Pelvic Inflammatory Disease (PID)

BACKGROUND

PID is an acute condition caused by ascending spread of micro-organisms from the vagina/endocervix to the uterus/fallopian tubes/ovaries/pelvic peritoneum.

If left untreated it can have serious consequences including pain, discomfort and menstrual disturbance in the short term, and chronic pain, ectopic pregnancy and infertility in the longer term. Therefore early treatment is essential.

Organisms involved:

- Community acquired STI is the most common cause in women <30 years: *Neisseria gonorrhoeae (NG), Chlamydia trachomatis (CT)*
- Normal commensals that spread and become pathogenic (especially if underlying trauma/pregnancy/IUD): *Mycoplasma, Ureaplasma E. coli, klebsiella, actinomyces, bacteroides, coliforms.*
- **Often polymicrobial + up to 70% unidentified cause**
- There is a high rate of STI's in the Kimberley compared to the rest of the state (3-4x increased CT and 8x increased NG rates). Untreated CT has a 22% and NG has a 20% rate of progression to PID. Therefore it is important to maintain a high level of suspicion and low threshold for treatment.
- It is important to note that positive results are helpful, but negative STI test results do not exclude the diagnosis of PID.

ASSESSMENT

HISTORY:

Assess STI risk:

- < 30 years, new partner, previous STI
- Sex without condoms

Assess likelihood of pregnancy:

- Ask
- Menstrual history, contraception use
- (Test urine BHCG- see investigations)

History of presenting symptoms:

- Lower abdominal pain
  - Worse with movement, intercourse, periods
  - Usually bilateral, but may localise to one side
  - Pain may be in right upper quadrant due to perihepatitis from infection spread.
- Dysuria
- Heavy periods or inter-menstrual/post-coital bleeding
- May be vaginal discharge (Not always)
- Generally feeling unwell, nausea, vomiting, fevers (may indicate severe infection)

**Concurrent UTI may cause mixed signs/symptoms (eg. Dysuria and pelvic pain)*

Past medical + surgical history:

- Previous STI/PID/treatment
- Appendectomy/pelvic surgery, laparoscopy.

EXAMINATION:

Check temperature, pulse, BP, respiratory rate

Abdominal examination:

- Localized tenderness, guarding and rebound tenderness

Bimanual examination (if trained):

- Cervical excitation, adnexal tenderness
- (*sensitive finding but poor specificity)
- Pelvic mass
- Speculum exam (and PAP Smear if due)

INVESTIGATIONS

Urine:

- Urine pregnancy test BHCG- if positive exclude ectopic via trans-vaginal ultrasound if indicated.
- Urinalysis: if nitrites positive +/- urinary symptoms (dysuria, frequency) send for urine MC+S for ?UTI

If speculum examination performed:

- HVS swab for MC+S
- Endocervical swab for PCR CT/NG/TV and MC+S

If speculum examination not performed:

Ideally these tests are for asymptomatic individuals but if examination is refused or not appropriate:

- SOLVS swab for PCR CT/NG/TV and MC+S
- Urine first void sample for PCR CT/NG/TV

Blood tests:

- Consider FBC, ESR/CRP (discuss with doctor)
- HIV / Hepatitis B+C / Syphilis serology
  ** Hep B testing is not needed if immune*
- Check if any other blood tests are due

May need referral for Pelvic Ultrasound or diagnostic laparoscopy (discuss with doctor first).

**Even though a definitive PID diagnosis can only be made via laparoscopy, a probable PID diagnosis on history/exam/investigation findings is usually sufficient.*

FURTHER ASSESSMENT AND INVESTIGATION

Discuss urgently with doctor if any of the following are present:

- Pregnancy (confirmed or suspected)
- Severe symptoms/vomiting, unwell, fever >38.5C
- Significant one sided pain
- Rebound tenderness or guarding on abdominal examination.
- Symptoms are recurrent or persistent despite recent treatment

TREATMENT

1. Initial antibiotic therapy:

**Earlier treatment = better for patient outcomes.*

**Check for drug allergy before administration.*

- Azithromycin 1g PO stat dose

PLUS

- Ceftriaxone 500mg IM in 2ml 1% lignocaine stat dose

**ZAP is not appropriate treatment in Kimberley acquired PID (only in uncomplicated STI treatment)*

2. Further antibiotic therapy *(Outpatient Management)*:

- Azithromycin 1g PO stat 7 days after the first dose

PLUS EITHER

- Metronidazole 400mg PO 12 hourly for 2 weeks

OR

- Tinidazole 500mg PO daily for 2 weeks

**If concerned about compliance to 2 weeks metronidazole/tinidazole: Use 2g Metronidazole or 2g Tinidazole PO stat dose (local Kimberley guideline only)*

**Advise alcohol avoidance during treatment.*

Doxycycline 100mg PO 12 hourly for 2 weeks can be used if azithromycin contraindicated. It is considered more effective but less medication adherence is common.

***If Penicillin allergy=**

- Discuss with doctor
- May substitute ceftriaxone with 500mg ciprofloxacin single dose (not pregnant) or 2g azithromycin divided dose (pregnant).

Pelvic Inflammatory Disease (PID)

3. Severe Infection *(Inpatient Management)*:

- Metronidazole 500mg IV 12 hourly

PLUS

- Azithromycin 500mg IV daily
  (OR Doxycycline 100mg PO 12 hourly)

PLUS EITHER

- Cefotaxime 1g IV 8 hourly OR Ceftriaxone 1g IV daily

**Once clinically improved can the complete the 2 week treatment with the above oral regimen.*

4. Pregnant or breastfeeding:

Substitute Doxycycline with:

- Azithromycin 1g PO 7 days after the first dose (category B1)

Do not use ciprofloxacin or tinidazole options.

5. Other things to consider:

- Rest
- Analgesia – NSAID regularly (if not contraindicated), paracetamol as required
- Prevent candida infection- vaginal antifungal pessary

⚠ Discussion CONTRACEPTION AND SAFE SEX ongoing

FOLLOW UP

Contact tracing and notification:

Important as increased risk of further episodes, need to treat partner if STI suspected or proven. – See Kimberley Contact Tracing Guideline http://kamsc.org.au/wp-content/uploads/2016/11/Kimberley-Contact-Tracing-Guidelines-16-April-2015.pdf

- PID is not a notifiable condition unless CT/NG detected
- Contact tract up to 6 months depending on sexual history

Education:

- STI/HIV general counseling and education, condoms
- Avoid sexual intercourse until non-infectious and symptomatically better (and contacts are treated).
- At increased risk of further episodes

Follow up:

- Clinical review at 3 days to check symptoms are improving (and earlier review if worsening)
- Then weekly review until symptoms resolved.
- Retest at 3 months if NG or CT present to exclude reinfection- repeat full STI check (PCR+Bloods)
- Rapid response to treatment is highly predictive of PID. Consider Antibiotic resistance and or pelvic collection if no response, or alternate diagnosis
- If no/limited response to treatment consider another cause. Discuss with doctor as may need referral for ultrasound and laparoscopy.
- Ensure PAP Smear up to date

RECURRENT OR CHRONIC PELVIC PAIN

- Re-infection with chlamydia or gonorrhea is common in women with PID if their contact(s) were not treated or they have a new partner.
- Women with re-infection will commonly represent with a history of rapid response to initial PID treatment, followed by a recurrence of low abdominal pain 3-6 months later.
- Re-infection/recurrent PID is unlikely if there was no or limited response of pain to appropriate treatment, contact(s) were treated and no new partners.

If re-infection is likely:

- Retreat for PID
- Consider testing for other possible causes (such as SOLVS ECS/PCR swabs for mycoplasma genitalium)
- Ensure contact (s) are treated
- Still consider differential diagnosis for pelvic pain

If PID/re-infection is unlikely:

- Rethink the diagnosis and discuss with the doctor (Ddx include endometriosis, IBS, pelvic floor dysfunction)
- Refer for pelvic USS and gynaecology review (may need diagnostic laparoscopy)

Pid

TAKE HISTORY

- Presenting symptoms, presence of other genito-urinary symptoms
- Menstrual history, contraception and risk of pregnancy
- Sexual history, assess risk of sexually transmitted infection (STI)
- Medical and past history, including medications and allergies.

EXAMINE

- Abdominal Examination
- Bimanual examination (if possible)
- Speculum examination: TAKE SWABs

TESTS

- Urine pregnancy test
- Urinalysis ECS: Chlam/gon/mycoplasm S, ECS-MC and S

Pregnancy test positive **OR**
Severe symptoms **OR**
Significant one sided pain

DISCUSS WITH DOCTOR URGENTLY.

Refer for pelvic ultrasound to exclude:

- Ectopic pregnancy
- Ovarian mass/ruptured cyst

Initiate treatment (pre-USS):

- Azithromycin 1g PO **AND**
- Ceftriaxone 500mg IV/IM

Nitrites positive **AND/OR**
Dysuria/frequency

Send urine for MC+S, treat for UTI **AND** continue to follow PID flow chart

Make provisional diagnosis of PID IF:

Low abdominal (pelvic) pain (with/without other signs or symptoms of STI eg. abnormal bleeding, discharge) **AND**

- Pregnancy test is negative
- Ovarian mass is unlikely or excluded
- Pain is elicited on moving the cervix and/or adnexae (if bimanual examination performed)

TREATMENT - ***check allergies before treating, discuss with doctor if allergic to penicillin***

Initial treatment:

1. Azithromycin 1g PO as a single dose **AND** Ceftriaxone 500mg IM as a single dose

Continue with:

2. Metronidazole 400mg PO BD **(OR** Tinidazole 500mg PO daily for 14 days)
   - If compliance concerns: offer Metronidazole 2g PO or Tinidazole 2g PO stat dose instead
   - *Advise re: alcohol avoidance during treatment AND*
3. Azithromycin 1g PO as a single dose at Day 7 **(OR** Doxycycline 100mg PO 12 hourly for 14 days)
4. **NB In pregnancy do not use Tinidazole or Doxycycline*

CONTACT TRACING AND FOLLOW UP

- Advise to return for clinical review at 3 days (or earlier if worsening pain/concerned) – DISCUSS CONTRACEPTION AND CONDOMS
- If no improvement consider pelvic collection, antibiotic resistance, or both.
- Recall in 7 days: check adherence to medication, check response of pain to treatment

No or limited change 7 days after treatment

- Alternative diagnosis possible, consider also pelvic collections, antibiotic

GOOD RESPONSE

- PID Likely
- Give second dose of Azithromycin 1g at 1 week
- Complete an STI case management form (if positive result)
- Ensure contact(s) have been tested and treated
- Enter on recall system for a repeat STI check (PCR and bloods) at 3 months

RECURRENT LOW ABDOMINAL PAIN

Recurrence of low abdominal pain after initial rapid response to treatment: re-infection likely.

- Discuss with doctor
- Return to beginning of flow chart