A Clinical Lecture

ON

TWO HUNDRED CONSECUTIVE HYSTERECTOMIES FOR FIBROIDS ATTENDED WITH RECOVERY.

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BY

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UTERINE fibroids are common tumours; so common and troublesome that I have removed the uterus for this disease in more than 2,000 women. I will show a few uncommon examples, and epitomize my experience. I prefer the name fibroids for these tumours, using it in a generic sense. No one doubts that in the beginning uterine fibroids consist almost entirely of unstriated muscle; some retain this kind of tissue throughout life, but the majority undergo great changes. Some fibroids are indistinguishable, even with the aid of a microscope, from the common species of sarcoma; and a few contain transversely striated spindles, like young striped muscle cells. These myosarcomas, though rare, are intensely malignant. Some innocent fibroids are soft, gelatinous, and as structureless as the jelly of the umbilical cord.

Much of the uncertainty that often besets the diagnosis of pelvic tumours depends on the tissue changes so liable to occur in fibroids, whereby some are transformed from lumps as hard as gristle into stuff as soft as jelly, and others into stone. These remarkable changes are the consequence of the exiguity of the blood supply and the peculiar nature of the organ in which fibroids grow. Indeed, the natural history of such tumours is that of the uterus, and the fate of a fibroid depends on its position in the uterus. Observation teaches that the conduct of subserous fibroids differs from those that are submucous; and a fibroid in the cervix runs a different course from one growing in the body of the uterus.

SUBSEROUS FIBROIDS.

The fate of a subserous fibroid is intimately bound up with the age changes of the uterus.

Until the girl becomes pubic the uterus is functionless, and after the establishment of menstruation it increases in size and remains very vascular for thirty years. After the menopause the function of the uterus ceases, the blood supply declines, the coats of its arteries thicken, and the vessels become impervious, like the obliterated hypogastric arteries after the detachment of the placenta. This local arterial change is associated with the atrophy of the uterus. If the uterus contains fibroids, they shrink, atrophy, mummify, or calcify. A mummified submucous or an intramural fibroid is tough, structureless, and resembles chamois leather.

The influence of interference in the blood supply on the texture of fibroids may be easily studied in subserous

tumours with narrow stalks. A fibroid the size of a ripe plum with a narrow stalk may be as mobile as a cherry on a tree. If the stalk be tightly twisted by the movement of the tumour the blood supply is arrested, the fibroid dies, and sometimes drops from the uterus into the pelvis. Small detached dead fibroids are not novelties in the dead-house. Subserous fibroids sometimes become big tumours. A solitary subserous fibroid does not cause enlargement of the uterus. I have removed a tumour weighing 36 lb., attached by a pedicle 3 cm. in diameter to a uterus of normal size. A flexible stalk confers great mobility on a big tumour, and the blood vessels supplying it pass through this narrow isthmus; on section it often resembles a cavernous naevus. (Fig. 1.) When the tumour twists, or drags its pedicle, the circulation of blood through it is stopped. Partial twists hinder the escape of venous blood and the tumour becomes engorged. Complete twists obstruct the arteries and the fibroid becomes ischaemic from deprivation of arterial blood; this leads to degenerative change. Big subserous tumours are often

converted into sacs filled with gelatinous material. Circulatory disturbances in the tumour lead to adhesions between the periphery of the tumour and adjacent intestines and omentum; or the gall bladder, liver, and stomach, when it reaches into the epigastrium. Large stalked fibroids attached to the fundus of the uterus do not hinder conception nor obstruct delivery. A fibroid with a long stalk attached to the back of the uterus may slip into the pelvis and become incarcerated. If under such conditions the uterus becomes gravid, a fibroid of this kind will seriously obstruct delivery. Although, as a rule, a sessile subserous fibroid neither hinders pregnancy nor obstructs delivery, the latter is inimical to the fibroid. It is established that the diminution in size of the uterus and the movement of this organ as it sinks into the pelvis after extrusion of the fetus, imparts a rotatory motion to an ovarian tumour when it complicates pregnancy. A similar motion can be imparted to a stalked subserous fibroid under like conditions. A sessile subserous fibroid, especially a fundal fibroid, will be involved in the septic process when the endometrium becomes infected in the course of delivery. This will lead to serious changes and subsequent complications imperilling life.

FIG. 1.—Subserous fibroid and uterus in section, to show the vascularity of the pedicle. The tumour weighed 6 lb. The uterus is of normal size. Removed from a spinster aged 40.

SUBMUCOUS FIBROIDS.

The changes in submucous fibroids are chiefly influenced by the functions of the uterus; indeed, the natural history of these tumours is like that of a uterine pregnancy, and these two conditions sometimes simulate each other so closely as to make clinical differentiation difficult.

A submucous fibroid grows insidiously: its presence is often unsuspected until the slowly, but persistently, enlarging uterus rises high in the hypogastrium and attention is attracted to the abnormal size of the belly. The contour of the uterus may be uniform and smooth; often a murmur is audible on auscultation. On several occasions I have removed a uterus containing a large soft subserous fibroid, and placed it before my assistants to

decide, from physical signs, whether the uterus was gravid or occupied by a fibroid. They found difficulty in making a choice.

A large submucous fibroid, like pregnancy, leads to an enormous increase in size of the veins and lymph vessels of the pampiniform plexus. In some cases there is a large corpus luteum, and, rarely, mucoid fluid can be squeezed from the nipples. If the fibroid be enucleated, the uterine tissue will contract as rapidly as after the expulsion of a fetus, although the fibroid may have occupied the uterus many years. In some cases the correspondence to pregnancy is further exemplified when the uterus succeeds in expelling the fibroid into the vagina; this act is accompanied by the pains of labour and free bleeding. Such an event has been mistaken for a miscarriage, the extruded fibroid for the head of the fetus, and forceps have been applied to facilitate its delivery! The result to the mother was disastrous. The likeness to delivery, or miscarriage, is more marked with a submucous fibroid softened by red

When the uterus persistently endeavours to extrude a submucous fibroid, the unavailing labour leads to the dilatation of the cervical canal; this facilitates the ingress of pathogenic bacteria. Hence chronic salpingitis and hydrosalpinx are common associations of submucous fibroids. These complications are due to the same cause as tubal and pelvic infections ensuing on miscarriage, labour at term, or curetting, and run like courses, with similar endings. Infection of a partially extruded fibroid is due to the same cause, and runs the same course as puerperal sepsis.

CERVICAL FIBROIDS.

A large fibroid in the neck of the uterus is an insidious tumour, especially in spinsters. Its natural history corresponds to the part of the uterus in which it grows. The cervical endometrium takes no part in the menstrual process; therefore a large tumour growing in the neck of the uterus does not interfere with menstruation. In married women such tumours sometimes interfere with

FIG. 2.—Ovarian fibroid cut to show the whorled disposition of its fibres. Removed from a woman aged 70, in whom it caused retention of urine by becoming incarcerated in the pelvis.

FIG. 3.—Uterus in section containing fibroids, and the ovary, also shown in section, is partially occupied by a fibroid. The ovary contains a corpus luteum. From a barren woman aged 43.

degeneration. Sometimes softened tissue is discharged in shreds. These red shreds have been mistaken for retained secundines before, and since, practitioners of midwifery became familiar with red degeneration. The common colour of a uterine fibroid is white or pale yellow; when a uterus containing a submucous or an intramural fibroid becomes gravid the tissue of the fibroid reddens in streaks and softens. As the pregnancy advances the tumour assumes the colour of beefsteak, and the fibroid sometimes liquefies and becomes a cyst filled with chocolate-coloured fluid, the capsule forming the cyst wall. This change is not due to bacterial action nor thrombosis. Micro-organisms are occasionally found in these disorganized fibroids; their presence is an epiphenomenon—a sequence not a cause. This metamorphosis of fibroids is described as autolysis, and is probably a local exaggeration of the process that leads to involution of the puerperal uterus. The unpleasant odour emitted by red fibroids is due to amines produced by decomposition of the muscle tissue. Autolysis is the term applied to the transformation of insoluble tissue into soluble nitrogenous extractives. The change occurs without the aid of bacteria. Red fibroids occur in spinsters near the menopause, but are more common in pregnant women.

coitus, and I have removed them on this account. If a cervical fibroid gets infected or extruded into the vagina, alarming bleeding leads to its discovery, but the tumour is more likely to be detected when it leads to retention of urine. A tumour in the neck of the uterus hinders but does not prevent conception; but it is a formidable obstruction to delivery, and liable to red degeneration when associated with pregnancy.

OVARIAN FIBROIDS.

In consistence and shape ovarian resemble uterine fibroids, and the likeness extends to minute structural details, even to the whorled disposition of the fibres. The capsule of an ovarian fibroid is pearl-white and intensely hard, harder than the common forms of uterine fibroids. This hardness is a valuable diagnostic sign and enables the nature of the tumour to be anticipated. Fibroids of the ovary arise at any period of life after puberty. I removed one from a girl aged 19; also from a septuagenarian spinster.

In elderly women ovarian fibroids are sometimes accompanied by hydroperitoneum; this often arouses a groundless suspicion of malignancy. Ovarian fibroids, as a rule, have a smooth contour and are occasionally bilateral and sometimes co-exist with uterine fibroids (Fig. 3). They

may become cystic and some calcify. These tumours do not influence pregnancy nor undergo red degeneration, but an incarcerated ovarian fibroid usually offers an impassable barrier to the fetus. An incarcerated ovarian fibroid may lead to retention of urine (Fig. 2).

DIAGNOSIS.

The various changes in the consistence of fibroids have a remarkable effect on diagnosis. Until surgeons displayed great activity in removing them the diagnosis of uterine fibroids was regarded as a simple clinical exercise. It is often difficult to differentiate clinically between cystic fibroids and big cyst-adenomas of the ovary; or between ovarian fibroids and subserous uterine fibroids. Occasionally it is impossible to decide between a soft submucous fibroid and pregnancy on physical signs alone. Time alone enables a decision to be made. Gynaecologists have operated under the expectation of removing a fibroid but have found a calcified fetus (lithopaedion). A dead fetus in the rudimentary horn of a so-called unicorn uterus has been removed in belief that it was a fibroid; the error was discovered when, from sheer curiosity, the operator or his assistant cut into the mass. Olshausen had an odd experience in 1902. He removed a gravid uterus from a woman aged 38, under the impression that it contained a cystic fibroid. The mass proved to be a large sacral tumour growing from the buttocks of an intrauterine fetus. A pelvic spleen has been mistaken for a subserous fibroid; a freely movable fibroid lying high in the belly has been diagnosed as an enlarged spleen; and some, with long stalks, as movable kidneys. Such errors are rarely serious. A cancerous mass in the pelvic colon, lying behind the uterus, is often mistaken for a subserous fibroid. This is always an unfortunate error, because operative interference, undertaken on the idea that the mass is a benign fibroid, causes chagrin to the surgeon when it ends in colostomy; and especially when a gynaecologist, with overweening confidence, has assured the patient and her relatives that the tumour is a fibroid, and its removal simple and safe.

As the protean manifestations and combinations of pelvic tumours are oftentimes puzzling, I have ventured to frame a few aphorisms, in the manner of Agur the sceptic (150 B.C.), which may be useful to you, not as examination tricks, but for stern practice.

Two things disquieting in diagnosis:

1. To distinguish between solid ovarian tumours and large subserous fibroids.
2. And between tubal swelling and uterine fibroids.

Three foolish things:

3. To give opinions on pelvic swellings without making a vaginal examination.
4. Or on hypogastric swellings without passing a catheter.
5. To remove fibroids without examining the woman's urine for sugar until she is comatose two or three days after the operation.

Four things useful to know:

6. When a barren woman between 35 and 45 has retention of urine, it is almost certain that she has a fibroid in her womb.
7. A fibroid that suddenly becomes painful during pregnancy is probably in a state of red degeneration. The clinical signs simulate tubal pregnancy, axial rotation of an ovarian tumour, and acute infection of the appendix.
8. Errors in the differential diagnosis of fibroids and pregnancy are usually made before the beating of the fetal heart is audible.
9. A cancerous mass in the pelvic colon, in contact with the uterus, imitates the signs of a subserous fibroid.

Four things that are wise:

10. When in doubt whether a big uterus in a young woman contains a child or a fibroid, wait for a month and re-examine the patient.
11. To remember that ovarian tumours give much trouble to pregnant and lying-in women, but fibroids are more deadly, for they are liable to become septic.

12. After the removal of a fibroid in the procreative period of life a woman is more liable to grow more fibroids than to conceive successfully.

13. To remember that uterine bleeding after the menopause, in a barren woman with a fibroid, often signifies the existence of cancer within the uterus.

"As the churning of milk bringeth forth butter, and the wringing of the nose bringeth forth blood," so the diagnosis of fibroids will continue to perplex surgeons. In the past women often endured unnecessary suffering from the blind belief that fibroids are tumours capable of easy recognition.

TREATMENT.

In this hospital during 1892 three women had the uterus removed for troublesome fibroids. Two died in consequence of the operation. In 1912 there were seventy-one abdominal hysterectomies performed in the hospital for fibroids and all recovered. This was a great improvement in twenty years. Of the last 200 cases of hysterectomy for this disease that I have performed in the hospital all the patients recovered. Time has amply vindicated the surgical treatment of uterine fibroids by proving that no physiological evil attends the loss of the uterus. Coincident with this improvement in the mortality-rate there has been a marked diminution in the sequelae. Among the 200 hysterectomies 188 were subtotal. The merits of this operation are now so well known that there is no need for me to recapitulate them. Hysterectomy has been performed in my ward for adenomyoma, fibrosis uteri, cancer, and septic infection, during the period covered by the 200 cases of fibroids the subject of this lecture. All the patients recovered. Also three with ovarian fibroids and four abdominal myomectomies. Mr. C. H. S. Webb, late surgical registrar, allows me to state that he has examined the registers and endorses the accuracy of my statement. (The series continues unbroken.)

Methods.

These results have been obtained with a minimum use of antiseptics. The skin of the abdomen is painted with tincture of iodine an hour before operation. The cut surface of the cervical stump is swabbed with the tincture. Sterilized silk is exclusively used for ligatures and sutures. The surgeon, assistants, and nurses wear sterilized rubber gloves. After the closure of the cervical stump, the gloved hands are thoroughly rinsed with a solution of mercury perchloride (1 in 5,000). The abdominal incision is then secured with sutures, and the line of the incision, as well as the adjacent skin, lightly painted with tincture of iodine. No dressings are used. It is my custom in selecting house-surgeons to choose officers who have filled a resident appointment to a physician. The house-surgeon submits all patients set down for operation to a systematic examination. Women with uterine fibroids who show signs of diabetes, exophthalmic goitre, cardiac disease, arterial sclerosis, and albuminuria are rarely submitted to hysterectomy.

In conclusion, let me recommend you to eschew textbook descriptions of hysterectomy. Learn the technique by assisting a surgeon of experience.

SIR CHARLES BENT BALL, Honorary Surgeon to the King in Ireland, left personal property in the United Kingdom valued at £19,397.

In a communication made to the Académie des Sciences of Paris (*Photo-Revue*, Paris, June, 1916) Dr. Marage has described the use of the cinematograph in the treatment of nervous stuttering. He first photographed on the one film a normal and a stuttering subject during the utterance of the same phrase, and then each separately. The person affected with the complaint is thus able to study the movements at his leisure and to note his fault. At a demonstration the phrase chosen was "Bonjour, papa," and the difference between the two renderings was shown to relate, not only to the rapidity of the enunciation, which was three times as great in the case of the abnormal subject as in the other, but also to the much greater force, in the former case, of the explosives *b* and *p*. Once having recognized his fault, the patient went on to certain respiratory exercises. It is claimed that this method, owing to the vividness of the impression it makes on the patient, is superior to the use of the gramophone record.