Papers and Originals

Pelvic Pain*

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One of the commonest complaints of women is pain of varying character situated in the pelvis, in the lower abdomen, and sometimes in the lower back which is attributed, rightly or wrongly, to some lesion in the organs of reproduction. For convenience this group of discomforts is here included under the general title of "pelvic pain." In choosing such a subject for this address I do so not because it is an easy one but because it constitutes a problem which is encountered so often by all practising doctors, irrespective of their specialty and status.

Innervation of Pelvic Organs

Understanding of pelvic pain is hampered by the fact that knowledge of some of the features of the innervation of the human female pelvic organs remains uncertain. For example, it is established that the uterus, tubes, and ovaries have only an autonomic nerve supply, but, in woman, it is not known whether the uterus receives both parasympathetic (cholinergic) and sympathetic (adrenergic) nerves or whether it has only a sympathetic component. If the latter, then one system of nerves must be both sensory and motor, and the motor stimuli must be both stimulatory and inhibitory.

There is also a difficulty in deciding to what extent autonomic nerves demonstrated in the pelvic organs carry impulses to and from blood vessels, and to what extent they are motor or sensory to other tissues.

Here we are concerned with only sensory functions, and in this respect clinical and other observations permit conclusions to the effect that:

(1) Pain sensations from the uterus travel via the inferior and superior hypogastric plexuses to the pre-aortic plexus. The inferior hypogastric plexus also has connexions with the S2, S3, and S4 nerve roots.

(2) In the case of the tubes and ovaries pain sensations travel via the autonomic nerves which accompany the ovarian vessels to enter the intermesenteric plexus.

(3) The central connexions are such that to abolish pain sensations from the whole genital tract it is necessary to interrupt spinal pathways as high as T10 segment. This matches with clinical observations to the effect that pain of uterine and tubal origin, such as results from expulsive uterine contractions or salpingitis, is referred to the lower part of the abdomen where the segmental innervation is T10 to 12.

External Pelvic Organs

The external sex apparatus, which for this purpose includes the perineum, vulva, and lower vagina, is supplied by somatic

nerves, mainly by the pudendal nerve and its branches. So the tissues of the vulva, introitus, and perineum are acutely sensitive, and injury, inflammatory reactions, and other lesions cause severe discomfort.

Deep perineal pain, however, such as is experienced as a result of obstetric injuries or surgical incisions, is in large measure dependent on sensations arising from spasm in the underlying perineal and perianal muscles. It is this spasm which, by causing associated spasm of the external voluntary urethral sphincter (with a similar innervation), is responsible for the common occurrence of retention of urine after perineorrhaphy. Unless the perineal muscles are involved in the surgical or obstetrical injury, retention of urine rarely occurs, no matter how much trauma there may be to the vaginal and urethral tissues.¹

Vagina

Except at the level of the introitus itself, the vagina is relatively insensitive, and this is because, in its upper part at least, the innervation is mainly autonomic and similar to that of the uterus itself. So unless perineorrhaphy is included, and this is now established to be unnecessary except in cases of symptom-producing rectocele, operations such as repair of uterovaginal prolapse can be carried out without much in the way of anaesthesia or with minimal local analgesia, and are followed by negligible postoperative discomfort. The same is true even of vaginal hysterectomy, after which the only pain experienced is a hypogastric ache related to injury and tension in the peritoneum and peritoneal ligaments.

The remarkable insensitivity of the vagina to ordinary stimuli is also illustrated by the fact that lesions of the upper vagina such as burns, cancer, and extensive ulceration are virtually painless. The patient with a large decubital ulcer of the upper vagina is never aware of it except it cause bleeding and discharge.

What then of the not uncommon complaint of dyspareunia? Pain with coitus occurs only when some organ or tissue other than the vagina is its source, or when the tender lesion—for example, vaginitis—is at the introitus. Vaginismus gives rise to dyspareunia because the spasm of the perivaginal muscles forces the male phallus on to the sensitive vestibule and external urethral orifice. Or the muscle spasm itself may be the source of the discomfort.

Vaginal Neuralgia

The above leads to mention of a syndrome which is not common but which appears to be a clearly defined clinical entity; for want of a better term it is sometimes labelled vaginal

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¹ An exception to this rule is any operation which tightens the internal urethral sphincter for the purpose of curing stress incontinence, but the mechanism of retention is then different.

neuralgia. The affected woman complains of an aching pain within the vagina, often unilateral. It is chronic and persistent, present despite changes in posture, but rarely interferes with sleep. The level of the pain is at the insertion of one or other levator ani into the side wall of the vagina, and this muscle sometimes appears to be in spasm at the time of examination.

Often the patient has seen a succession of consultants who may have diagnosed supposed cervicitis or prolapse, and has undergone various operations, even hysterectomy, without relief. Investigations generally reveal no abnormality in the pelvic organs, or any lesion in the spine which could cause referred pain. Injection of the pudendal nerve with a long-lasting anaesthetic agent is sometimes followed by temporary disappearance of the pain, but critical appraisal suggests that any such effect is probably mediated through the psyche. The condition may be analogous to proctalgia fugax, but unfortunately the discomfort is not fleeting. Until more evidence is forthcoming this condition is assumed to be the result of an underlying tension state or obsession with the pelvic organs. Its treatment is accordingly unsatisfactory.

Uterus

Sensation from the uterus travels mainly via autonomic nerves distributed in the bases of the broad and uterosacral ligaments to the inferior hypogastric plexus, so much of the pain of labour can be relieved by paracervical nerve block. The same procedure permits operative dilatation of the cervix without discomfort.

Although some women experience momentary pain when the cervix is pierced with a vulsellum, this organ, like the body of the uterus, is virtually insensitive to cutting and cauterization. Diseases of the cervix, such as cervicitis, tuberculosis, and cancer, are painless unless the pathological processes extend to other tissues. Stimulation of the internal os does, however, generally result in a fleeting sharp pain, possibly because it initiates uterine contractions. Significant cervical pain, however, is induced only by dilating the canal.

The uterus, too, resembles most hollow viscera in that it is a source of pain sensation only if it is distended rapidly or if the myometrium undergoes expulsive contractions—as it does during labour and menstruation. Direct finger pressure on the anteverted corpus does not result in discomfort, but squeezing the uterus during bimanual examination is generally painful, possibly because of tissue tension.

For some unknown reason, and unlike the anteverted organ, a retroverted uterus is tender to the touch. This explains why a simple retrodisplacement can be a cause of deep-seated dyspareunia and why medical attendants, noting tenderness on rectal examination, can wrongly suspect the presence of pelvic infection or other disease.

It follows from what is said above that diseases of the uterus are painless unless, as happens sometimes in the case of a submucous fibroid, carcinoma of the endometrium, haematometra, and pyometra, they promote expulsive uterine contractions. Adenomyosis of the uterine wall is also silent unless the formation of menstrual blood cysts (which is not common) causes dysmenorrhoea from tissue tension. Fibroids are painless unless they undergo degeneration, when it is the vascular change and resulting tension within the capsule which is responsible. Pain impulses may then travel by the nerves associated with the vascular apparatus. A similar mechanism operates when the stalk of a pedunculated myoma undergoes torsion and becomes infarcted.

Fallopian Tubes

Contrary to what is often stated, and unlike the uterus, which has the same developmental origin, the Fallopian tube not only

gives rise to pain when it is forcibly distended or contracts expulsively; it is extremely sensitive to cutting, burning, and even touching. This can be readily demonstrated in sterilization operations performed under local anaesthesia. Thus abdominal hysterotomy can be carried out without anything more than local infiltration of the abdominal wall; but subsequent crushing, dividing, and tying of the tube causes intense pain, which is not due to traction on peritoneum and peritoneal ligaments. Similarly, the woman who has tubal ligation carried out at the time of caesarean section appears to have more postoperative discomfort, referred to the sites of the tubes, than the one who has caesarean section alone. Further evidence of this extraordinary sensitivity of the tube, which so far as I am aware is unexplained, is provided during the operation of vaginal hysterectomy under local anaesthesia. This procedure requires no more than local infiltration anaesthesia of the paravaginal and paracervical tissues, and the woman feels no discomfort until the final step of dividing the upper part of the broad ligament containing the tube. At this juncture she complains bitterly.

In the case of tubal disease, and also of tubo-ovarian lesions, it is always difficult to determine the extent to which pain sensation derives from the affected organ and the extent to which it arises from simultaneous irritation of the peritoneum. The pain of salpingitis, for example, is partly a manifestation of pelvic peritonitis; the pain of tubal pregnancy is in large measure the result of the escape of blood into the peritoneal cavity; pain and tenderness associated with chronic salpingo-oophoritis are attributable mostly to traction on residual pelvic adhesions when attempts are made to move the uterus and appendages during pelvic examination.

The condition of hydrosalpinx represents a very gradual distension of the tube, and is therefore invariably painless. If, however, a hydrosalpinx undergoes torsion the consequent interference with the vascular apparatus causes sudden and severe pain. In this context it may be noted that even a normal tube is subject to axial rotation, in part or whole, to produce an acute syndrome. The clinical picture is one of torsion of an ovarian tumour, but no tumour is palpable. A clue to the correct diagnosis is that this accident is peculiar to adolescents and teenagers and rarely happens at a later age. When torsion of a tube occurs in the adult it is usually an abnormal tube, and perhaps the commonest underlying abnormality now is previous division of the tube for the purpose of sterilization. When the inner or middle portion of the tube is resected the outer portion is left relatively unsupported and so mobile that it can, at a subsequent date, rotate on its broad ligament attachment. Because of this possibility many gynaecologists now take steps, at the time of tubal ligation, to fix the outer end of the tube to the round ligament or other structure.

Ovary

The ovary is insensitive to direct stimulation as by touching, cutting, and burning, but if squeezed bimanually or if pressed against a resistant pelvic wall during examination it is the seat of sickening pain. This is because of tissue tension resulting from counter-pressure. A painful tension state in the ovary, however, rarely arises spontaneously because (1) it is the only abdominal organ without a peritoneal coat, and (2) it is without a resistant capsule comparable to the tunica albuginea of the testis. So, whereas orchitis complicating mumps or other virus infection in the male is acutely painful, the corresponding oophoritis in the female, which is probably equally common, causes only slight or no discomfort and passes unnoticed. Absence of capsular resistance, and therefore of ischaemia, also explains why mumps oophoritis is not followed by permanent injury to the reproductive elements of the gonad. Again, a haematoma of the testis causes agonizing discomfort; extravasation of blood into the ovary or into one of its cystic structures is relatively painless unless there is a secondary escape into the peritoneal cavity.

These considerations are important since they explain why the physiological cycle in the ovary, characterized by sudden distension of the follicle followed by rapid growth of the corpus luteum, is not a direct cause of pain (see later). Again, because of absence of any capsular resistance the condition of cystic ovary, in which one or more cysts lined by granulosa, theca, or lutein elements represent a disturbance of the normal cycle, is never a source of discomfort. So absence of pain is a feature of the Stein-Leventhal syndrome, in which both ovaries are typically enlarged to two to three times their normal size by multiple theca lutein cysts. The only circumstance in which cystic ovaries can be painful and tender is when they are buried by adhesions which themselves offer an abnormal resistance both to distension and to free movement of the organ during bimanual examination.

Ovarian tumours, solid or cystic, are also silent lesions unless they undergo some complication or they are malignant. The complications which classically cause pain, sudden and severe in character, are torsion of the pedicle, with consequent vascular disturbance, and rupture of a cyst. The latter accident, however, causes only fleeting discomfort unless the escaping cyst fluid is irritant to the peritoneum. In this respect the sebaceous contents of a dermoid cyst are the most noxious of all materials and induce a violent peritoneal reaction. Therefore, if rupture of a dermoid cyst is not diagnosed and treated immediately the adhesions which form tend to be denser and more difficult to separate than any resulting from infection or endometriosis. Again, the tarry fluid escaping from the ruptured endometriotic cyst is more irritant than the serous or mucinous contents of cystadenomas.

The absence of nerves in the tumours themselves, and the quietness of innocent neoplasms, make it all the more remarkable that malignant change in an ovarian cyst is often heralded by the development of aching pain and tenderness. These clinical features are highly significant, though their mechanism is unexplained; they can be present even when the tumour capsule is not so deeply invaded that active growth is exposed to the peritoneal cavity.

Other Organs and Tissues

Despite the fact that the internal genital organs are so insensitive, the great majority of women, and often their medical attendants too, still assume that any discomfort experienced below the level of the umbilicus must be arising in the uterus or ovaries. They neglect the much more likely and common sites such as the lower alimentary tract, the urinary apparatus, and the pelvic joints.

The same is true of low backache, the blame for which in women is traditionally laid on some error in the reproductive system. In fact, gynaecological conditions rarely cause backache. It is quite exceptional to see backache a symptom of genital prolapse, and then only in its early stages when there is drag on the uterosacral ligaments. Retroversion probably never causes backache, nor do benign conditions of the cervix such as erosion and so-called chronic cervicitis. Indeed, the only undisputed gynaecological cause of persistent sacral discomfort is extensive infiltration of the uterosacral ligaments with cellulitis, endometriosis, and cancer.

The past association of backache with the genital tract is mainly attributable to the fact that the ligaments of the pelvis and lower spine are influenced by the sex hormones, oestrogens, and gestogen. Their overall effect is to increase joint mobility. So when hormone levels are high, as they are during pregnancy and the premenstrual phase of the cycle, all lesions of joints and of their controlling muscles and ligaments become more troublesome. Minor ligamentary strains, indeed, may only cause discomfort premenstrually. It is not only cyclical exacerbations of backache which make women lay the blame on a disorder of the genital tract; its onset can often be dated to

previous childbearing. This, however, does not mean it was caused by obstetrical injury. The usual explanation is a ligamentary injury sustained as a result of alterations in posture during pregnancy or of bending and lifting in the puerperium—times when the joints are made excessively mobile by the hormone environment of pregnancy.

Another uncritical observation which strengthens the false idea that lumbosacral backache is caused by a gynaecological disorder is the fact that the patient sometimes experiences relief after an operation for retroversion, supposed genital prolapse, or other condition. Such a favourable outcome, however, is not to be credited to the surgical procedure itself but to the fact that any operation results in the woman having an enforced period of rest, with relief from household duties involving lifting and bending. The pity is that she has to have an unnecessary operation to justify a period of rest to the overtaxed muscles and ligaments of her back.

If discomfort in the lower back is ever caused by a lesion in the female genital tract it is always diffuse and unaccompanied by local tenderness. Moreover, it is never situated higher than the sacral or lumbosacral region. A unilateral pain, or one which is referred to the buttock and back of the leg, cannot have a gynaecological basis other than advanced malignant disease encroaching on the sacral plexus or giving rise to metastases in the spine.

Pain associated with uterine contractions (spasmodic dysmenorrhoea, for example) can be referred to the legs, but when it is it is always to the inner and front aspects of the thighs, never extending below the level of the knee. Moreover, it is bilateral. Indeed, the most constant feature of pain arising in the genital tract is that it is midline or bilateral. This is because all the organs are paired or arise developmentally from paired Müllerian ducts. Thus true dysmenorrhoea and the pains of labour are experienced centrally in the hypogastrium (and to a lesser extent centrally over the sacrum) or in both iliac fossae. It may be added that salpingo-oophoritis, the diagnosis of which is so often confused with appendicitis and ectopic pregnancy, is almost always a bilateral disease. So long as both tubes are present both are affected, so the resulting pain arising either from the tubes themselves or the pelvic peritoneum is bilateral or referred across the whole hypogastrium.

Unilateral Dysmenorrhoea

Despite the foregoing, the commonest form of *alleged* dysmenorrhoea encountered in practice is a unilateral pain in one or other iliac fossa. For this there are only three basic causes: (a) a malfusion deformity of the uterus, (b) ovarian endometriosis, and (c) a functional or organic disorder of the colon or caecum.

Malformation of the Uterus

Minor degrees of malfusion of the Müllerian ducts can be demonstrated by hystero-graphy in 10% of women, but are not clinically significant. To produce unilateral dysmenorrhoea the malformation has to be gross and to have as one of its features an unequal development of the two halves of the uterus. Thus, even though the typical bicornuate uterus may be the seat of spasmodic contractions on the first day of menstruation, the resulting pain is central or bilateral in the hypogastrium. It is the uterus which is unicornuate which gives rise to unilateral dysmenorrhoea, or the one in which one horn is well developed and the other rudimentary. In the latter case the pain can arise from either the well-formed horn or the rudimentary one. The most severe form of discomfort is experienced when a rudimentary horn is functional but does not communicate with the lower genital tract, so that it becomes the seat of a haematometra. And this condition can be difficult to diagnose because the rudimentary horn may be too small to palpate and is not shown up by

hysterography. Indeed, radiographs show an apparent unicornuate uterus, situated on the pain-free side. The diagnosis then rests on careful analysis of symptoms, though intravenous pyelography can also be helpful. As a general rule the true unicornuate uterus is associated with absence of the kidney on the opposite side. If both kidneys are present it is almost certain that a second horn, albeit rudimentary and not seen on hysterographs, is present.

Ovarian Endometriosis

Although extrauterine endometriosis tends to present as multiple lesions widespread throughout the pelvis, one ovary may be the seat of a tarry cyst and not the other. If this is made resistant by adhesions the sudden influx of menstrual blood with each period, and possibly some leakage to adjacent peritoneum, can result in unilateral dysmenorrhoea. The pain, which is referred to the site of the lesion, is intramenstrual, and there can be a build-up to leave it maximal at the conclusion of a menstrual period. Another feature of active endometriosis, which can lead to an erroneous diagnosis of salpingitis or appendicitis, is that it causes pyrexia in at least 10% of cases. This is probably a manifestation of the absorption of the products of degeneration of the old blood within the cysts.

Confusion with appendicitis is even more likely in those cases of endometriosis which present with acute symptoms consequent on rupture of a chocolate cyst with free escape of its contents into the peritoneal cavity. An important distinguishing feature is that this accident almost invariably coincides with a menstrual period and there is no reason to expect any such relationship in the case of appendicitis. Moreover, endometriosis tends to occur only in certain types of women—those aged 30 to 40 years, of low parity, and not having had a pregnancy for some time.

Pain of Colonic or Caecal Origin

The two causes of unilateral dysmenorrhoea so far considered are interesting but rare. The very common one is some disturbance of the large bowel. Colonic and uterine behaviour are closely related in some way, probably through the autonomic nervous control. One result is that about 50% of all women experience some alteration in bowel habit in relation to menstruation. The typical changes are a tendency to constipation premenstrually and slight looseness of the bowels with the onset of the flow, one or both. In the case of the woman suffering from the irritable colon syndrome exacerbations almost always occur with menstruation. They are marked by left-sided lower abdominal pain for 1 to 10 days premenstrually, often accompanied by flatulence and intestinal distension. Sometimes the caecum becomes distended and painful, and in that case the pain is right-sided. The bowel dysfunction may not be troublesome at other times, and thus the pain comes to be regarded as a form of dysmenorrhoea, blame being laid on some abnormality in one or other appendage—a cystic ovary, a varicocele of the broad ligament, broad ligament neuralgia, and chronic cellulitis, for example. None of these is now acceptable as a symptom-producing or significant lesion. Nevertheless, on the grounds of diagnoses of these kinds large numbers of women with this problem are subjected to unnecessary laparotomies, removal of a normal appendix or of one appendage, separation of adhesions, and even hysterectomy. Any relief which follows lasts no longer than the psychological and environmental effects of any form of surgery.

The constipation which accompanies premenstrual colonic spasm explains the relation of dysmenorrhoea to constipation in the minds of the laity and accounts for the old-fashioned habit of taking aperients to prevent or relieve dysmenorrhoea. In fact, most aperients, by irritating the colon, make matters worse.

Although it is always necessary to exclude by investigation an organic lesion in the colon as a cause for premenstrual pain of bowel origin, it is rare to find such. The problem is one of muscle spasm associated with an unduly sensitive autonomic nervous system. And behind this is a background of nervous tension and stress. The affected women are mostly aged 30 to 50 years, who have long been exposed to family and domestic responsibilities and worries for several years, and who can no longer cope with them. Colonic spasm is often part of the menstrual tension syndrome when it is accompanied by other complaints such as premenstrual headaches, irritability, depression, and mastalgia. Another possible development is epimenorrhagia, the result of a neurogenic disturbance of the pelvic vascular apparatus. When this happens there is a danger of misdiagnosing salpingo-oophoritis.

A presenting and sometimes sole symptom of colonic and rectal spasm can be deep-seated dyspareunia. The discomfort is not always experienced at the time of coitus and often occurs or persists as a lower abdominal ache during the following 12 to 24 hours. Delayed or persisting dyspareunia of this kind never has an organic basis. It is assumed to be a late effect of stimulation of the large bowel or, just possibly, the uterus, and is sometimes motivated by a desire to avoid coitus or pregnancy.

Ectopic Pregnancy

The clinical picture of ectopic pregnancy is very variable and can simulate that produced by a large number of diseases. It can even be mistaken for unilateral dysmenorrhoea. This is because lower abdominal pain, which is one of its most constant symptoms, is first experienced about the time a menstrual period is expected and is followed in a few hours by the onset of uterine bleeding. A slightly delayed onset of what is then assumed to be menstruation may, in the mind of the patient, satisfactorily explain why it is unusually painful.

A characteristic feature of the pain of ectopic pregnancy, which distinguishes it from that associated with other conditions such as acute appendicitis, is that it is likely to be followed not only by uterine bleeding but by a sensation of faintness or collapse due to intraperitoneal haemorrhage. The most important physical signs of a leaking ectopic pregnancy are distension and extreme tenderness of the lower abdomen and tenderness on vaginal examination.

Ovarian Pain

To account for one-sided pain related to menstruation a syndrome of "ovarian dysmenorrhoea," to be treated by ovarian sympathectomy, was once postulated. It now seems clear that those who entertained this concept were really dealing with cases of irritable colon.

Despite the already emphasized insensitivity of the ovary, minor degrees of abdominal discomfort at the time of ovulation are so common as to be accepted as diagnostic of the event. Nevertheless, "ovulation pain" is, for reasons already stated, unlikely to be caused by hypothetical tension in the ripe follicle. Indeed, a direct ovarian origin is virtually outruled by the fact that in some women the pain is always experienced on the same side, whereas ovulation presumably occurs sometimes on the right and sometimes on the left. In such cases an associated alteration in the behaviour of the involuntary muscle of the large bowel is a possible explanation. Mostly, however, ovulation pain takes the form of a diffuse hypogastric ache, and this is almost certainly the result of a spill of blood and follicular fluid into the peritoneum; this makes it a post-ovulatory phenomenon.

One accident which can overtake the normal ovary to give rise to an isolated episode of premenstrual pain of considerable severity is the development of a so-called corpus luteum haematoma. It is rare, but is serious because haemorrhage takes

place not only into the corpus luteum but into the peritoneal cavity; and it is this which results in pain. The bleeding can be so severe as to cause collapse and necessitate blood transfusion. Indeed, except that this dramatic picture arises before rather than after a menstrual period is due, it is difficult to distinguish from that resulting from a ruptured ectopic pregnancy.

Diagnosis

Pelvic pain is a symptom and its treatment is dependent on finding its cause. This can usually be done without difficulty merely by using ordinary clinical methods assisted by standard laboratory and radiological investigations. In this respect a logical analysis of symptoms is, as always in gynaecology, the secret to success. Physical signs are of little importance except that they may confirm a diagnosis already made on the symptomatology. Ectopic pregnancy and endometriosis, for example, are more reliably diagnosed by the history of events than by pelvic examination, and negative physical signs should not be allowed to upset conclusions reached on symptomatology.

In regard to pelvic pain the essential is not only to analyse its site, character, and duration, but also its relation to various bodily functions, and particularly to menstruation. If these features are known, if the day or days of the cycle on which the discomfort occurs are calculated, and if the exact date of the onset of the last menstrual period is extracted from the patient, there is little difficulty in distinguishing between dysmenorrhoea, ectopic pregnancy, abortion, endometriosis, salpingitis, ovulation pain, corpus luteum haematoma, torsion of a viscus, as well as appendicitis, colonic spasm, intestinal colic, and orthopaedic conditions of the spine.

Accessory Aids to Diagnosis

All too often, however, the gynaecologist, when in doubt or too hurried to listen to and to analyse the patient's story, resorts to examination under anaesthesia. This procedure is only occasionally helpful and can be very misleading. Anaesthesia eliminates the ability of the patient to say where pain and tenderness are situated. Moreover, it can result in the exerting of manual pressures which the conscious patient would not allow. These can be dangerous in that they can cause rupture of cystic lesions and the onset of severe haemorrhage. Examination under anaesthesia should never be carried out when the probable diagnosis is ectopic pregnancy, unless it is immediately followed by laparotomy irrespective of the findings. I know of two women who, having been pronounced free from tubal pregnancy on the grounds of a swelling not being palpated during examination under anaesthesia, died from ruptured tubal

pregnancy within a few minutes of leaving the operating-room. It is as dangerous to examine vaginally a case of suspected ectopic pregnancy as it is one of placenta praevia; symptomatology is the best guide to the diagnosis.

One special method of investigation which can be valuable in the elucidation of difficult cases is hysterosalpingography. This not only reveals uterine malformations and unsuspected hydrosalpinx; it can also help to distinguish between chronic salpingitis and pelvic endometriosis. In the former the tubes are likely to be occluded; in the latter they are invariably open no matter how many adhesions may have resulted from leaking endometriomatous cysts.

Peritoneal endoscopy, which permits easy and safe inspection of the pelvic organs, is especially helpful in some cases. At one time culdoscopy took preference over laparoscopy, but with the modern apparatus laparoscopy is generally more revealing than culdoscopy. Neither procedure results in significant upset or discomfort or requires the patient to stay in hospital more than one or two days. Both techniques are so easy that they constitute a source of temptation to the clinician, who may find it easier to look and see than to analyse clinical features. This temptation is to be avoided like the old temptation to carry out laparotomy just in case something abnormal is present. No matter how much pressure is brought to bear by the chronically complaining woman, laparotomy as a purely diagnostic procedure is to be avoided. In the woman obsessed with her pelvic organs it can only do harm in the long run. Endoscopy, however, is unattended by the emotional overlay of an operation and hospitalization, and can offer strong support to an assurance to the patient that her reproductive organs are normal. This leads to the conclusion that, so far as the diagnosis of pelvic pain is concerned, laparoscopy is not indicated when symptoms and signs make it reasonably certain that disease calling for surgical treatment is present. In such circumstances the right procedure is laparotomy. Laparoscopy is indicated when organic disease has already been excluded as far as possible, to confirm negative clinical findings.

Conclusion

In the majority of cases when the complaint is pelvic pain of long standing or recurrent over a period of years, the end-result of investigations is a conclusion that organic disease is not present. This does not mean that the pain is imagined; the pain is real but is caused by a functional disorder of the genital or extragenital organs, and more often the latter. The treatment of such a disorder calls not for surgery but for sympathetic analysis and understanding of the woman and her environmental problems.