Pelvic Inflammatory Disease (PID) - Acute - Full Clinical Guideline

Reference No.: UHDB/Gynae/07:21/P1

Contents

1. Introduction

Pelvic Inflammatory Disease (PID) is usually the result of infection ascending from the endocervix causing endometritis, salpingitis, parametritis, oophoritis, tubo-ovarian abcess and/or pelvic peritonitis. The sequelae may include infertility, increased risk of ectopic pregnancy and chronic pelvic pain. While sexually transmitted infections (STIs) such as Chlamydia trachomatis and Neisseria gonorrhoeae have been identified as causative agents, other organisms such as Mycoplasma genitalium, Gardnerella vaginalis and anaerobes may also be implicated.

Aetiology

Neisseria gonorrhoeae and *Chlamydia trachomatis* have been identified as causative agents but account for only a quarter of cases in the UK, whilst *Gardnerella vaginalis*, anaerobes (including *Prevotella*, *Atopobium* and *Leptotrichia*) and other organisms commonly found in the vagina may also be implicated. *Mycoplasma genitalium* has also been associated with upper genital tract infection in women.

2. Purpose and Outcomes

This guideline applies to women in either an outpatient or inpatient setting with confirmed or suspected acute PID.

This guideline offers recommendations on the diagnostic tests, treatment regimens and health promotion principles needed for the effective management of pelvic inflammatory disease (PID) covering the management of the initial presentation, as well as how to reduce transmission, complications and future repeat infection.

It is aimed primarily at women aged 16 years or older (see specific guidelines for those under 16) presenting to health care professionals working in departments offering specialist care in STI management within the United Kingdom. However, the principles of the recommendations

should be adopted across all providers – non-specialist providers may need to develop local care pathways where appropriate.

3. Abbreviations

BASHH - British Association for Sexual Health & HIV
GUM - Genito-Urinary Medicine
IUCD - Intra Uterine Contraception Device
PID - Pelvic Inflammatory Disease
STI - Sexually transmitted infections

4. Process for the management of Acute Pelvic Inflammatory Disease

4.1 Diagnosis

- PID may be symptomatic or asymptomatic. Even when present, clinical symptoms and signs lack sensitivity and specificity (the positive predictive value of a clinical diagnosis is 65-90% compared to laparoscopic diagnosis).
- Testing for gonorrhoea and chlamydia in the lower genital tract is recommended since a positive result supports the diagnosis of PID. The absence of infection at this site does not exclude PID however
- An elevated ESR or C reactive protein also supports the diagnosis but is non-specific
- The **absence** of endocervical or vaginal pus cells has a good negative predictive value (95%) for a diagnosis of PID but their **presence** is non-specific (poor predictive value – 17%)

Clinical symptoms and signs lack both sensitivity and specificity, however these may include:

Symptoms: Lower abdominal pain is typically bilateral but can be unilateral
Deep Dyspareunia
Abnormal vaginal or cervical discharge which is often purulent
Abnormal vaginal bleeding including inter-menstrual, post-coital and menorrhagia
Secondary dysmenorrhoea

Signs: Lower abdominal tenderness which is usually bilateral
Adnexal tenderness on bimanual vaginal examination
Cervical motion tenderness on bimanual vaginal examination
Fever (>38ºC)

A diagnosis of PID, and empirial antibiotic treatment should be considered and usually offered in any young (under 25) sexually active woman who has recent onset, bilateral lower abdominal pain associated with local tenderness on bimanual vaginal examination, in whom pregnancy has been excluded.

4.2 Investigations

Full Blood Count, CRP/ESR	elevated WCC and inflammatory markers support a diagnosis of PID
Triple swabs	testing should be carried out for Chlamydia and Gonorrhoea and though negative swabs do not exclude a diagnosis of PID, positive results are important to treat.
Pregnancy test	
Urinalysis +/- MSU	culture if appropriate
USS	may be useful to rule out inflammatory masses or rule out other pathology

4.3 Differential Diagnosis

Ectopic pregnancy, appendicitis, endometriosis, ovarian cyst complications (rupture or torsion), urinary tract infection, irritable bowel syndrome, septic abortion, and pain of unknown physical origin.

The differential diagnosis of lower abdominal pain in young women includes:

- Ectopic pregnancy – pregnancy should be excluded in all women suspected of having PID
- Acute appendicitis – nausea and vomiting occurs in most patients with appendicitis but only 50% of those with PID. Cervical movement pain will occur in about a quarter of women with appendicitis
- Endometriosis – the relationship between symptoms and the menstrual cycle may be helpful in establishing a diagnosis
- Complications of an ovarian cyst e.g. torsion or rupture – often of sudden onset
- Urinary tract infection – often associated with dysuria and/or urinary frequency
- Functional pain – may be associated with longstanding symptoms

4.4 Management

It is likely that delaying treatment increases the risk of long term sequelae such as ectopic pregnancy, infertility and pelvic pain. Because of this, and the lack of definitive diagnostic criteria, a low threshold for empiric treatment of PID is recommended. Broad spectrum antibiotic therapy is require to cover *N. gonorrhoeae*, *C. trachomatis* and a variety of aerobic and anaerobic bacteria commonly isolated from the upper genital tract in women with PID.

General Advice

Rest is advised for those with severe disease. (Grade C [IV])

Appropriate analgesia should be provided. (Grade C [IV])

Intravenous therapy is recommended for patients with more severe clinical disease (Grade C [IV]) e.g. pyrexia > 38°C, clinical signs of tubo-ovarian abcess, signs of pelvic peritonitis.

Patients should be advised to avoid unprotected intercourse until they, and their partner(s), have completed treatment and follow-up (Grade C [IV]).

A detailed explanation of their condition with particular emphasis on the long term implications for the health of themselves and their partner(s) should be provided, reinforced with clear and accurate written information (Grade C [IV]). A patient information leaflet is included in appendix 1 of this guideline.

When giving information to patients, the clinician should consider the following:

- an explanation of what treatment is being given and its possible adverse effects
- that following treatment fertility is usually maintained but there remains a risk of future infertility, chronic pelvic pain or ectopic pregnancy
- clinically more severe disease is associated with a greater risk of sequelae
- repeat episodes of PID are associated with an exponential increase in the risk of infertility
- the earlier treatment is given the lower the risk of future fertility problems.
- future use of barrier contraception will significantly reduce the risk of PID
- the need to screen her sexual contacts for infection to prevent her becoming reinfected

Mild to moderate PID

A low threshold is suggested for empirical treatment of PID due to a lack of definitive clinical diagnostic criteria, and because of the potential significant consequences of a lack of treatment. The main principles of management are:

- Appropriate antibiotics as per Antibiotics Guideline: click here for full guidelines
- Analgesia
- Admission for severe disease

- Avoiding unprotected sexual intercourse until the patient and partner(s) have completed treatment and any follow up.

In **mild to moderate PID** (in the absence of a tubo-ovarian abscess) patients can be treated as outpatients.

Outpatient therapy is as effective as inpatient treatment for patients with clinically mild to moderate PID.

Admission for parenteral therapy, observation, further investigation and/or possible surgical intervention should be considered in the following situations (Grade 1D):

- a surgical emergency cannot be excluded
- lack of response to oral therapy
- clinically severe disease
- presence of a tubo-ovarian abscess
- intolerance to oral therapy
- pregnancy

4.5 Management - Severe cases e.g. Pyrexia >38^{o}/Pelvic Peritonitis/Ovarian abcess

In **severe PID** patients should be treated as inpatients and started on the following antibiotic regime as per Antibiotics – Gynaecological infections click here for full guidelines

24 hours after clinical improvement, oral treatment can be commenced.

If there is no clinical improvement, add a stat dose of gentamicin dosed according to guidelines. Imaging should be done to exclude a collection – if present this should be drained. Surgical treatment may need to be considered in severe cases with clear evidence of a pelvic abcess.

Surgical management

- laparoscopy may help early resolution of severe disease by dividing adhesions and draining pelvic abscesses but ultrasound guided aspiration of pelvic fluid collections is less invasive and may be equally effective
- laparotomy may be required to assess and treat clinically severe pelvic infection
- it is possible to perform adhesiolysis in cases of perihepatitis but there is no evidence on whether this is superior to only using antibiotic therapy

4.6 Management - In pregnancy

PID is rare in women with an intra-uterine pregnancy, except in the case of a septic abortion. PID in pregnancy is uncommon but associated with an increase in both maternal and fetal morbidity, therefore parenteral therapy is advised although none of the suggested evidence based regimens are of proven safety in this situation.

There are insufficient data from clinical trials to recommend a specific regimen and empirical therapy with agents effective against gonorrhoea, *C. trachomatis* and anaerobic infections should be considered taking into account local antibiotic sensitivity patterns
Use of the recommended antibiotic regimens (listed in the antibiotics guidelines for non-pregnant women in very early pregnancy (prior to a pregnancy test becoming positive) is justified by the benefits of treatment of PID at any stage of pregnancy being likely to outweigh any possible risks.

4.7 Intra-uterine contraception device

The insertion of an intrauterine device (IUD) increases the risk of developing PID but only for 4-6 weeks after insertion. This risk is probably highest in women with pre-existing gonorrhoea or *C. trachomatis*.
Evidence whether an intrauterine contraceptive device should be left in situ or removed in women presenting with PID is limited.
In women with mild to moderate PID the IUD may be left in situ but a review should be performed after 48-72 hours and the IUD removed if significant clinical improvement has not occurred. The decision to remove the IUD needs to be balanced against the risk of pregnancy in those who have had otherwise unprotected intercourse in the preceding 7 days. Emergency

hormonal contraception following removal of an IUD may be appropriate for some women in this situation.

4.8 Women with HIV

Women with HIV are more likely to have clinically more severe PID. However they should be treated with the same antibiotic regimes as they respond equally as well to treatment as women who are not infected.

4.9 Follow up

All investigation results should be followed up to ensure reviewed and managed appropriately. Women with positive results should be referred to the GUM clinic.
Appointments and follow-up should be arranged with the hospital, GP or GUM clinic as appropriate to ensure:

- Adequate response to therapy
- Test of cure where necessary
- Compliance with treatment
- Completing treatment of sexual contacts

Review at 72 hours is recommended for those with moderate or severe symptoms or signs. Failure to improve suggests the need for further investigation, parental therapy and/or surgical intervention.

Further review, either in clinic or by phone, 2-4 weeks after therapy is recommended to ensure:

- Adequate clinical response to treatment
- Compliance with oral antibiotics
- Screening and treatment of sexual contacts
- Awareness of the significance of PID and its sequelae
- Repeat pregnancy test, if clinically indicated

If initial testing for gonorrhoea was positive, repeat testing should be routinely performed after 2 to 4 weeks. If initial testing for *C. trachomatis* was positive, repeat testing after 3 to 5 weeks is appropriate for women who have persisting symptoms or where compliance with antibiotics and/or tracing of sexual contacts indicate the possibility of persisting or recurrent infection.
The following are recommended if the initial test for *M. genitalium* is positive:

- treatment with moxifloxacin. This agent currently has good microbiological activity against *M. genitalium* (Grade 1D)
- repeat testing for *M. genitalium* following treatment to ensure microbiological clearance.

Treatment failure following the use of any of the recommended regimens has been reported but is least likely following treatment with moxifloxacin. The optimal time for testing after starting treatment is not known but 4 weeks is recommended based on expert opinion (Grade 1D).

Fluoroquinolones such as moxifloxacin can very rarely cause long-lasting, disabling, and potentially irreversible side effects. sometimes affecting multiple systems, organ classes, and senses. Patients should be advised of these risks and the actions to take. The MHRA patient information leaflet can be found here.

The MHRA and CHM have released important safety information regarding the use of fluoroquinolones. **See the BNF for further information (click here)**

5. Local GUM referral

The department of Genito-Urinary Medicine is based at (the) London Road Community Hospital and can be contacted on 01332 254681.
They run a walk in service.

6. Monitoring Compliance and Effectiveness

As per agreed audit forward programme

7. References

British Association for Sexual Health and HIV, Guideline for PID
http://www.bashh.org/guidelines

Documentation Control

Reference Number: UHDB/Gynae/07:21/P1	**Version:** **UHDB 1**		**Status: FINAL**	
Version / Amendment	Version	Date	Author	Reason
	1	2005	Miss G Scothern, Associate Specialist Dr Bullock Consultant	New
	2	2011	Dr M Chester; StR	Updated in line with recommendations
	3	2015	Miss S Tahseen Consultant	Review & Update
	3.1	Aug 2017	Maternity Guideline Group Julia Lacey – Lead Pharmacist	Synchronised with Antibiotics guideline
UHDB	1	Nov 2020	Dr Tabassum – SpR (RDH) Dr Davies – SpR (QHB) Miss Chikhes – O&G Consultant	Review / merge
Intended Recipients: All staff with responsibility for the management of patients within gynaecology with confirmed or suspected acute PID.				
Training and Dissemination: Cascaded through lead sisters//doctors: Published on Intranet: NHS mail circulation list. Article in BU newsletter				

Consultation with:	Pharmacy / Microbiology / GU Medicine
Business Unit sign off:	14/12/2021: Gynaecology Guidelines Group: Miss B Purwar – Chair 12/01/2021: Gynaecology Development & Governance Committee: Mr J Dasgupta – Chair
Divisional sign off :	23/03/2021
Implementation date:	01/07/2021
Review Date:	March 2024
Key Contact:	Cindy Meijer