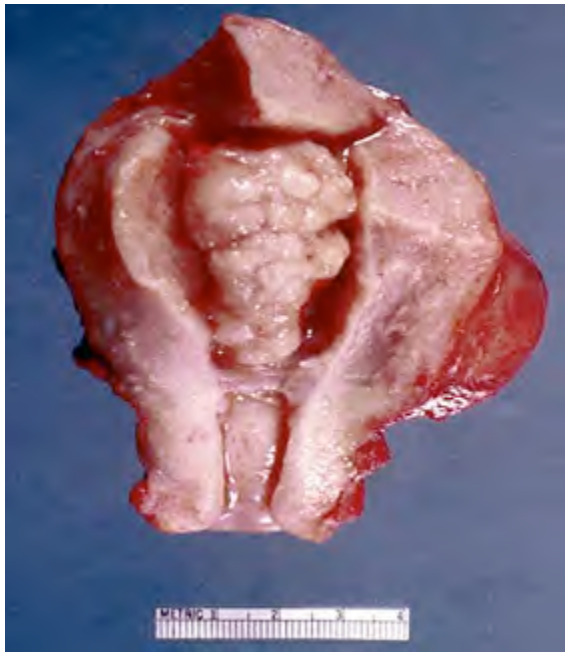


Leiomyomata

- Monoclonal smooth muscle cell tumor
- Most frequent pelvic tumor
- Location within uterus affects presentation, symptoms
  - Intramural
  - Subserosal
  - Submucosal
  - Cervical





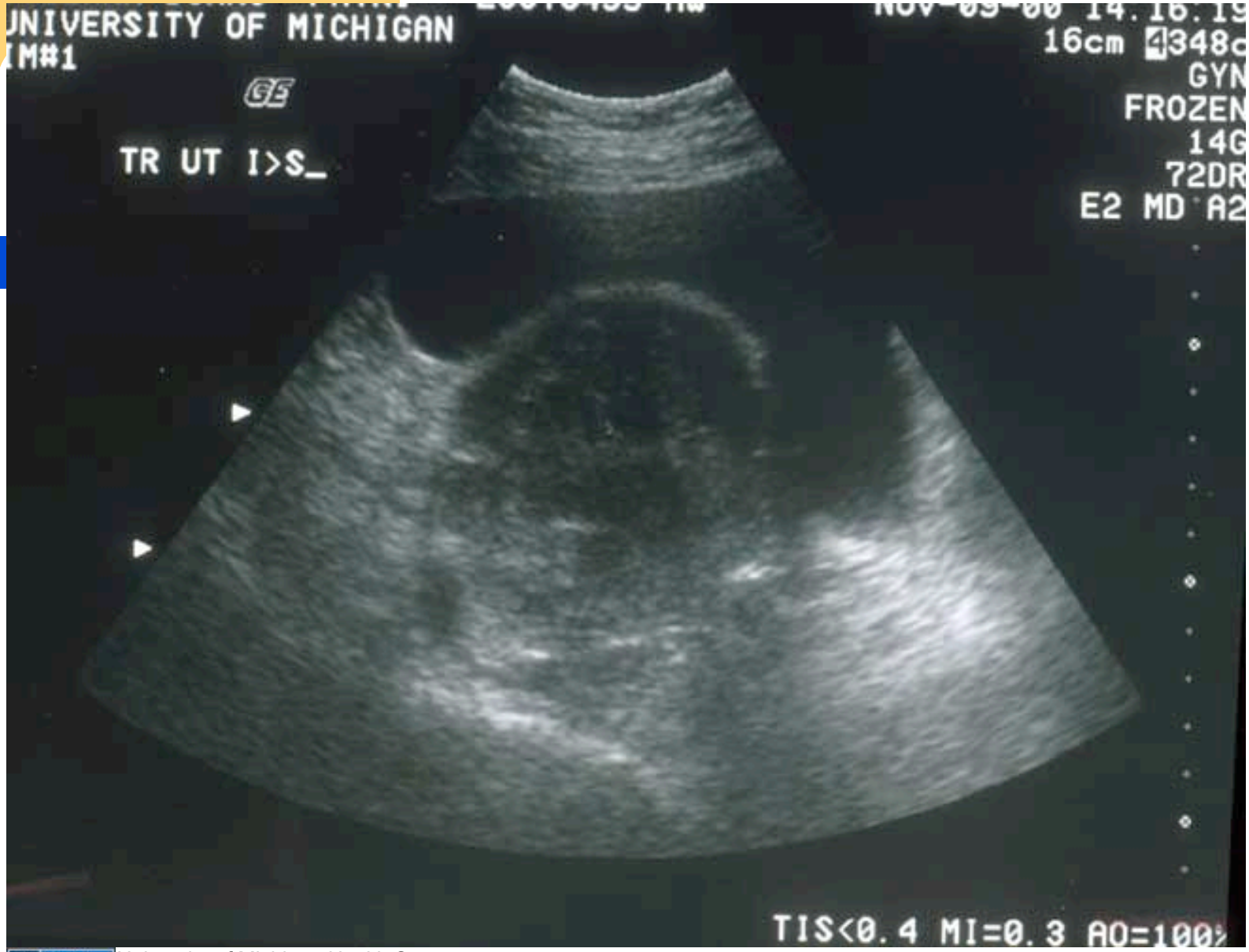


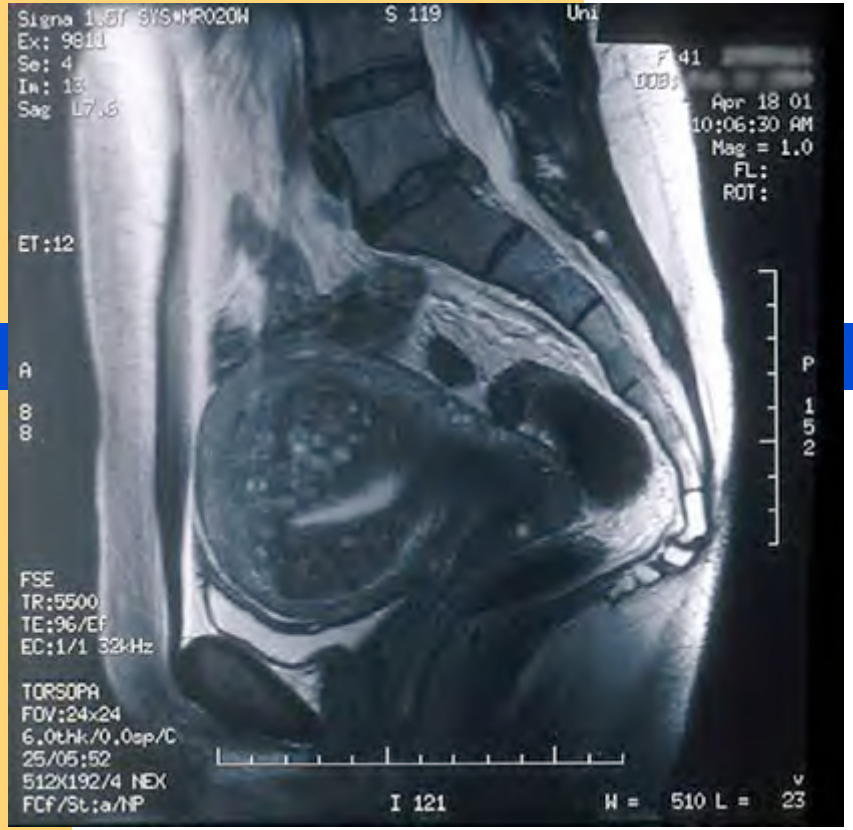
Fibroids

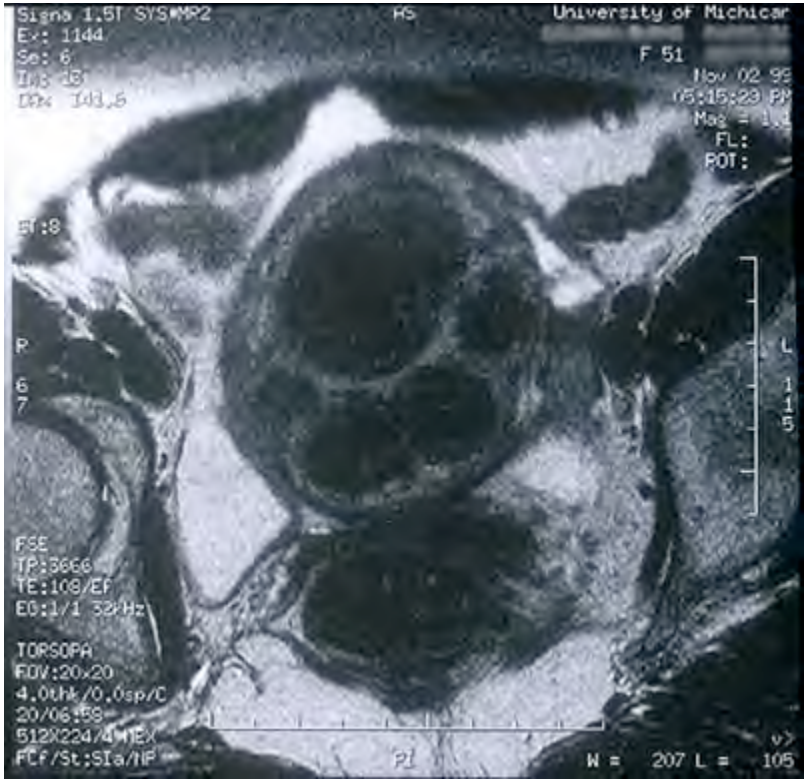
- What types of symptoms????
- Dependent on location
  - AUB
  - Dysmenorrhea
  - Menorrhagia
  - Pain
  - Pressure
  - Infertility
  - Urinary symptoms

Diagnosis of Leiomyomata

- Pelvic exam
  - How big is the uterus?
- Ultrasound
- CT/MRI
- CBC to assess for anemia



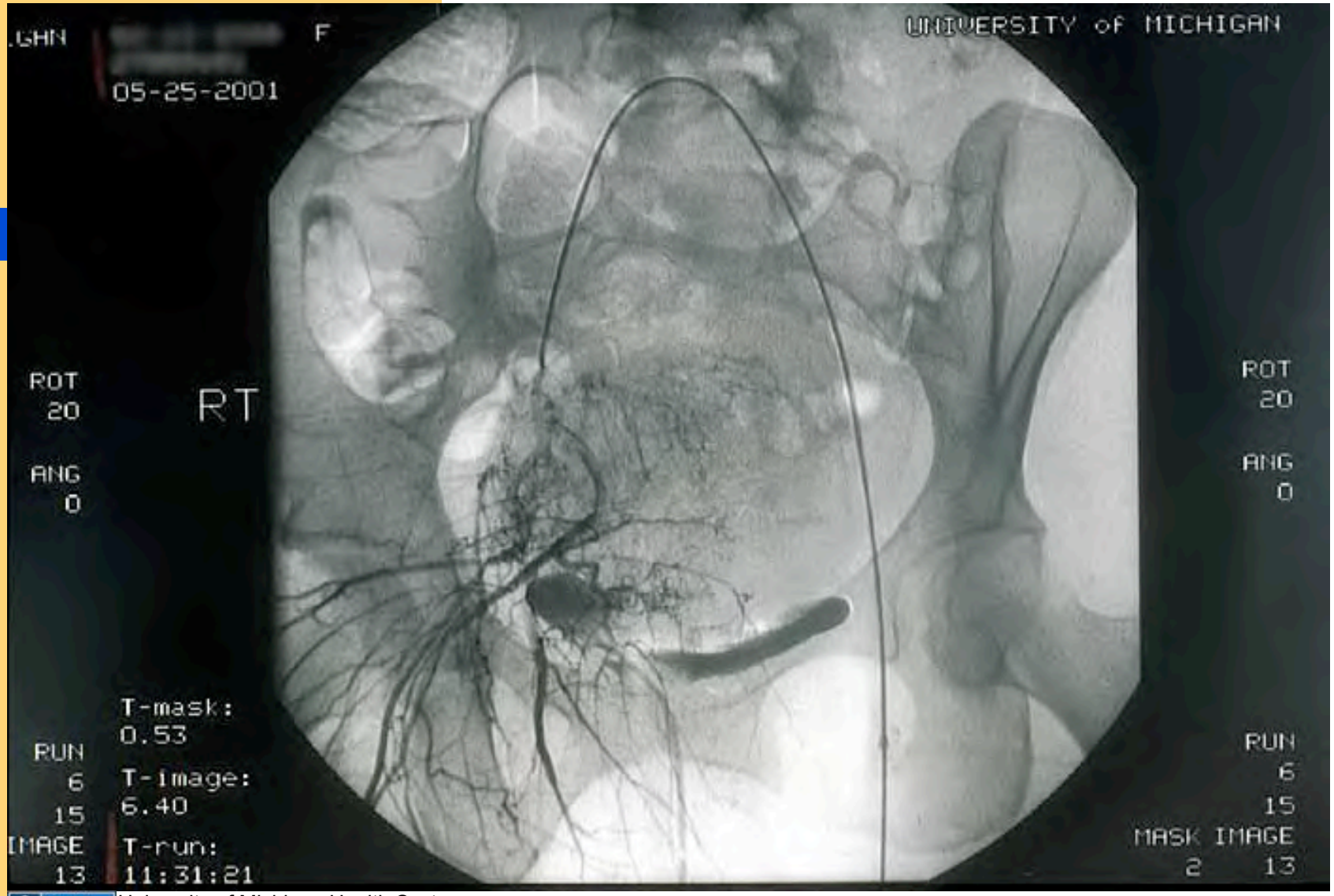


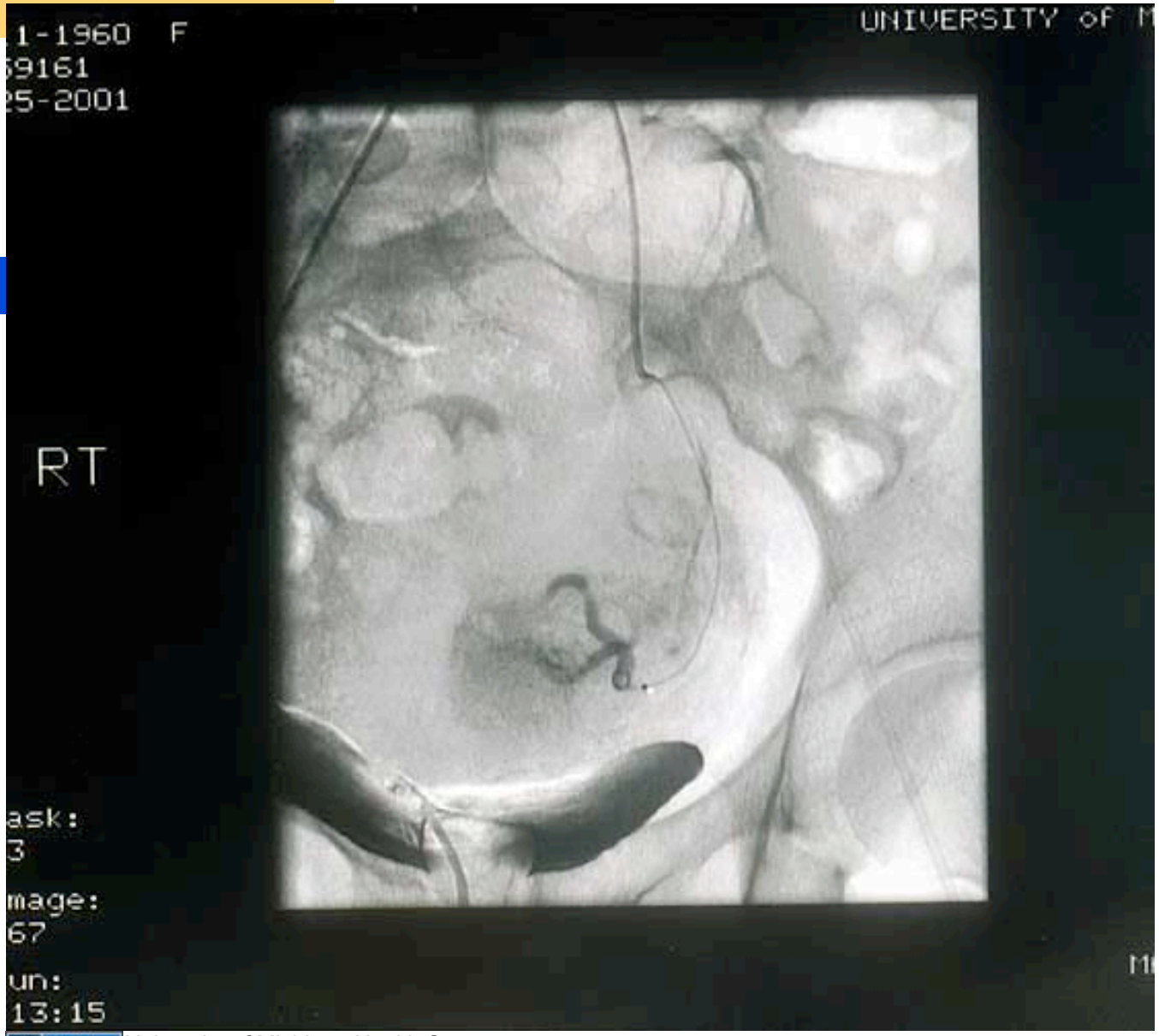


 University of Michigan Health System (Both Images)

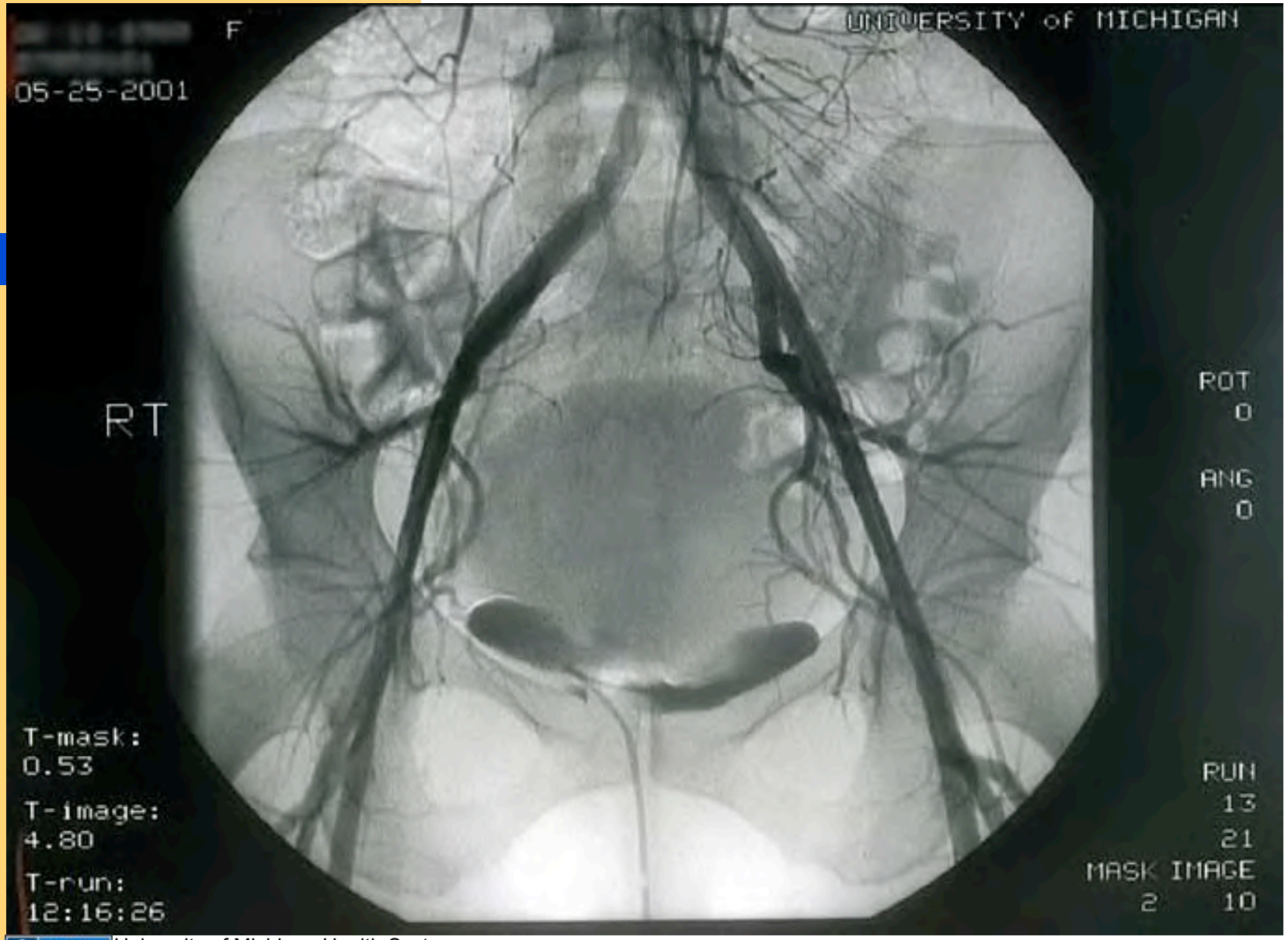
Treatment of Fibroids

- Hormonal
- Surgical
  - Myomectomy
  - Hysterectomy
- Uterine artery embolization





 University of Michigan Health System



Endometrial hyperplasia/carcinoma

- Most common gyn malignancy
  - AUB, post-menopausal bleeding
  - Must sample the endometrium
- Adenocarcinoma
- Peri/post-menopausal women
- Unopposed estrogen
  - Obesity, HTN, DM, anovulation, nulligravid, Tamoxifen
- Peripheral conversion of androgens to estrone
- Progesterone is protective

Endometrial carcinoma

- Progression from hyperplasia to carcinoma
- Presents as post-menopausal bleeding, AUB
- Surgical staging
- Prognostic factors
  - Tumor grade, depth of invasion, spread
- Lymphatic spread
- Role of radiation, progesterone

Diseases of Ovaries/Fallopian Tubes

- Variable presentation
  - Asymptomatic
  - Pain
  - Irregular menses
  - Mass on exam
  - Bloating
  - Constipation
  - Vague abdominal discomfort

Evaluation of adnexal masses

- Ovaries palpable about 50% of the time
  - Except in adolescents and post-menopausal women
- Evaluate size, shape, consistency, mobility
- Imaging modalities
  - USN is preferred for adnexal structures
- Ca-125, tumor markers

Other actors

- Urinary tract infections
- Renal calculus
- Appendicitis
- Pregnancy complications
- Inflammatory bowel disease
- Exophytic myoma
- Ovarian mass/torsion

Functional ovarian cysts

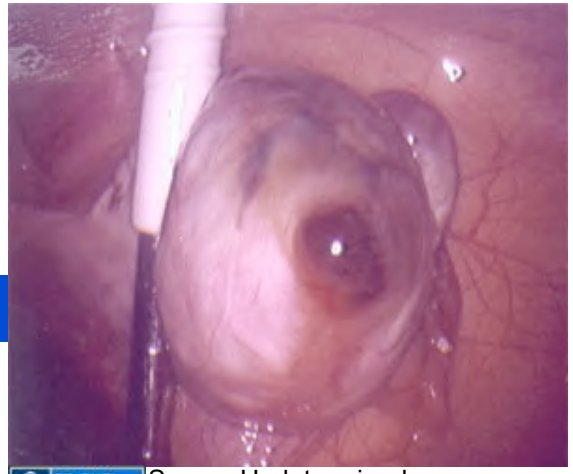
- Anatomic variations due to normal function
- May be as large as 5-8cm, most regress
- Follicular cysts
- Corpus luteum
- Hemorrhagic corpus luteum

Follicular cyst

Source Undetermined

- Ovulation does not occur
- Symptoms:
  - Unilateral pain, irreg. menses
- Exam: unilateral mass, tenderness
- USN: simple cyst
- Treatment: reassurance, pain management, OCPs, re-eval in 6-8 weeks
- Rupture can cause acute pain, peritoneal signs

Corpus luteum cyst



Source Undetermined

- Prolonged luteal phase
- Symptoms:
  - Delayed menses, dull LQ pain, adnexal mass
- Evaluation:
  - Exam, pregnancy test, USN with echogenic material within cyst
- Treatment: reassurance, pain management

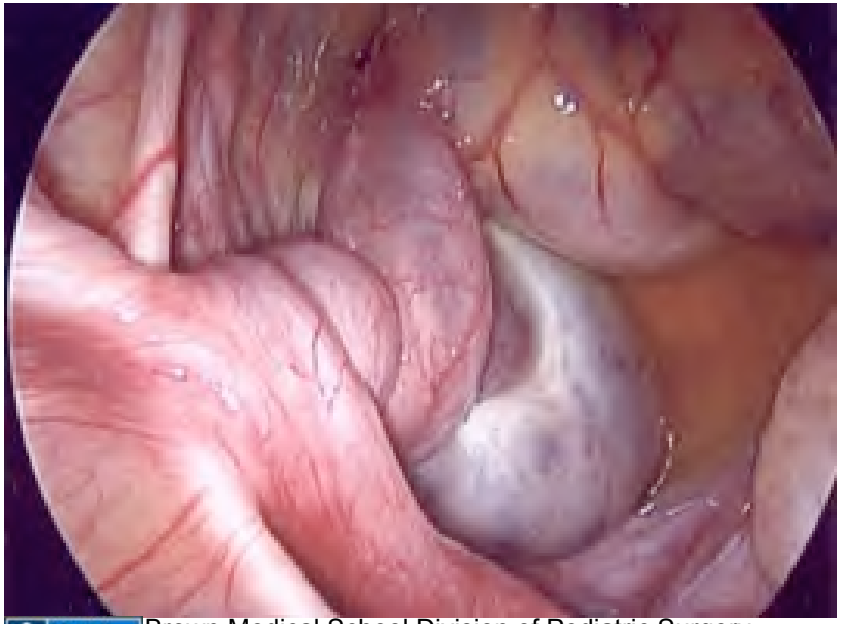
Hemorrhagic corpus luteum

- Rapidly enlarging CL cyst with hemorrhage
- Ruptures late in luteal phase
- Acute onset of pain, hemoperitoneum
- ? reminds you of….
- Check CBC, pregnancy test, serial exams, analgesics, possible laparoscopy

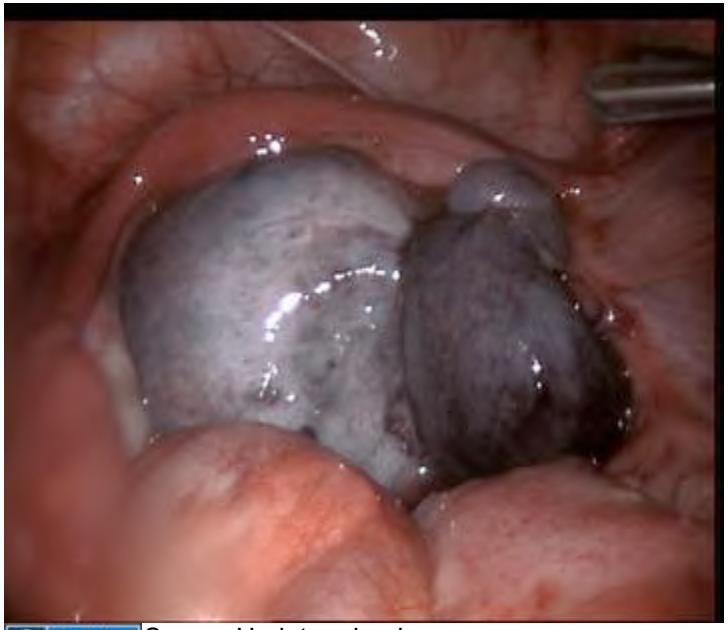
Ovarian torsion

- Twisting of ovary, obstructing blood flow
- Acute onset of pain, nausea, vomiting, peritoneal signs
- Mass on exam
- USN reveals mass, compromised blood flow on doppler eval
- Laparoscopy, can sometimes save ovary by untwisting

Ovarian torsion



PD-INEL Brown Medical School Division of Pediatric Surgery



PD-INEL Source Undetermined

Ovarian neoplasms

- Ovarian mass which does not regress
- Benign neoplasms are more common
- Risk of malignancy increases with age
- Appearance, size on USN often helpful in decision process
- Tumor frequencies
- Surgical management

Ovarian tumor types

- Epithelial
  - Serous cystadenoma
  - Mucinous cystadenoma
  - Endometrioma
- Germ Cell
  - Benign cystic teratoma (dermoid)
- Stromal Cell

- Dr. Lieberman's Lecture…….

Ovarian carcinoma

- 1 in 70 lifetime risk
- Late diagnosis leads to poor prognosis
- Risk factors
  - Family hx, personal hx of breast CA, nulliparity, talc, obesity
- Incessant ovulation
- Oral contraception use reduces RR by 50%
- ? Role of ovulation induction medications

Genetics and ovarian cancer

- 5-10% of all epithelial ovarian CA
  - Lower age of onset
- Autosomal dominant with variable penetrance
  - 1 first degree relative: 5% risk, 2 first degree relatives: 50% risk
- Breast/Ovarian CA syndrome
  - BRCA 1, Chrm 17q
- HNPCC (Lynch II),autosomal dominant
  - Colon, endometrial, breast, ovary

Management of Ovarian Cancer

- Tumor spreads by direct extension to peritoneal surfaces
- Surgical staging:
  - tumor debulking/cytoreduction
- Adjuvant chemotherapy
  - Combination chemotherapy
  - Intraperitoneal chemotherapy

Fallopian Tubes

- Ectopic pregnancy
- Salpingitis
- Hydrosalpinx
- Tubo-ovarian abscess
- Paratubal cysts/paraovarian cysts
- Fallopian tube CA is rare
  - Watery vaginal discharge, pain, pelvic mass

Tubo-ovarian abscess

- Severe complication of pelvic inflamm. disease
- Tender inflammatory adnexal mass
- Mixed bacterial infection
- Consequences of rupture? Short v. Long-term
- Broad spectrum IV antibiotics
- Consider laparoscopy to differentiate b/w other source of pelvic abscess such as ?????

Patient Scenarios

- Young woman with vaginal itching and discharge
- Middle aged woman with pelvic pain and heavy periods
- Post-menopausal woman with vague history of bloating and vaginal spotting
- Peri-menopausal woman with chronic yeast infection
- College-aged student with painful periods and pain with intercourse
- Young woman with pelvic pain and irregular periods

Additional Source Information

for more information see: http://open.umich.edu/wiki/CitationPolicy

Slide 8: Operational Medicine 2001, http://www.brooksidepress.org/Products/OperationalMedicine/DATA/operationalmed/Manuals/enhanced/vulva/Bartholin.htm; SkinSight, http://www.skinsight.com/adult/molluscumContagiosum.htm

Slide 10: Source Undetermined

Slide 12: Source Undetermined

Slide 14: Source Undetermined

Slide 16: Source Undetermined

Slide 17: Source Undetermined

Slide 19: Source Undetermined; Source Undetermined

Slide 20: Source Undetermined

Slide 25: Geneva Foundation for Medical Education and Research, http://www.gfmer.ch/Books/Cervical_cancer_modules/Images/MII5.jpg

Slide 27: Source Undetermined

Slide 28: Original image: http://1.bp.blogspot.com/_a23uhKQsbfc/TEPH_ZPSgeI/AAAAAAAAAJA/yQLclWV8PAA/s1600/paps+pic1.jpg

Slide 28: S. Kellam; Source Undetermined

Slide 30: Source Undetermined

Slide 32: Caren Stalburg

Slide 34: Source Undetermined

Slide 36: Source Undetermined (All Images)

Slide 41: Source Undetermined

Slide 43: Source Undetermined (All Images)

Slide 46: University of Michigan Health System

Slide 47: University of Michigan Health System (Both Images)

Slide 49: University of Michigan Health System

Slide 50: University of Michigan Health System

Slide 51: University of Michigan Health System

Slide 58: Source Undetermined

Slide 59: Source Undetermined

Slide 62: Brown Medical School Division of Pediatric Surgery; Source Undetermined