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Acute Pelvic Inflammatory Disease (PID)

Definition:

"Pelvic inflammatory disease (PID) is usually the result of infection ascending from the endocervix causing endometritis, salpingitis, parametritis, oophoritis, tubo-ovarian abscess and/or pelvic peritonitis"[1].

Epidemiology:

PID accounts for 1/60 of all GP consultations in under 45 year old women making it a fairly common disease[1].

Chlamydia rates are currently at a high with 140 million persons being infected worldwide[3].

Gonorrhea rates are 62 million infections annually[3].

10-20% of patients with untreated chlamydia and gonorrhea will develop PID[2].

Pathology:

The ascending infection of PID can lead to complications of scarring, adhesions and distortion of pelvic anatomy[4]. These effects on the reproduction tract are exacerbated by a repeated acute or chronic disease process[4]. For areas affected see figure 1.

This process commonly results in complete tubal closure, peri-tubal adhesions, mucosal damage and cilia damage[4]. This is what leads to the devastating consequence of infertility in woman that suffer from acute pelvic inflammatory disease[4].

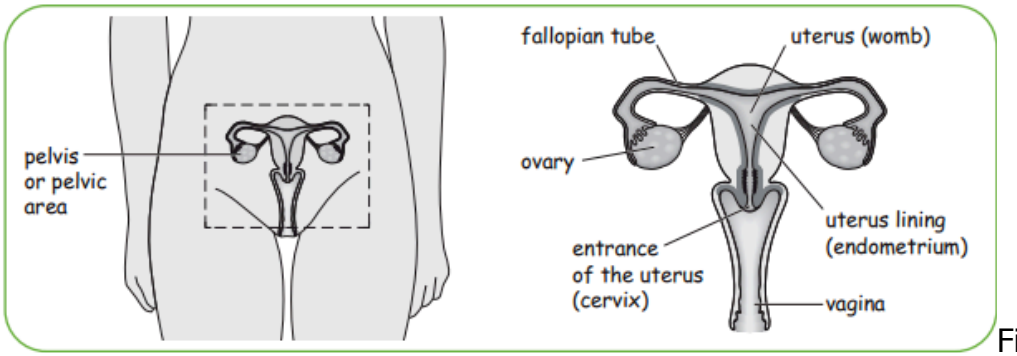

Figure 1[1]

Aetiology:

The main causes of PID are:

- Chlamydia trachomatis
- Neisseria gonorrhea
- Mycoplasma hominis
- Mycoplasma genitalium
- Anaerobes[5]

The contraction of PID is strongly related to sexually transmitted infections (STIs) but other organisms may rarely cause PID (such as bacterial vaginosis)[5].

Rates of PID are also higher following 'instrumentation of the cervix' - e.g. insertion of IUCD, STOP - which is why women are screened before procedure or treated prophylactically..

Symptoms:

Symptoms of PID vary, this makes the diagnosis of PID difficult to come by.

Commonly these symptoms are:

- Abnormal bleeding
- Discharge
- Severe abdominal, pelvic or rectum pain
- Fever
- Vomiting
- Dyspareunia[6]

Investigations:

The investigations used in PID diagnosis are (in order):

- Medical history (including a sexual history).
- Vaginal examination
- Triple vaginal swabs (high vaginal swabs, endocervical swabs and low vaginal swabs).
- Urethral swab
- FBC
- MSU
- HCG Pregnancy test
- Transvaginal ultrasound scan
- CT
- Diagnostic laproscopy[1]

Differential Diagnosis:

- Appendicitis
- Ectopic Pregnancy
- Endometriosis
- Interstitial cystitis
- Ovarian cyst
- Ovarian torsion[6]
- Gynaecological Cancers

Treatment:

Medical Treatment:

- Doxycycline and metronidazole[7] dual treatment for two weeks. (Plus stat Azithromycin or Ceftriaxone. Usually - single dose) This is started as soon as diagnosis is suspected to limit complications of untreated PID)
- Paracetamol as analgesia.

Surgery:

- Laparoscopy to reconstruct blocked tubes (Usually only after a hystero-salpingogram has shown hydrosalpinx or blocked tubes i.e. no spillage of methylene blue out of tube - this is usually only done when women fail to fall pregnant after 2 years), remove damaged tissue and to drain any abscesses[7].

Sexual Partners:

- It is important to treat current sexual partners as well as the patient.
- Contact tracing should be used to access all sexual partners.
- Referral to GUM clinic advised for this.

Complications:

Complications of PID are:

- Infertility in up to 20%
- Ectopic pregnancy 9%
- Chronic pelvic pain 18% - due to adhesions[6].
- Psychological consequences of infertility secondary to PID - women often feel 'responsible' or 'at fault'

Prevention:

The idea is to reduce the risk of PID by reducing rates of STIs through public health campaigns such as promoting the use of [7] condoms and other barrier methods and encouraging screening for 'at risk' groups [7].

References:

1- Royal College of Obstetricians and Gynaecologists, 2010, Acute Pelvic Inflammatory Disease, [Online], Available at: http://www.rcog.org.uk/files/rcog-corp/Acute%20Pelvic%20Inflammatory%20Disease%20(PID)_0.pdf. [Accessed 09/02/13].

2- Centres for Disease Control and Prevention, 2012, STDs in women and infants, [Online], Available at: http://www.cdc.gov/std/stats11/womenandinf.htm. [Accessed 09/02/13].

3- World Health Organisation (WHO), 2013, Sexually Transmitted Diseases, [Online], Available at: http://www.who.int/vaccine_research/diseases/soa_std/en/index1.html. [Accessed 09/02/13].

4- Allan Templeton, 1996, The Prevention of Pelvic Infection, First edition, Dorchester, RCOG Press, P14- 15.

5- B. Magowan, P. owen, J. Drife, 2009, *Clinical Obstetrics and Gynaecology,* 2nd edition, London, Saunders Elsevier, P128- 129.

6- Bupa UK, Pelvic inflammatory disease, May 2011, http://www.bupa.co.uk/individuals/health-information/directory/p/pelvic-inflammatory-disease#textBlock275683. Accessed 24/10/12.

7- R.L.Sweet, 2011, Treatment of Acute Pelvic Inflammatory Disease, Infectious diseases in Obstetrics and Gynaecology, 2011: 561909.