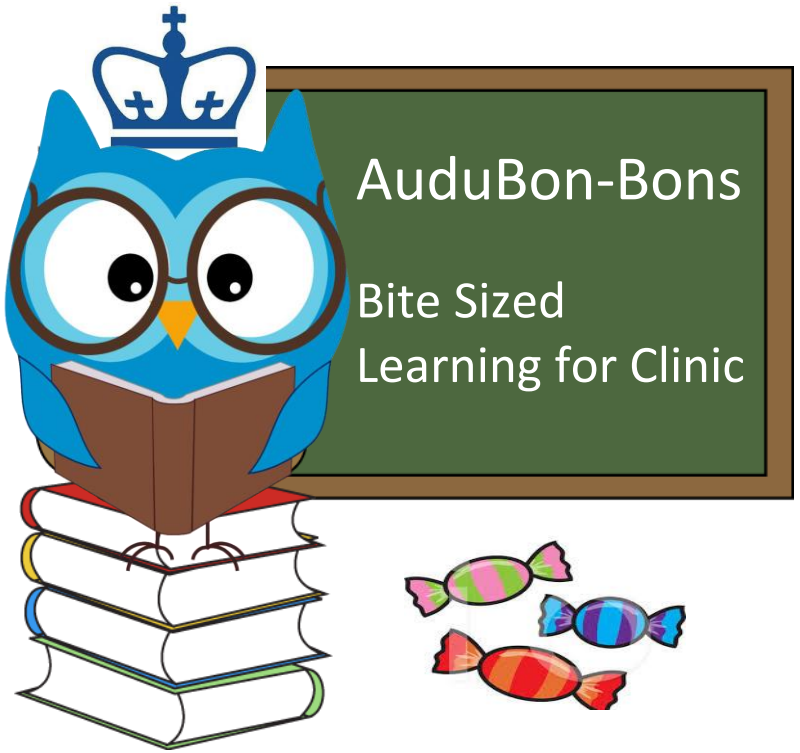
PELVIC INFLAMMATORY DISEASE



Week 34

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With SDH and .phrase slides by Chloé Altchek, MS4

Reading Assignment:

CDC 2015 Sexually transmitted diseases treatment guidelines: pelvic inflammatory disease (PID).

LEARNING OBJECTIVES

- To understand the clinical features of pelvic inflammatory disease (PID)
- To determine the appropriate evaluation to be performed when a patient has findings concerning for PID
- To review the options for treatment

CASE VIGNETTE

- Ms. P.A. is a 19 yo G1 P0010 woman presenting to the ER with complaint of lower abdominal pain and malodorous green vaginal discharge x 1 wk.
  - **ROS:** Endorses nausea, no vomiting, + decreased appetite, +subjective fevers, no diarrhea, no lightheadedness/ dizziness/ SOB. Otherwise, unremarkable.
  - **LMP:** 3 wks ago, 4 day cycle with moderate bleeding

FOCUSED HISTORY

What elements of this patient's history are most relevant?

- **POBH:** med ab x 1- 2018
- **PGYNH:** too young for pap, denies history of STIs, fibroids, cysts
  3 lifetime partners, **currently sexually active with one partner x 3 months, using OCPs for contraception**
- **PMH:** remote childhood asthma, not on meds x many years
- **PSH:** denies
- **MEDS:** OCPs
- **ALL:** NKDA
- **SOC:** social use of etoh/marijuana, denies smoking or other drugs, lives with mother, works as a waitress
- **FH:** denies

PERTINENT PHYSICAL EXAM FINDINGS

What elements of this patient's physical exam are most relevant?

- VS: **HR 103**, RR: 18, BP: 99/76, T: 100.0, O2 sat: 98% on RA
  - **Gen:** Patient appears slightly uncomfortable
  - **Abd:** Soft, nondistended, **moderately tender diffusely.** No rebound.
  - **Vulva:** Normal external genitalia. No apparent lesions.
  - **Vagina: Malodorous mucopurulent discharge.**
  - **Cervix: Mucopurulent discharge per os. Marked CMT.**
  - **Uterus: Tender to palpation.**
  - **Adnexa: Mild bilateral tenderness noted.** No palpable masses.

DIFFERENTIAL DIAGNOSIS

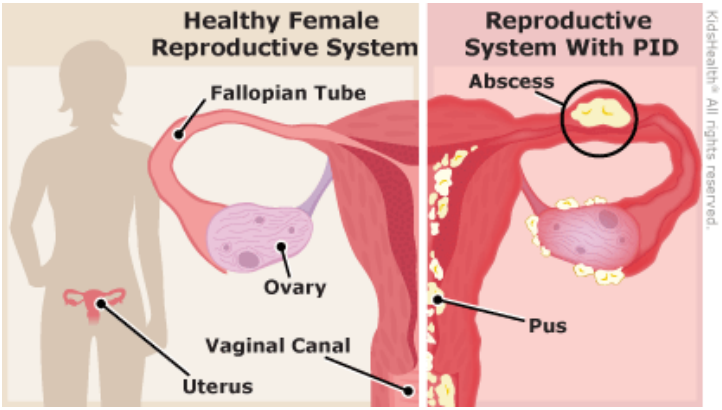
What is included in the differential diagnosis?

- PID
- Ovarian cyst; rupture or torsion
- Ectopic pregnancy
- Endometriosis
- UTI
- GI etiologies
  - Gastroenteritis
  - Appendicitis
  - Diverticular disease
  - Irritable Bowel Syndrome

PID PATHOPHYSIOLOGY

How does pelvic inflammatory disease occur?

- An **ascending infection** from the lower genital tracts that results in inflammatory disorders of the upper female genital tract
  - **Cervicitis**--> Endometritis/Salpingitis/ Tubo-ovarian abscess/Pelvic peritonitis



https://www.rchsd.org/health-articles/pelvic-inflammatory-disease-pid/

- Variety of causative organisms
  - <50% thought to be associated with **N. gonorrhoeae and C. trachomatis**
  - Also associated with bacteria of normal vaginal flora e.g. Gardnerella vaginalis, Mycoplama hominis, Ureaplasma urealyticus, as well as CMV

PID RISK FACTORS

What are risk factors for PID?

- **Sexually active**
- **Age <25**
- Multiple sexual partners
- Having a sexual partner currently active with multiple partners
- History of PID or STIs
- **Sex without condoms**
- Possible association with douching

WHAT'S THE BIG DEAL?

- What are the **adverse effects** of untreated PID?
  - Chronic pelvic pain
  - Infertility: approximately 10% of women with PID have trouble conceiving
  - Ectopic pregnancy
  - TOA
  - Intra-abdominal infection

- Can be **acute**, **chronic**, or **subclinical**
  - Thought to be under-diagnosed and under-treated
  - ~ 1 million women in the US each year

EVALUATION

How do you diagnosis PID?

- Treat sexually active women if they have abdominal/ pelvic pain, no other cause for the illness, + one or more of the following on pelvic exam:
  - Cervical motion tenderness
  - Uterine tenderness
  - Adnexal tenderness
- Supportive findings:
  - Oral temp >101F
  - Abnormal cervical mucopurulent discharge or cervical friability
  - Abundant WBC on saline microscopy of vaginal fluid
  - Elevated ESR or CRP
  - Laboratory confirmed cervical infection of GC or CT
- Most specific
  - Laparoscopy
  - Endometrial biopsy
  - Pelvic sono or MRI showing thickened, fluid filled tubes or TOA

MANAGEMENT

What are the available treatment options?

Outpatient:

Ceftriaxone 250mg IM x1

AND

Doxycycline 100mg PO BID for 14 days

- +/-

Metronidazole 500mg PO BID for 14 days for any patients who have had recent gynecological instrumentation

If **outpatient** therapy, re-evaluate patients within 3 days to assess for clinical improvement

Inpatient: IV tx x 24-48 hrs (until clinical improvement), then PO regimen

Cefoxitin 2g IV q6h or **Cefotetan** 2g q12h

AND

Doxycycline 100mg PO or IV q12h

Alt reg: Gentamicin (per body wt) AND Clindamycin 900 mg q8hrs

MANAGEMENT

What are the indications for **inpatient** management?

- Severe clinical illness
  - i.e. high fever, nausea, vomiting, severe abdominal pain
- Tubo-ovarian or pelvic abscess
- Inability to tolerate oral medications due to vomiting
- Lack of response to oral medications
- Pregnancy
- Concern for nonadherence to therapy
- Concern that an invasive diagnostic procedure may be required
  - i.e. diagnostic laparoscopy to rule out ruptured TOA vs can’t rule out appendicitis

COUNSELING

- How will you counsel Ms. P.A.?
  - Importance of **adherence to treatment**
  - **Abstinence** from sexual activity until:
    - Treatment is completed
    - Symptoms have resolved
    - Partners have been tested and treated as well
  - All patients diagnosed with PID should be screened for **HIV, GC and CT**
  - Use of **barrier contraception** with all sexual encounters
- **Screening** sexually active asymptomatic young women for **CT** *decreases rates of PID*

SOCIAL DETERMINANTS OF HEALTH

- PID rates of diagnosis and adverse outcomes are higher in Black and Latinx women than those in white women
- Reasons for delays in seeking care include asymptomatic/mild course, perception of low risk due to having a permanent partner, taboo surrounding STDs, confidentiality concerns
- Among women with PID who seek care, noncompliance with multidose regimens may exceed 65%
- Adolescents are a high risk group and are unlikely to seek care due to inadequate sex education, inability to recognize the symptoms of PID, confidentiality concerns

Counsel your patients to finish their antibiotic course, even if asymptomatic!

EPIC .PHRASE

.BBonPIDCounseling

Description: PID Treatment Counseling

The importance of adherence to the treatment plan was discussed with the patient including the need for abstinence, completion of medication course, testing and treatment of partners, screening for GC/CT and HIV, and consistent use of barrier contraception.

CODING AND BILLING

- **N73.9 -** female pelvic inflammatory disease, unspecified
- **N71.0** - acute inflammatory disease of the uterus
- **A56.11 -** chlamydial female pelvic inflammatory disease
- **A54.24** - gonococcal female pelvic inflammatory disease
- **N70.01 -** acute salpingitis
- **Z11.3 -** encounter for screening for infections with a predominantly sexual mode of transmission

EVIDENCE

- Center for Disease Control and Prevention. Pelvic inflammatory disease (PID): 2015 STD treatment guidelines. https://www.cdc.gov/std/tg2015/pid.htm#targetText=Pelvic%20inflammatory%20disease%20(PID)%20comprises,and%20pelvic%20peritonitis%20(728).&targetText=Screening%20and%20treating%20sexually%20active,PID%20(456%2C682). Accessed Oct 25, 2019.
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