PELVIC INFECTION

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INTRODUCTION

- Pelvic infection is common and usually results from sexually transmitted pathogens ascending from the lower to the upper genital tract.
- Infections also occur following pelvic surgery, in the puerperium and after instrumenting the uterus

ORGANISMS ASSOCIATED WITH PID

- Pelvic inflammatory disease is a polymicrobial infection.
- *N. gonorrhoeae* and *chlamydia* are the most frequently recognized pathogens
- A wide variety of other bacteria and viruses can also be isolated from the fallopian tubes of women with PID

CLINICAL PRESENTATION

The clinical diagnosis of PID is based on the presence of

- Lower abdominal pain (usually bilateral)
- Adnexal tenderness
- Cervical motion tenderness

- A comprehensive medical history and examination is essential and
- A speculum exam is necessary to
  - enable appropriate swabs to be taken and also to
  - exclude foreign bodies in the vagina such as retained tampons

SUPPORTING FEATURES

- Intermenstrual / abnormal bleeding
- Postcoital bleeding
- Increased / abnormal vaginal discharge
- Deep dispareunia
- Vaginal discharge
- Fever
- Nausea and vomiting
- Generalised peritonitis

DIFFERENTIAL DIAGNOSIS

- Ectopic pregnancy
- Ovarian cyst rupture/torsion
- Torsion of a fibroid
- Appendicitis
- Urinary tract infection

INVESTIGATIONS

- Pregnancy test mandatory
- Endocervical swab for gonorrhoea culture and chlamydia nucleic acid amplification testing
- Screening for STIs should be offered to women who test positive for gonorrhoea or chlamydia and those at high risk
- HIV
- Syphilis serology

INVESTIGATIONS

- Ultrasound of the pelvis may be useful where there is diagnostic difficult (There are no features however which are pathognomonic of acute PID)
- Scanning may help to exclude ectopic pregnancy, ovarian cysts, or appendicitis
- Scanning can also identify dilated fallopian tubes or tubal abscess

INVESTIGATION

- Laparascopy – for many years considered the definitive diagnostic procedure for PID
- As an invasive procedure, it should be reserved for those cases where there is an element of doubt as to the diagnosis of acute PID or
- in cases where patient fails to respond to antibiotics within 48 – 72 hours

TREATMENT

- Rest
- Adequate analgesia
- Most patients can be managed as outpatient but those severe symptoms such as an acute abdomen will require inpatient care
- Broad spectrum antibiotic cover to include gonorrehoea, chlamydia and anaerobes is required

TREATMENT

- Management of partners
  - PID is usually secondary to an STI
  - the male partners have to be identified and either screened for infection or treated empirically
  - the woman with PID is at high risk of a recurrence if partner is not treated

TREATMENT

- Surgical interventions rarely required as a treatment for acute PID
- However, if pelvic abscess diagnosed on U/S and not resolving with antibiotic treatment, surgical intervention is entertained
- laparascopy or laparatomy may be done to drain the abscess

THE COST OF TREATING PID

- The psychological and fiscal costs of PID are substantial
- The uncertainty of the diagnosis and difficulty in predicting the subsequent risk of infertility, chronic pelvic pain or ectopic pregnancy add to the anxiety associated with PID
- The feelings of blame, guilt and isolation that the diagnosis of an STI may instill
- Most monetary costs arise from surgical interventions to diagnose and treat the consequences of tubal damage

CHRONIC PELVIC PAIN

It is generally accepted that episodes of acute PID can lead to symptoms of chronic pelvic pain

- The cause of chronic pelvic pain remains controversial
- It may be that damaged tubes act as a nidus for recurrent infection
- Or it may be due to adhesions tethering or encapsulating the pelvic organs
- Or due to altered behaviour of pelvic nerves damaged by infection

FORMATION OF PELVIC ABSCESS

- If the endosalpinx is destroyed in part or whole and converted into granulation tissue, pus is formed
  - The pus can escape into the peritoneal cavity
  - Or retained within the tube to result in pyosalpinx
  - Or collect in the ovary to form ovarian abscess
  - Or collect in both to produce tubo-ovarian abscess
  - Pus may collect in the POD - pelvic abscess

PUERPERAL INFECTION

- Puerperal pyrexia may have several causes but it is an important clinical sign that merits careful investigation
- Infection may occur in several sites and each needs to be investigated in the presence of elevated temperature

CAUSES OF POSTNATAL PYREXIA

- Urinary tract infection
- Genital tract infection
  - Endometritis
  - Infected episiotomy
- Mastitis
- Wound infection following caesarean section
- Deep vein thrombosis
- Other infections e.g. chest infection, throat infection, viral infections

URINARY TRACT INFECTION

- This is common in the puerperium following the frequent use of catheterization during labour
- Catheterization is also done before a C/S
- Escherichia coli is the commonest pathogen

GENITAL TRACT INFECTION

- The genital tract defences are weakest during and immediately after abortion or labour because
- There is a raw placental site
- There are often breaks in the epithelial linings of cervix and vagina
- The tissues are bruised and devitalized

GENITAL TRACT INFECTIONS - CONT

- The vulva, vagina and cervix are wide open
- The discharge of liquor and lochia (both alkaline) reduces vaginal acidity
- Degenerating blood clots and fragments of decidua offer a nidus for infection
- The patients general resistance is lowered by the strain of pregnancy and possibly anaemia and malnutrition

GENITAL TRACT INFECTIONS - CONT

- The most virulent organism is *B- haemolytic* streptococcus
- However, more commonly chlamydia, *Escherichia coli* and other gram negative bacteria

WOUNDS

- Surgical wounds should be examined for evidence of infection
- Wound infection may manifest itself as a reddened deep area to the incision which may be surrounded by induration
- Treatment will depend on the extent and severity of the infection

WOUNDS - CONT

- If infection is well localised, it may discharge spontaneously
- Abscess will require incision and drainage
- Broad spectrum antibiotics will be required
- Bacterialogical specimens will be sent for examination

OTHER CAUSES

- The legs should always be inspected if a puerperal pyrexia is present because of the risk of
- Thrombophlebitis
- May also be a sign of Deep Vein Thrombosis
- Breasts should be examined for signs of breast infection
- Breast abscess formation is unusual before 14 days after birth

POST PELVIC SURGERY

Pelvic surgery such as hysterectomy is invariably associated with a significant risk of post operative infection

- This is because it is virtually impossible to render the vagina totally aseptic
- Prophylactic antibiotics are usually used during surgery
- However postoperative pelvic infections usually secondary to haematoma formation are not uncommon
- Most infections are caused by anaerobes

PREVENTION

Instrumentation of the uterus

- There is significant risk of introducing infection into the upper genital tract when instrumenting the uterus
  - Particularly in women at high risk of subclinical cervical chlamydia infection e.g. those <25years

PREVENTION

- The most common indications for instrumenting the uterus are
  - Therapeutic surgical termination of pregnancy
  - Insertion of IUCD
  - Investigations for subfertility
- In developed countries like the UK, it is mandatory to offer screen and treat policy or routine prophylaxis for all women undergoing such management

PREVENTION

- Use of barrier contraception
- Chlamydia screening programs (being done in UK)

ACKNOWLEDGEMENTS

- Dewhurst's Textbook of Obstetrics and Gynaecology
- Gynaecology by Ten Teachers

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