MANAGEMENT OF ACUTE PELVIC INFLAMMATORY DISEASE

Keywords: PID, pelvic inflammatory disease, genital tract infection

AIM

- The diagnosis and appropriate management of women who present with Pelvic Inflammatory Disease

BACKGROUND

Pelvic Inflammatory Disease (PID) constitutes a general term for a spectrum of genital tract infection. The disease lacks a precise definition and not all patients complain of symptoms. It is usually the result of infection ascending from the endocervix causing endometritis, salpingitis, parametritis, oophritis, tubo-ovarian abscess and / or pelvic peritonitis. While sexually transmitted infections such as Chlamydia trachomatis and Neisseria gonorrhoea have been identified as causative agents, additional STIs including Mycoplasma genitalium, anaerobes and other organisms may also be implicated.

High risk factors associated with PID include

- Early sexual debut
- Women < 25 years
- Sexual promiscuity
- Low parity
- History of a previous PID / Sexually Transmitted Disease
- Other concomitant sexually transmitted diseases
- Bacterial vaginosis

A high index of suspicion and a low threshold for empiric treatment of PID is recommended since the potential consequences of not treating PID are significant resulting in infertility, ectopic pregnancy and chronic pelvic pain.

DIAGNOSIS

There is no single pathognomonic sign, symptom or investigation in the diagnosis of PID. The approach to the diagnosis should be multifaceted.

Clinical

The following clinical features are suggestive of a diagnosis of PID:

- Bilateral lower abdominal tenderness (sometimes radiating to the legs)
- Abnormal vaginal or cervical discharge
- Fever > 38° C
- Abnormal vaginal bleeding; intermenstrual, postcoital or ‘breakthrough’
- Deep dyspareunia
- Cervical motion tenderness on bimanual examination (with or without palpable mass).

RECOMMENDED INVESTIGATIONS

- Full blood picture
- C reactive protein
- Mid stream urine (MC&S)
- Urine HCG to exclude complications of pregnancy e.g. ectopic pregnancy, miscarriage
Endocervical and low vaginal (either self obtained by patient or during a physical examination) swabs for *Chlamydia trachomatis* and *Neisseria gonorrhoea* PCR

- High vaginal swab (Culture and Sensitivity including culture for genital mycoplasmas)

Transvaginal ultrasound scanning may be helpful when there is diagnostic difficulty. When supported by power Doppler, it can identify inflamed and dilated tubes and tubo-ovarian masses / abscesses. It may differentiate in some cases from appendicitis or ovarian cyst complications, but there is insufficient evidence to support its routine use.5,6

When there is diagnostic doubt, laparoscopy may be useful to exclude other pathologies. It also enables specimens to be taken from the fallopian tubes and the Pouch of Douglas, and can provide information on the severity of the condition.7,8

The differential diagnosis of lower abdominal pain in a young woman includes:

- Ectopic pregnancy
- Acute appendicitis
- Endometriosis
- Irritable bowel syndrome (and less commonly, other gastrointestinal disorders)
- Complications of an ovarian cyst such as rupture or torsion
- Urinary tract infection
- Functional pain (pain of unknown physical origin)

### TREATMENT OF ACUTE PID IN SEXUALLY ACTIVE WOMEN WITH NO PREDISPOSING FACTORS

In mild or moderate PID (in the absence of a tubo-ovarian abscess), there is no difference in outcome when women are treated as outpatients or admitted to hospital. It is likely that delaying treatment, especially in Chlamydia infections, increases the severity of the condition and the risk of long-term sequelae such as ectopic pregnancy, subfertility and pelvic pain.11

### OUTPATIENT TREATMENT OF MILD – MODERATE STI RELATED PID

The response to treatment is often a good indicator of whether PID is likely.

- Ceftriaxone 500mg in 2mL 1% lignocaine IM, or 500mg IV as a single dose.
  
  Plus
  
  - Metronidazole 400mg orally, 12 hourly for 14 days

  Plus
  
  - Azithromycin 1g orally as a single dose

  Plus either
  
  - Azithromycin 1g orally as a single dose 1 week later (should be used during pregnancy or when breastfeeding)

  Or
  
  - Doxycycline 100mg orally, 12 hourly for 14 days

Women should be reviewed in 72 hours from initial presentation by their General Practitioner or in the Emergency Centre. Failure to clinically improve may indicate the need for further investigation or to consider other diagnoses or alternative management such as inpatient treatment. Further review in 4-6 weeks after treatment by a GP should be performed.

### Admission to hospital is appropriate in the following:

- PID in pregnancy
- Non adherence or intolerance to oral therapy
- Tubo-ovarian abscess
- Lack of response to oral therapy
- Clinically severe disease
- Unable to exclude surgical emergency
INPATIENT TREATMENT OF SEVERE STI RELATED PID

- ceftriaxone 1g IV daily
  
  **plus**
  
  - metronidazole 500mg IV 12 hourly
  
  **plus**
  
  - azithromycin 500mg IV daily

**Until the patient is afebrile and improved, then**

- doxycycline 100mg 12 hourly orally for a minimum of two weeks and up to four weeks in complicated cases (slow clinical resolution; pelvic collections)
  
  **plus**
  
  - amoxycillin plus clavulanate 875mg/125mg, orally, 12 hourly for a minimum of 2 weeks and up to 4 weeks

**ALTERNATIVE IV REGIMEN, ESPECIALLY FOR PATIENTS WITH IMMEDIATE HYPRSENSITIVITY TO PENICILLIN IS:**

- gentamicin 4-6mg/kg (severe sepsis: 7mg/kg) IV for 1 dose, then determine the dosing interval for a maximum or either 1 or 2 further doses based on renal function (See the latest Therapeutic Guidelines: Antibiotic or the ward pharmacist for assistance).
  
  **Plus either**
  
  - lincomycin 900mg IV, 8 hourly (KEMH formulary preferred). For patients > 90kg use 1.2g 8 hourly
  
  **Or**
  
  - clindamycin 900mg IV, 8 hourly.

**Until the patient is afebrile and improved then,**

- metronidazole 400mg orally, 12 hourly for a minimum of 2 weeks
  
  **plus**
  
  - doxycycline 100mg 12 hourly orally for a minimum of 2 weeks

OUTPATIENT TREATMENT OF MILD – MODERATE PROEDURE RELATED PID

For patients who develop PID after a recent pregnancy, termination or gynaecological procedure (including IUCD insertion or removal) and those with a prior history of PID, Chlamydia trachomatis, Neisseria gonorrhoea and Mycoplasma hominis may be implicated, together with mixed anaerobic and aerobic bacteria such as Bacteroides spp, anaerobic cocci, Streptococcus spp and enteric bacteria.

- Doxycycline 100mg orally 12 hourly for 2 to 4 weeks
  
  **plus**
  
  - Amoxycillin plus Clavulanate 875mg/125mg orally, 12 hourly for 2 to 4 weeks

**For patients with an immediate hypersensitivity to penicillin**

- Doxycycline 100mg orally, 12 hourly for 2 to 4 weeks
  
  **Plus**
  
  - Metronidazole 400mg orally, 12 hourly for 2 to 4 weeks
INPATIENT TREATMENT OF SEVERE PROCEDURE RELATED PID

- Lincomycin 900mg IV 8 hourly
  - Plus
- Ceftriaxone* 1g IV daily

*If the patient is allergic to cephalosporin agents, replace ceftriaxone with gentamicin 4 to 6 mg/kg depending on the age band (severe sepsis 7mg/kg) IV for 1 dose, then determine the dosing interval for a maximum of either 1 or 2 further doses based on renal function (see latest Therapeutic Guideline: Antibiotic or ward pharmacist for assistance).

Until afebrile then:
- Doxycycline 100mg orally, 12 hourly for 2 weeks
  - Plus
- Metronidazole 400mg orally, 12 hourly for 2 weeks

FOLLOW UP

- Follow up is important to ensure symptoms have resolved, that the patient was compliant with medication and that partners have been treated if Chlamydia trachomatis and/or Neisseria gonorrhoea have been detected. If any of these factors remain unresolved, a test of cure may be required.
- The patient should be reviewed within 24-48 hours to ensure symptoms and signs respond to treatment.
- Ensure the woman understands the importance of compliance with medication
- Advise the woman to avoid sexual intercourse until both she and her partner are fully treated (i.e. have completed their respective antibiotic courses).
- If there is no improvement, therapy should be re evaluated and alternative diagnoses considered.

Intrauterine Contraceptive Device
In the presence of an intrauterine contraceptive device (IUCD), consideration should be given to the removal of the device, particularly if there has been no resolution of symptoms within 72 hours.

Tubo- Ovarian Abscess
- In the presence of Tubo-Ovarian abscess ultrasound or CT guided drainage should be considered following discussion involving the Gynaecology Consultant and the Consultant Sonologist.
- Surgical treatment is another alternative management strategy that needs to be considered in severe cases or when there is evidence of pelvic abscess.
- Antibiotic courses of longer length than those recommended above (ie > 4 weeks) may be required in patients with extensive disease. Specialist consultation with Clinical Microbiologists/Infectious Diseases is recommended.

Management of Sexual Partner(s) of women with PID
When a sexually transmitted infection is either proven or likely to be the cause of PID, the current sexual partner(s) should be offered health advice and screening for chlamydial and gonococcal infection through their GP.
REFERENCES (STANDARDS)


National Standards – 1- Care provided by the clinical workforce is guided by current best practice
3- Preventing and Controlling Healthcare Associated Infections
4- Medication Safety

Legislation - Nil
Related Policies - Nil
Other related documents – KEMH Clinical Guidelines Section Sexually Transmitted Infections

RESPONSIBILITY
Policy Sponsor Nursing & Midwifery Director OGCCU
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Do not keep printed versions of guidelines as currency of information cannot be guaranteed. Access the current version from the WNHS website.