

Endometriosis

Definition

Endometriosis is a common, benign, gynaecological condition, resulting from the presence of endometrial tissue outside the endometrial cavity, which is characterised by pelvic pain worsening in the time leading to menstruation and relieved by menstruation.

Adenomyosis is a similar condition, where the ectopic endometrial tissue is located in the myometrium, characterised by dysmenorrhoea.

Epidemiology

It is difficult to define the true prevalence of endometriosis, as diagnosis requires invasive laparoscopy, which is therefore not performed on large numbers of women in research trials. However, it is estimated that 1–2% of females of reproductive age are affected. ^[1]

There appears to be a slight decrease in the incidence of endometriosis in African-American women when compared to Caucasian women. ^[2]

Aetiology and Risk Factors

Risk factors for endometriosis include:

- Positive family history
- Early menarche
- Structural defects of the reproductive system
- Nulliparity
- Gynaecological surgery
- Caesarean section

There are recognised theories about possible causes of the outward spread of endometrium in endometriosis, but no definitive cause has been found.

1. **Retrograde menstruation**
2. Sampsons theory was first described in 1970, and involves reflux of menstrual blood through the fallopian tubes, into the peritoneal cavity. It has been widely accepted for many years, as it has been reproduced in animal models, and is supported by the fact that endometriosis is more common in women with genital tract abnormalities. However, laparoscopic investigations in perimenstrual women has shown evidence of retrograde menstruation in a high percentage of women, most of who

are unaffected by endometriosis, therefore the theory doesn't adequately explain the development of the disease. [3]

3. **Coelomic metaplasia**

4. Meyers theory of coelomic metaplasia postulates that endometriosis results from transformation of coelomic epithelium into endometrial tissue, and is based on the fact that the peritoneum and endometrium share the same common embryonic origin. This theory may explain the presence of endometriosis in women who have undergone total hysterectomies.[3]

5. **Genetic and immunological factors**

6. More recent research has put more emphasis on the influence of immunological factors in the development of endometriosis. It is likely that immunologic dysfunction alters the susceptibility of certain women to the development of endometriosis. There is an increased incidence in women with first degree relatives with endometriosis, and also a high level of concordance between identical twins, which supports the theory that genetic factors play a role. [4]

Pathophysiology

Histologically, the tissue found in endometriosis contains endometrial glands and stroma, and has with evidence of bleeding. There is usually a large quantity of inflammatory cells surrounding the tissue also. The continuous cycle of bleeding and inflammation in response to hormonal fluctuation of oestrogen levels leads to fibrosis. This can cause pain due to the formation of adhesions in the abdominal and pelvic cavities.

The most common sites of implantation include the ovary, other pelvic organs, and peritoneum, but distant sites have been reported, most probably due to lymphatic spread.

The lesions are described as 'chocolate cysts' which can be seen on laparoscopy, and appear brown due to the presence of haemolysed blood. [4]

Clinical Features

Symptoms	Signs on examination
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Severe cyclical pelvic pain related to menstruation Deep dyspareunia Infertility Local symptoms related to the site of endometriosis include: – Cyclical haematuria – Epistaxis – Cyclical PR bleeding – Cyclical haemoptysis	Pelvic tenderness Fixed retroverted uterus Adenexal mass
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Investigations

Diagnosis of endometriosis can only be made by diagnostic laparoscopy. This is the 'gold standard' diagnostic procedure. The presence of 'chocolate cysts' or characteristic blue-brown 'gun powder' type burns confirms the diagnosis. Adhesions may also be seen.

An advantage of laparoscopy is that if endometriosis is confirmed, it can be treated by diathermy or excision of the lesions, which may relieve symptoms temporarily. In a large proportion of women symptoms recur after one year.

Other investigations include:

- Transvaginal ultrasound, which may show the presence of large cysts, but more often than not is used to reassure the patient that there are no structural abnormalities.
- MRI scan, which detects much smaller lesions than ultrasound, but is only used in complex cases. [5]

Management

Medical:

The main aim of medical treatment is to suppress oestrogen levels, to control symptoms.

1. Analgesics
NSAIDs are used for symptom control effectively in some women
2. Hormonal agents
3. These are effective in producing amenorrhoea, and if taken continuously for 6 months can alleviate the pain associated with dysmenorrhoea. However, the recurrence rate is high once the treatment is stopped. Options include:
4. – COCP taken continuously

5. – Progestogens in the form of the progesterone only pill or an intrauterine device, suitable for women with risk factors contraindicating the use of the COCP
6. – Ovarian suppression agents, such as danazol
7. – Gonadotropin-releasing hormone agonists, which are effective, but carry the risk of osteoporosis if used long term. To combat this, low dose hormone replacement therapy can be given, called ‘add-back’ therapy.

Surgical:

Surgery can be conservative or radical. Options include:

1. Laparoscopic excision or diathermy of endometriotic lesions, often performed during diagnostic laparoscopy, but recurrent risk is relatively high at 30%
2. Hysterectomy and bilateral salpingo-oophorectomy in women who have completed their families, which is usually curative.^[6]

Complications of the disease

Infertility

Many women with endometriosis suffer with subfertility. The cause is usually multifactorial, and could include anovulation due to ovarian dysfunction, reduced tubal motility, immune reactions to the presence of sperm, or deep dyspareunia. There is place for ovulation induction in certain women to help with conception. Laparoscopy may be offered to such women to assess tubal patency and treat any endometriosis that may be distorting anatomy leading to subfertility.

References

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