

A WOMAN'S GUIDE TO ENDOMETRIOSIS

THE FEMALE REPRODUCTIVE ORGANS

All the main organs of childbearing - the uterus (womb), Fallopian tubes, ovaries, cervix and vagina - are carried in the pelvic basin, which lies between the hips.

The uterus is soft, hollow, and pear-shaped, and weighs about 40 grams when it isn't nourishing a developing embryo. It rests against the back and top of the bladder, in front of the lower bowel. From the sides of the uterus, near the top, two thin Fallopian tubes extend towards the ovaries, ending in funnel openings with finger like projections which collect mature eggs and convey them to the uteral cavity. Sperm are carried in the other direction through the tubes, causing a pregnancy when a healthy egg is encountered. The ovaries are two walnut-sized organs consisting of cells which make female hormones, and groups of cells formed into sacs called follicles which produce eggs. Midway through each monthly cycle, a single ripened egg is released from an ovary and gathered up by the fallopian receptacles.

The lower, tapering end of the uterus forms the cervix, a narrow passage which joins the uterus to the vagina, creating a continuous birth canal.



The endometrial membrane lines the uterus and thickens in preparation for pregnancy. If an egg is fertilized at ovulation, it will implant itself in the endometrium and begin dividing. If conception does not occur, the endometrium breaks down and is discharged as menstrual flow. The lining of the uterus is then restored and the cycle is repeated.

ENDOMETRIOSIS

Endometriosis is a condition which occurs when fragments of tissue from the lining of the uterus are found attached to other internal organs. Although misplaced cell clusters have been identified in many parts of the body, they are most commonly found on the bladder, the peritoneum, the reproductive organs, the bowel and the ligaments which hold the pelvic organs in place. Endometrial implants appear as small black dots, alone or in patches, and as cysts lying on the surface of the ovaries. They respond to the hormonal changes of the menstrual cycle, filling with blood and then bleeding directly onto the closely-packed pelvic organs. The trapped blood irritates the surface tissues, causing inflammation and the development of scar tissue. As the condition progresses, scarring at different sites leads to the formation of adhesions - expansive, web-like films which bind organs together and prevent their slippery surfaces from sliding against each other. Although adhesions can become very dense, not all implants create scar tissue, and some may disappear altogether over time. The usual progress of the disease is slow, with long periods of stability. Ovarian cysts can vary in size from a grain of sand to a small melon, but are always benign: endometriosis is not a form of cancer.

RISK FACTORS

Endometriosis appears during the reproductive years, mainly between the ages of 25 and 40. Although it is a commonly reported ailment, it has not been possible to determine how many are affected, because some women have no symptoms and many others are never diagnosed. Estimates of its occurrence range from 10-20% of fertile women, and 20-68% among women who are unable to conceive. The probability of contracting endometriosis is increased by 7-10% if a close relative has been a sufferer; but there are no reliable comparisons of risk between women of different races or economic classes.

CAUSES

The cause or causes of this condition are not known. Numerous theories have been offered to account for the displacement of living tissue to parts of the body where it has no function, but none is entirely satisfactory.

One suggestion is that women do not contract endometriosis, but are born with it. Researchers have also argued, and demonstrated, that menstrual waste can be forced upwards and out through the Fallopian tubes by muscle spasms in the uterus. The appearance of endometrial cell clusters at some distance from the source (e.g. on the lungs) has persuaded others that the bloodstream is the main carrier. Much investigation remains to be done before this distressing condition can be properly understood.

SYMPTOMS

Pain is the most common symptom reported by patients, either on its own or linked with other complaints. Enquiries have shown, however, that the intensity and frequency of discomfort are determined more by the location of the disorder than by the number and size of implants. In 1984, the National Endometriosis Society compiled this table of symptoms presented by patients diagnosed with the illness:

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Although the known symptoms of endometriosis can be recorded, they do not include all cases: there are women who are afflicted but have no symptoms.

DIAGNOSIS

No one has yet devised a simple, fast and foolproof test for endometriosis. Symptoms alone are not a reliable indicator - they are sometime similar to those of other illnesses, or may be absent altogether. The best current diagnostic procedure is about 70% accurate.

The doctor will often look first for irregularities in the form, movement and sensitivity of the pelvic organs, by feeling the abdomen on the outside. Vaginal and rectal examinations may follow, to determine whether lumps, adhesions, or tenderness are present in the pelvic organs. Although these tests are beneficial, they cannot show conclusively that the patient is free of implants.

The most effective way to diagnose endometriosis is to view it directly with a laparoscopic. This instrument is a thin, rigid, fibre optic tube which allows the doctor to inspect the organs of the pelvic region, especially those most often

disabled by endometrial deposits. Laparoscopy is a simple surgical procedure which can be completed in less than one hour, often on an out-patient basis, and rarely causes more than minor discomfort. Under local anaesthetic, a small incision is made near the patient's navel and the laparoscope inserted. When the examination is complete, a sample of tissue may be removed to assist with diagnosis.

During laparoscopy it is sometimes possible to assess the severity of the condition by noting the density of adhesions and the number of implant sites. However, very small, colourless or hidden deposits may be overlooked, causing the doctor to mis-diagnose the patient's complaint. Laparoscopy is the most effective diagnostic tool available, but there are other helpful procedures. An ultrasound scan provides evidence of cysts, implants and tumours above 2 centimetres in size, and is useful when determining the extent of advanced cases. There are also tests to determine the health of specific organs - the urinary tract, for example, and the uterus - and researchers are pressing ahead with development of a blood test to reveal the presence of endometrial secretions. A possible vaccine is being considered for the future. Medical technology is moving towards earlier recognition and more effective treatment of endometriosis.

TREATMENT- DRUGS AND/OR SURGERY

Doctors have long known that the symptoms of endometriosis recede when a woman is pregnant or menopausal. Without the hormonal influence of the menstrual cycle, endometrial implants are no longer able to thicken, bleed, and spread to other locations. The numerous drugs available for treatment of this condition are intended to suppress ovulation, stop menstruation and/or mimic pregnancy, all of which cause endometriomas to waste away. Since the main stimulant to normal endometrial development is the female hormone oestrogen, drug therapy is aimed primarily at reducing its presence in the system. Danazol was until recently the most commonly prescribed of oestrogen-suppressing drugs. It is very effective at stopping periods, reducing pain and shrinking implants, but cannot be taken by women who are pregnant or breast feeding, nor by those with heart, kidney, or liver complaints. Danazol also carries a number of side effects, which appear in combinations and intensities that are highly individual. The most common effect is weight gain, reported by 85% of patients in one survey. Other problems include hot flushes, mood swings, oily skin, shrunken breasts, sweating, water retention and depression. As Danazol is a synthetic male hormone, a small number of patients have also experienced increased hair growth and voice changes.

Gestrinone is a synthetic hormone which suppresses secretion of hormones from the pituitary gland, suspending both ovulation and periods. Studies indicate that

there may be complete regression of endometriosis in most patients receiving this treatment; but there is a similar group to those forbidden Danazol who cannot be given Gestrinone. The side effects are also much the same for both drugs.

Progesterone is a female hormone which can be produced in a form which shrinks both the lining of the womb and any endometriomas compromising pelvic organs. It carries fewer side effects than Danazol and Gestrinone, but again is not available to patients who are pregnant or suffering disfunction of major organs. Unlike Danazol, however, it cannot restore fertility by clearing the passage between the ovaries and the uterus; it can only suppress further growth of adhesions.

The most recent class of synthetic hormones to show promise in the treatment of endometriosis is called Gonadotrophin-releasing hormone agonists (GnRH). Their effect is to arrest ovarian functions and create a temporary reversible menopause. Administered as an injection or nasal spray, these agents are at least the equal of other synthetics in reducing endometrial deposits and alleviating pain. The side effects are similar to those of a true menopause: hot flushes, mood changes, painful intercourse due to vaginal dryness, headaches, depression, and some reversible loss of bone calcium. The effectiveness of GnRH is not diminished by a supplement of progesterones or hormone replacement therapy to reduce side effects. Some patients are allergic to GnRH treatment, and to other drugs in the class. Although 90% of patients show improvement after six months of drug therapy, further treatment may be necessary for one in five within a year. A small number of patients whose condition is diagnosed as mild or moderate may find their symptoms suspended for years after drug treatment alone. For some women however endometriosis can only be successfully confronted with a combination of drugs and surgery. Surgery is either 'conservative', leaving organs intact, or 'radical', requiring removal of the uterus, Fallopian tubes and ovaries thus leaving the patient permanently sterile.

Conservative surgery is most often performed when a laparoscopic inspection has revealed implants or scar tissue which are clearly visible. Surgery to remove these deposits can now be undertaken at the same time as the diagnostic search, using the Helica T.C. or in a later operation.

Only mild to moderate cases are treated by laparoscopic surgery, formerly by electrocautery (burning off), but more often now by laser ablation, which evaporates unwanted tissue by means of a concentrated light beam.

The most recent advance in conservative surgery is the Helica thermal coagulator, This instrument uses a combination of helium gas and electrical current to deliver a precisely regulated flow of thermal energy to endometrial tissues. The effects are similar to those of laser therapy, with penetration to a depth of one cell possible at the lowest settings. The advantages of the thermal coagulator lie in its simplicity, ease of control, safety, and low cost. Operating time is significantly reduced and pain is greatly diminished thereafter. There are no

side effects, and because of its low power consumption, the Helica thermal coagulator can be used for removal of superficial implants on very sensitive surfaces.

Radical surgery involves laparotomy which is a major operation. The surgeon opens the abdomen with a 10-15 centimetre incision to remove the densely packed scar tissue and embedded ovarian cysts of advanced endometriosis. Although this procedure allows the doctor to examine the hidden surfaces of pelvic organs, there is some risk of adhesions forming because of the surgery. Endometrial implants may also reappear in 35% of patients within 5 years. Only one-fifth of patients did not report reduction of pelvic discomfort, and 52% of infertile women subsequently became pregnant.

When all other treatments have failed and extreme symptoms of endometriosis persist, surgery to remove the reproductive organs may be the only option. The disease will then be eliminated in about 95% of patients, and the problems of menopause can be countered with hormone replacement therapy.

CONCLUSION

Endometriosis is a chronic, often disabling illness which causes suffering to millions of women. Although the development of the Helica T.C. is a significant step forward in alleviating the symptoms of the condition, no treatment has yet been found that is 100% effective. Refinement of the latest laparoscopic instruments, however, offers real promise for long-term relief from pain and infertility.