Pelvic Inflammatory Disease (**PID**)

Prepare by

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PID

- Spectrum disease involve cx, uterus, tubes

- Most often → ascending spread of microorganisms from vagina & endocervix to endometrium, tubes, contiguous structures

Etiology

- Neisseria gonorrhoeae common cause of PID

(N. gonorrhoeae)

  - gram –ve diplococcus
  - rapid growth (20–40 min)
  - rapid & intense inflammatory response
  - 2 major sequelae
    - infertility & ectopic pregnancy, strong asso. with prior Chalamydia infection

- 85% of infection → sexually active female of reproductive age

- 15% of infection occur after procedures that break cervical mucous barrier

- C. trachomatis
  - produce mild form of salpingitis
  - slow growth (48–72 hr)
  - intracellular organism
  - insidious onset
  - remain in tubes for months/years after initial colonization of upper genital tract

PID ?2 type:

Acute PID	CHRONIC PID
-hs is often prolonged period followed by gradual onset of pelvic pain	-Pt complain of pelvic pain made worse during the period
-irregular bleeding	-irregular bleeding and heavy
-by examination : +abdominal tenderness +guarding +and extreme tenderness of the vaginal fornices and cervical excitation	-by examination : +some swelling may felt But often there is little to find except tenderness in the fornices

RX :

1-a laproscopy is advisable if the doubt

2-an intrauterine device if in the uterus should be remove

3- given broad spectrum AB such as (doxycycline,azithromycin or ampincillin)

4- if acute sign and symptom s persist , a laparotomy perform to search for abscess formation

5- no surgical procedure beyond drainage should be performed

Rx :

1-rest

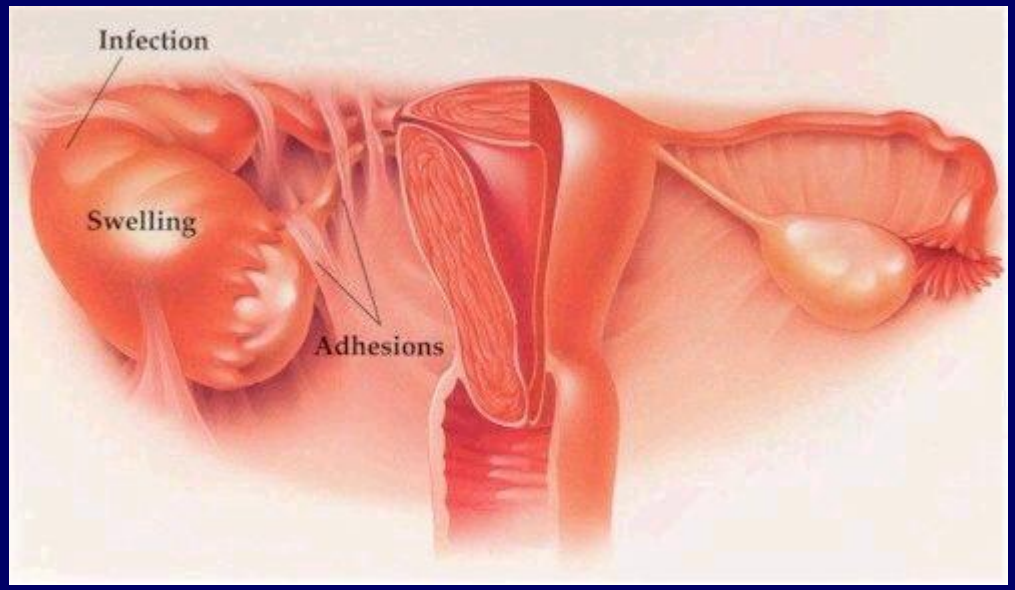
2-a broad spectrum AB is given

3-lapratomy and drainage done for hydrosalpinx and abscess formation

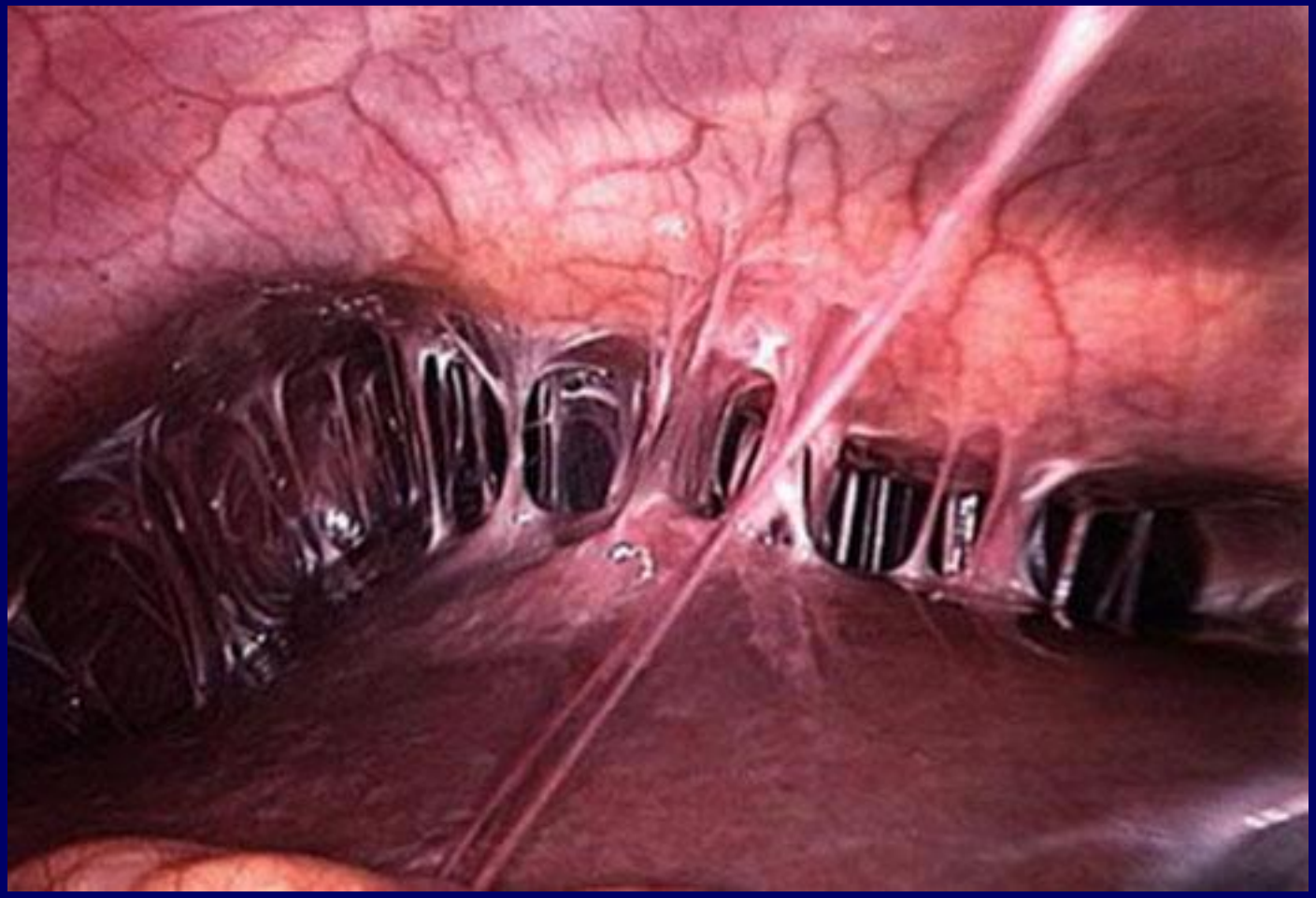
4-dyspareunea(painful coitus) May be relieved by correcting the uterine retroversion with a sling operation

5- in advance cases : the effective rx is removal of the uterus and tube and perhaps the ovaries as well

ACUTE PELVIC INFLAMMTORY DISEASE



CRONIC PELVIC INFLAMMTORY DISEASE



Risk factors

- Strong correlation between exposure to STD
- Age of 1st intercourse
- Frequency of intercourse
- Number of sexual partners
- Marital status ; 33% → nulliparous

Risk factors

- Reinfection → untreated male partners 80%
- Decrease risk
  - barrier method
  - OC
- Increase risk
  - surgical procedure
  - previous acute PID

Clinical features

- Common clinical manifestation
  - lower abdominal pain 90%
  - cervical motion tenderness
  - adnexal tenderness
  - Fever
  - cervical discharge
  - leukocytosis

Differential Diagnosis

- acute appendicitis
- Endometriosis
- torsion/rupture adx mass
- ectopic preg
- lower genital tract infection

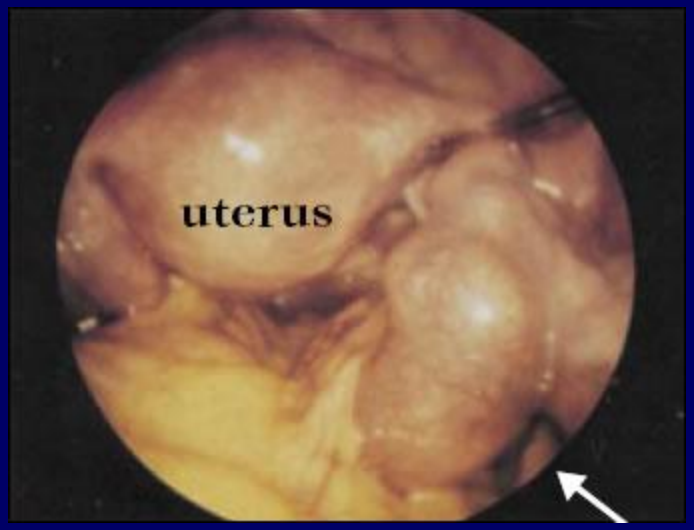
PID

- 75% asso. endocervical infection & coexist purulent vaginal d/c

PID Dx

- CBC
- ESR
- C-reactive protein
- Vaginal & cervical swab
- U/S, CT, MRI
- Culdocentesis: refers to a procedure in which peritoneal fluid is aspirated transvaginally from the (pouch of Douglas).
- Laparoscopic visualization
  - most accurate method for confirm PID

PID



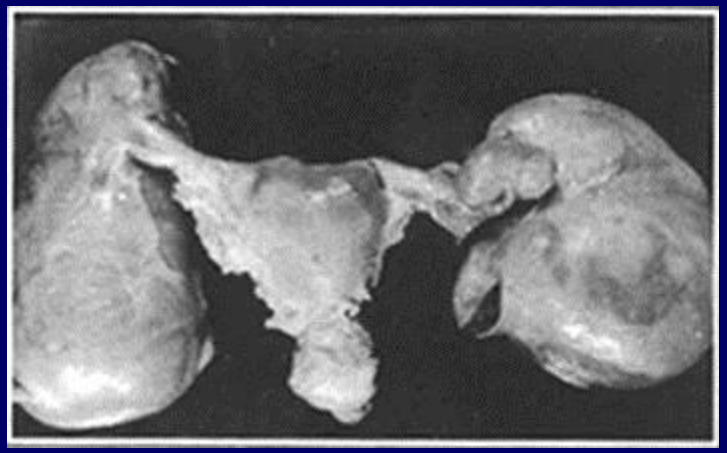


Table 15.3. Clinical Criteria for the Diagnosis of Pelvic Inflammatory Disease

Symptoms
None necessary
Signs
Pelvic organ tenderness Leukorrhea and/or mucopurulent endocervicitis
Additional criteria to increase the specificity of the diagnosis
Endometrial biopsy showing endometritis Elevated C-reactive protein or erythrocyte sedimentation rate Temperature higher than 38°C Leukocytosis Positive test for gonorrhea or chlamydia
Elaborate criteria
Ultrasound documenting tuboovarian abscess Laparoscopy visually confirming salpingitis

Sequelae

- Infertility
  - ¼ of pt have acute salpingitis
  - occur 20%
  - infertility rate increase direct with number of episodes of acute pelvic infection

Sequelae

- Ectopic pregnancy
  - increase 6-10 fold
  - 50% occur in fallopian tubes (previous salpingitis)

Sequelae

- Chronic pelvic pain
  - 4 times higher after acute salpingitis
  - caused by hydrosalpinx, adhesion around ovaries
  - should undergo laparoscope → R/o other disease
- TOA (tubo ovarian absess)10%
- Mortality
  - acute PID 1%
  - rupture TOA 5-10%

Treatment

- Therapeutic goal
  - eliminate acute infection & symptoms
  - prevent long-term sequelae

Criteria for hospitalization

TABLE 28.3.
Criteria for Hospitalization of Patients With Acute Pelvic Inflammatory Disease

The following criteria for hospitalization are based on observational data and theoretical concerns:

- Surgical emergencies such as appendicitis cannot be excluded.
- The patient is pregnant.
- The patient does not respond clinically to oral antimicrobial therapy.
- The patient is unable to follow or tolerate an outpatient oral regimen.
- The patient has severe illness, nausea and vomiting, or high fever.
- The patient has a tuboovarian abscess

CDC (centre for disease control) Recommended treatment regimens for OPD of acute PID

Table 15.4. CDC Guidelines for Treatment of Pelvic Inflammatory Disease

Outpatient Treatment

Regimen A

Ofloxacin, 400 mg orally 2 times daily for 14 days, or
Levofloxacin, 500 mg orally once daily for 14 days
With or Without:
Metronidazole, 500 mg orally 2 times daily for 14 days

Regimen B

Cefoxitin, 2 g intramuscularly, plus *probenecid,* 1 g orally concurrently, or
Ceftriaxone, 250 mg intramuscularly, or
Equivalent cephalosporin
Plus:
Doxycycline, 100 mg orally 2 times daily for 14 days
With or Without:
Metronidazole, 500 mg orally twice a day for 14 days

CDC (centre for disease control)Recommended treatment regimens for IPD of acute PID

Inpatient Treatment

Regimen A

Cefoxitin, 2 g intravenously every 6 hours, *or*
Cefotetan, 2 g intravenously every 12 hours,
Plus:
Doxycycline, 100 mg orally or intravenously every 12 hours

Regimen B

Clindamycin, 900 mg intravenously every 8 hours
Plus:
Gentamicin, loading dose intravenously or intramuscularly (2 mg/kg of body weight) followed by a maintenance dose (1.5 mg/kg) every 8 hours

Treatment

- Empirical ABx cover wide range of bacteria
- Treatment start as soon as culture & diagnosis is confirmed/suspected
- reevaluate 48-72 hrs of initial OPD therapy

Treatment

- Rx male partners & education for prevention reinfection

- Rx male partners → regimens for uncomplicated gonorrhoeae & chlamydial infection
  - Ceftriaxone 125 mg im follow by
    - doxycycline (100) 1x2⊙ pc x7days or
    - azithromycin 1gm⊙ or
    - ofloxacin (300) 1x2⊙ pc x7days

Surgical treatment

- Laparotomy for
  - surgical emergencies
  - definite Rx of failure medical treatment
- Laparoscopy
  - consider in all pt with ddx of PID & without contraindication
- Evidence of current / previous abscess
- Acute exacerbation of PID with bilateral TOA

Prevention

- Risk reduction against sexually transmitted infections through barrier methods such as condoms.

- Going to the doctor immediately if symptoms of PID, sexually transmitted infections appear,

- Getting regular gynecological (pelvic) exams with STI testing to screen for symptomless PID[8]

- Regularly scheduling STI testing with a physician and discussing which tests will be performed that session.

- Getting a STI history from your current partner and insisting they be tested and treated before ntercourse.

- Treating partners to prevent reinfection or spreading the infection to other people.

- Diligence in avoiding vaginal activity, particularly intercourse, after the end of a pregnancy (delivery, miscarriage, or abortion) or certain gynecological procedures, to ensure that the cervix closes.

The End