

Pelvic Inflammatory Disease

Introduction

Aetiology and Epidemiology

- Pelvic Inflammatory Disease (**PID**) is the term used to describe **upper genital tract infection in women**
- Infection may involve the endometrium with or without involvement of the fallopian tubes and peritoneal space
- PID is **usually a sexually transmitted condition**
- The organisms most commonly implicated are **Neisseria gonorrhoeae, Chlamydia trachomatis, Mycoplasmas and mixed anaerobes**
- True incidence is unknown due to non-specificity or lack of symptoms

Risk factors include:

- Age under 25
- Recent change in sexual partner
- Multiple Partners
- Previous STI

In addition to sexual transmission, PID may occur after:

- IUCD insertion
- Termination of pregnancy
- Spontaneous abortion
- Instrumentation of the upper genital tract

Symptoms and Signs

- Estimated up to **60% sub-clinical** – that is may have no or minimal symptoms

May present with:

Lower abdominal pain, deep dyspareunia, vaginal discharge, abnormal vaginal bleeding or fever

On examination may have **cervical motion tenderness, uterine or adnexal tenderness, cervicitis or fever**

Complications include:

- Chronic pelvic pain
- Ectopic pregnancy and tubal factor infertility
- Tubo-ovarian abscess

Tests

All women with suspected PID should have a full evaluation for sexually transmitted infections including:

- Endocervical swabs for **Neisseria gonorrhoeae and Chlamydia trachomatis**
- A **high vaginal swab** for testing for **Bacterial Vaginosis and Trichomonas vaginalis**
- **A pelvic examination** to check for the presence of adnexal tenderness and pelvic masses
- Urine **pregnancy test**, to rule out ectopic pregnancy
- Consider **urine dipstick, FBC, ESR and CRP**

Serology for Hepatitis B, Syphilis and HIV is recommended.

Diagnosis

- No single laboratory test is diagnostic of PID

Diagnosis is clinical, taking into account the history, clinical findings and results of sexual health screen and supplementary tests

A low threshold for treatment is appropriate in view of important sequelae and unreliability of diagnostic features

Minimum criteria are:

Recent onset of lower abdominal pain

AND Adnexal tenderness (very few cases of PID are unilateral)

OR uterine tenderness

OR cervical motion tenderness

Additional suggestive features:

- Abnormal **cervical or vaginal mucopurulent discharge**
- **Fever >38°C**
- **Elevated ESR, FBC or CRP**
- Confirmed infection with **Neisseria gonorrhoeae or Chlamydia trachomatis**

Differential Diagnosis

The main differential diagnoses to consider are:

- Appendicitis
- Pregnancy complications e.g. ectopic, spontaneous abortion

Management Mild to Moderate PID

- Treatment should cover **infection with Chlamydia trachomatis, Neisseria gonorrhoeae, and anaerobes (particularly in moderate to severe infection)**
- Patients with severe symptoms or suspected tubo-ovarian abscess should be referred to Gynaecology services for inpatient management

Preferred Regimens

- Ceftriaxone 250mg IM single dose PLUS
- Doxycycline 100mg orally bd for 14 days PLUS
- Metronidazole 400mg orally bd for 14 days

In mild/moderate PID the metronidazole may be discontinued where not tolerated.

Poor Compliance

There is some evidence for azithromycin stat dose at days 1 and 8 in placement of oral doxycycline and metronidazole in the above regimen. That is:

- Ceftriaxone 250mg IM single dose PLUS
- Azithromycin 1g oral stat dose on day 1 and day 8

Experimental animal studies suggest high rates of resolution of inflammation with azithromycin and excellent microbiological cure but long term clinical outcomes are yet to be assessed and the optimal azithromycin dose and duration has not been determined. This remains an option where compliance is in doubt. Azithromycin is Category B1 in pregnancy.

Special Considerations

IUCD Users

- Traditionally it is felt that women with PID who have an IUCD in situ should have this removed at the commencement of therapy and have the ECP if appropriate
- There is, however controversy regarding this, and some recent evidence suggests that treatment of PID is not hindered by the presence of an IUCD
- The decision as to whether or not an IUCD should be left in situ should be made on a case by case basis in consultation with the patient

Pregnancy

- **PID in pregnancy is very uncommon**, especially after the 12th week as the gestational sac occludes the uterine cavity

Preferred Regimen

- Ceftriaxone 250mg IM (Pregnancy Category B1) plus
- Erythromycin ethyl succinate 800mg orally qds for 14 days (Pregnancy Category A)

Alternate Regimens

- Ceftriaxone 250mg IM (Pregnancy Category B1) plus
- Roxithromycin 300mg orally daily for 14 days (Pregnancy Category B1)

OR

- Ceftriaxone 250mg IM (Pregnancy Category B1) plus
- Clindamycin 450mg orally qds for 14 days (Pregnancy Category A)

Possible Alternative Regimen (but less well established)

- Ceftriaxone 250mg IM single dose (Pregnancy Category B1) plus
- Azithromycin 1g oral stat dose on day 1 and day 8 (Pregnancy Category B1)²²

Penicillin-allergic patients who are also pregnant require admission for parenteral therapy.

Partner Notification and Management of Sexual Partners

Partner Notification

- Patient should be encouraged to notify all sexual partners from the preceding 2 months (or most recent partner if over 2 months since last contact) and advise them to attend for testing and treatment

Management of Sexual Partners

- Perform a sexual health screen and if partner(s) is asymptomatic treat empirically with a regimen suitable for Chlamydia

If sexual partner(s) has symptoms of urethritis then treat empirically for both chlamydia and gonorrhoea particularly if locally there are high rates of gonorrhoea incidence.

- If sexual partner positive for Chlamydia trachomatis or Neisseria gonorrhoeae – further partner notification as above

Index cases should abstain from sex or use condoms until all medication is completed and all sexual contacts have been treated.

Follow-up

- In **mild infection** patients should be **reviewed in 1 week and pelvic examination repeated** to confirm resolution of signs
- In **moderate infection** patients should be **reviewed in 48 hrs and if not improving consider Gynaecology referral**

Referral Guidelines

Referral to a Specialist Sexual Health Service is recommended for:

- Management of sexual partners if clinician wishes