

Lectures
ON
FIBROID TUMOURS OF THE
UTERUS.

Delivered at the Hospital for Women, Soho-square,

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LECTURE I.—PART I.

GENTLEMEN,—Of all the organic diseases of the uterus there are none so common, so unmistakable in their results, and, as a general rule, so easy of detection and treatment, as those which are the subject of these lectures. It will not be possible for me to enter very minutely upon the many questions which are of interest in connexion with these tumours. I shall therefore limit my attention to those points only which are of greatest practical importance, my object being chiefly to make these lectures as practically useful as I can. I intend also to give you, as far as possible, the results of my own personal experience, especially in the matter of diagnosis and treatment, for it is to these two points more particularly that I propose to ask your attention in this and the following lecture.

Before, however, proceeding to the consideration of the diagnosis of fibroid tumours of the uterus, there are some questions in connexion with the general history and pathology of these diseases which it may be well briefly to allude to, not only because they may help to throw some light upon what is at present rather obscure and uncertain—viz., the origin and causes of these growths,—but also because they possess at least a certain interest in the practical department of therapeutics.

I have said that these tumours are the most common of all organic diseases of the uterus. Let me substantiate this by a brief reference to figures; and for this purpose it is only necessary to compare the frequency of uterine fibroids with malignant disease of the uterus. On this point I shall give you only my own experience during the last seven years. I find that in that time I have had under my care in hospital and private practice 180 cases of fibroid tumours of the uterus, besides 26 cases of uterine polypi; making a total of 206 cases. During the same period I have had only 139 cases of malignant disease of the uterus, including its several varieties of epithelioma, scirrhus, &c. I am unable to give you even an approximate idea of the relative frequency of these two diseases, as compared with other affections of the generative organs; nor can I speculate upon the frequency of fibroid tumours among women in general. It appears to be generally admitted by writers on this subject that they are much more common among women of coloured population than in those of our own race; indeed, it is said by some that the uteri of black women are seldom free from this disease. I have no experience to guide me on this point; for, of the whole number of cases which I have seen, only four have been in coloured women, and one of these is at present under my care in this hospital. The point is, I think, of considerable interest; because it may, if carefully investigated, throw some light upon the causation of the disease. In regard to its general frequency in European races, authorities differ very widely: Bayle affirmed that at least 20 per cent. of women dying past the age of thirty-five would be found so affected; and Klob estimates that “undoubtedly 40 per cent. of the uteri of females who die after the fiftieth year contain fibroid tumours.” Both these statements are, perhaps, somewhat

exaggerated; but they attest at any rate the importance of the question, and the necessity that exists for full and accurate knowledge on our part, if possible, of the causes of the disease, in order that we may do something to avert it; and at least as to its detection, so that the proper treatment may be adopted.

In regard to the Causes of uterine fibroids, we know no more, but certainly no less, of their origin than we do of the same or similar tumours in other parts of the body; indeed, I think we may say that, of the two, we are perhaps a little more informed in regard, at least, to some of the circumstances which seem to exercise an influence in the production of these tumours in the uterus, than we are in regard to the origin of tumours elsewhere. On this point I shall make a few remarks presently; but I wish, first of all, to point out to you, in the words of Sir James Paget, the essential and distinguishing feature of these uterine fibroids, and the dissimilarity between them and the hypertrophies which affect not the uterus only, but other important organs. “If we compare,” he says, “any tumour with one of the hypertrophies which are least morbid—with one of those, for instance, in which the excessive growth is adapted to some emergency of disease, as an hypertrophy of the heart is adapted to some emergency of the circulation,—we shall, I believe, always see between them this chief difference: that, to whatever extent the adapted hypertrophy may proceed, the overgrown part maintains itself in the normal type of shape and structure; while a tumour is essentially a deviation from the normal type of the body in which it grows, and, in general, the longer it exists the wider is the deviation.” Now there is no better illustration of this law than is afforded by the very diseases which we are now considering; and here, again, I would quote in evidence Sir James Paget, who says, speaking of these very tumours, “Such a tumour may resemble in its tissues the substance of the uterus itself, having well-formed muscular and fibrous tissues; and, so far as the structures formed in excess are concerned, we might regard the tumour as the result of an hypertrophy not essentially different from that which, at the same time and rate, may take place in the uterine walls around it. But an essential difference is in this: the uterus, in its growth around the tumour, maintains a normal type, though excited to its growth, if we may so speak, by an abnormal stimulus; it exactly imitates, in vascularity and muscular development, the pregnant uterus, and may even acquire the like power, and at length, by contractions like those of parturition, may expel the tumour, spontaneously separated. But the tumour imitates in its growth no natural shape or construction; the longer it continues, the greater is its deformity.” This quotation very aptly represents, I think, the essential nature of these tumours: they are not mere hypertrophies, but distinct and separate growths; and this difference is well seen when we come to examine the mode of attachment of these tumours to the organ in which they are developed, for a careful examination shows them to be easily separable from the uterus. The facility with which they may be detached varies a good deal in different cases, as I shall show you in my next lecture, when I consider their surgical treatment. In some the detachment may be effected very easily; in others it is so difficult that the two seem almost incorporated. As a rule, I think it will be found that, in regard to the submucous and interstitial varieties, the facility of detachment is in direct proportion to the size of the tumour, a large tumour being much more easily detached than a small one. Some explanation of this, as regards the interstitial variety, may, I think, be found in the fact that the bloodvessels (chiefly veins) which supply these tumours ramify over the periphery of the tumour between it and the uterine tissue, and of course they are larger the larger the tumour is, so that the space between the tumour and the uterus is increased with the growth of the tumour, and hence its detachment is facilitated.

I have said that these tumours are not mere hypertrophies but distinct growths, and in proof of this I would direct your attention to some microscopic specimens on the table. In simple hypertrophy there is, as you know, only an exaggeration of the normal tissue of the part, there is no foreign or adventitious element or structure; and I have been surprised to find in the writings of some authorities that all these uterine fibroids are regarded as made up only of the proper tissues of the uterus, variously combined.

This, however, is not the case; in most if not in all of them, there are, besides the ordinary elements of the uterus—namely, muscular fibre-cells in varying proportion, all bound together with firm connective tissue—a considerable proportion of cellular elements; in some places little else is observable, and the whole appearance there is very much the reverse of what one would be led to expect in a fibrous tumour. I have noted also that the proportion of these cellular elements varies directly with the rate of growth in the tumour—that is to say, that the more rapidly a tumour has grown, the less fibrous and the more cellular will it be found to be. This point is well seen in some of the specimens on the table, and their clinical histories bear out this view.

In number and size these tumours vary very greatly; sometimes only one is found, but this, according to my experience, is rather the exception than the rule. In one case I have seen the uterus completely studded with them, both within and without, so that on making a section of the uterine wall the surface looked almost like the skin of a person suffering from small-pox; so numerous were the tumours that it was literally impossible to count them. They varied in size from that of a millet-seed, or even less, to that of a small walnut. I need not say how hopeless such a case would be from a therapeutical point of view, and how utterly impossible to diagnose it. A careful inspection of such a specimen as the one I show you here suggests the inquiry—How do these tumours originate? That in some way or other they are a consequence of mal-nutrition must, I think, be conceded. There seems no other way of accounting for them in the case to which I have referred just now, for where the disease is so general no other explanation meets the case. At each one of the innumerable points where the tumour exists in that specimen some departure from the ordinary cycle of nutritive changes must have been in operation. I think, too, we may go a step farther, and say that the change in question was one characterised rather by deficiency than excess of formative power; that, in fact, it is a degenerative process, and not a process of exaltation. The whole history of these growths supports this hypothesis, and the way in which they sometimes terminate, by decay and absorption, by calcareous degeneration, or by abscess, all these point to the same conclusion. Especially is this the case, I think, in the second of these processes, for the change in question consists “in an amorphous and disorderly deposit of the salts of lime and other bases, in combination with, or in the place of, the fibrous tissue.” (Paget.)

It may be thought, at first sight, that the clinical history of uterine fibroids tends rather to contradict this statement, because there is no doubt that these tumours occur much more frequently at those periods of life when the uterine functions are in greatest activity. In this respect my experience coincides pretty closely with that of most other observers. For instance, of the 180 cases which have come under my care in the past seven years, 6 occurred between the ages of twenty and twenty-five inclusive, 14 from twenty-five to thirty, 42 from thirty to thirty-five, 33 from thirty-five to forty, 41 from forty to forty-five, 33 from forty-five to fifty, 9 from fifty to fifty-five, and 2 from fifty-five to sixty-five. Or to put them in decades, we find that 20 only occurred between the ages of twenty and thirty, 75 between thirty and forty, 74 between forty and fifty, and only 10 between fifty and sixty. Of course, the time at which these cases came under observation must not be taken as the date of occurrence of the growth; that must be put back at least for several years. But this only brings the fact of the origin of the tumour still more closely into relation with the period of greatest uterine activity. For instance, allowing for a period of five years as that within which the tumour was growing from its very commencement as a mere speck, no larger than a pin's head, to the time when it first came under observation, the greatest number of cases (149 out of 180) must by this reckoning have originated between the ages of twenty-five and forty-five—a period which is universally admitted to include the highest functional activity. How then, it may be asked, is this to be reconciled with the idea that these growths are the result of some form of mal-nutrition, and that the change in the formative power of the part affected is characterised rather by deficiency than excess?

A little reflection will, I think, satisfy us that the facts

and the hypothesis are quite compatible; nay rather, that the latter best accords with the former. Let us look a little more closely into the facts. Of the total number of cases (180), 152 were married, 25 were single, and in 3 no note of the social condition in this respect is stated. Of the 152 who were married, 45 were sterile, 94 fertile. Of the latter, 46 aborted, the total abortions being 105. The number of children born was 454, and the total number of pregnancies was 559, giving an average of very nearly 6 pregnancies to each. Further, I find of the 152 who were married, the number of years of married life is stated in 123, and the total number of years amounts to 1937, giving an average of 15 years and a fraction to each. All these facts are, I think, sufficient to prove that the period of greatest functional activity in the organ concerned is that within which the occurrence of fibroid tumours is most likely to happen. But functional activity—in other words, active nutritional change—implies corresponding waste, disintegration, and decay; the two are commensurate one with the other, and it might, I suppose, be formulated as an axiom in pathology that, excluding blood poisons, such as those of gout, syphilis, the poisons of eruptive and other fevers, all of which have special affinities for particular tissues, parts which are subject to the greatest functional activity, and where the nutritive changes are consequently most actively carried on, are just those which are especially liable to disease. The greater the activity the greater is the waste, and the greater the waste the greater is the liability to disease. The uterus during procreative life is surely no exception to this rule; it is, in fact, the very basis of our practice, without which, I fear, our office as gynaecologists would be in danger of becoming a sinecure. There is no fear of that at present at any rate, as the experience of this hospital testifies. But, further, if you will look with your mental eye into the microscopical changes which we may suppose to be taking place in the minute spot where the germs, if I may so say, of a uterine fibroid tumour are being developed, you will see, I think, indications of the kind of action I have pointed out. Suppose that, instead of this deficiency in the formative power of the local nutritive changes, there were an excess, surely what we should have would be, rapid growth, great pain, and a tumour characterised rather by softness than hardness. Such, at least, is the universal result in cases where excessive formative power is certainly going on, as is seen, for instance, in the case of certain forms of cancerous growths.

You must not suppose that all this is merely fanciful speculation with no practical interest or bearing. On the contrary, it is related in a very special manner to the treatment of these cases, at least in its medical aspect; and certainly no treatment can be successful which is not based upon sound pathological data. One illustration will suffice in proof of this statement, for I need only point to the difference in treatment between a case of uterine fibroid and one of cancer to demonstrate my meaning. In one word, local stimulation is the process upon which we shall mainly rely in the medical management of a case of fibroid tumour, where a cure is aimed at without the intervention of surgery, while all thought of such a process is most carefully excluded in the conduct of a case of cancer. Why? Because in the one case there is already an excess of formative activity which we are most anxious to curtail, while in the other an opposite condition exists, and local stimulation, with the slender hope of securing a removal of the disease by a process of absorption, is the key-note of our therapeutical system.

So much, then, on the pathology of these tumours. There are many other points in connexion with this branch of our subject upon which I should have been glad to remark had time permitted; some of these I shall perhaps allude to in considering the question of treatment. Before proceeding to discuss the *Symptoms*, a few words are necessary in regard to the classification of these growths which has been adopted by writers on the subject. The point is important, too, with reference especially to surgical measures, and hence the diagnosis of the several varieties is a matter of prime consideration. I do not propose, nor, indeed, is it necessary for me, to dwell at any length upon this part of our subject; suffice it to say, that for all practical purposes fibroid tumours of the uterus may be arranged in three classes, according to their situation and relation to the uterine walls. Thus we have, first, the *submucous* group, in which

the tumour is originally developed immediately under the mucous surface. As these grow, they project more and more towards the uterine cavity, which they invade and distort to a greater or less extent, according to the size of the tumour. At first, and when extremely small, they resemble very much another variety—viz., the interstitial, and they differ from them only in being nearer to the uterine cavity. Sometimes it is thought that, by the active efforts of the muscular fibres behind or beneath them, they are gradually projected from the bed in which they were originally developed; and as this process goes on, the contraction of the fibres behind gradually extrudes the growth, narrows its point of attachment, so that ultimately it becomes polypoidal in form, having a more or less slender stalk, and being covered all over by the uterine mucous membrane. In regard to this submucous group, the chief variations—and they are of great importance from a surgical point of view—have reference to their size, to the amount of their projection into the uterine cavity, and to the extent of their attachment.

Another variety of uterine fibroid is that in which the original development occurs, not near the mucous, but the peritoneal surface—the *subperitoneal* group. These are commonly believed—though upon what grounds I do not know, and it certainly does not agree with my experience—to be of more frequent occurrence than the former group; they give rise to very distinct symptoms, which usually mark them off very clearly from those we have just considered. In their growth it is thought that very much the same kind of action goes on with reference to the muscular fibres behind or beneath them as occurs in the case of the submucous group—that is to say, that a process of extrusion takes place by muscular effort, formed in both cases by the deficient resistance which exists upon either surface; so that here again the point of attachment may become gradually narrowed, and the tumour at last assume more or less of a pedunculate character. In a few rare cases, indeed, this process has been carried to such an extent that the tumour has at length become detached altogether, and, still maintaining its independent existence, has for a time lived free in the peritoneal cavity, and ultimately, in some cases, has taken root again, and grown in another part. Such a medical curiosity has, however, never fallen within my experience.

The third group of cases comprises those which belong to neither of the two classes just considered, but which lie as it were in the intervening territory, having originated in the substance of the uterine wall, not appreciably nearer to the one surface or the other. To these the term “*interstitial*,” or *intramural*, fibroid has been given. This comprises a very large group of cases, and, according to my experience, they on the average attain to a greater size than either of the other two; though, of course, there are exceptions to this. The greater freedom of blood-supply is probably a sufficient explanation of the fact. In the growth of these tumours they may incline a little more to one or other surface of the uterus, and in proportion as this occurs so will the uterine cavity be more or less influenced, distorted, or enlarged—a point which obviously is important in a diagnostic point of view, and which is happily within our cognisance.

In reference to all these several varieties, it may be said that they occur much more frequently in the fundus and body of the uterus than in the cervix; indeed, it is very rarely that we meet with them in this latter situation, unless they have invaded that part in their growth downwards from the body. On the whole, I believe that the fundus is most frequently the seat of these growths, though I am unable to give you numerical data. In regard to their relative frequency in the anterior and posterior walls, I find that of 82 in which its position could be accurately defined, the tumour was situate in or upon the anterior wall 44 times, and in the posterior wall 38 times. In 22 other cases, it was situate five times on the right side, five times on the left, once only in the cervix; and in 11 cases it was distinctly subperitoneal.

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LECTURE I.—PART II.

The Symptoms of fibroid tumours of the uterus vary greatly in different cases; and although at times it is really difficult to account for the differences which exist in cases apparently similar, yet, allowing for all that is due to idiosyncrasy, it may as a rule be remarked that the chief variation in the symptoms is due rather to the size and position of the tumour than to any peculiarity in the growth itself. Hence, in order to a correct appreciation of the phenomena presented by any given case, it is absolutely necessary that a most careful and thorough examination be made to determine with accuracy these several points.

It would be wearisome, and I am sure it is not necessary, for me to detail very minutely all the symptoms attendant upon these growths; suffice it to say that, in the main, they may be classified under three chief heads—namely, disordered menstruation; irregular discharges, either in the form of hæmorrhage or mucus; and, lastly, pain. The variations in these three symptoms often afford valuable indications in regard to the position of the tumour, and may be taken as corroborative evidence of the results of local examination. Speaking broadly, I have observed that the two chief symptoms, pain and discharge, whether of mucus or blood, are inversely proportionate the one to the other; that is to say, if there be much pain there is generally but little discharge, and, *vice versa*, great hæmorrhage is seldom associated with severe pain. Again, still speaking in general terms, but withal with some degree of accuracy—for the statement is the result of clinical observation alone,—I have found that the existence of great pain or excessive discharge, of whatever kind, may be taken as an index to the position of the tumour: in the former case the tumour will probably be found near to the peritoneal surface, while in the latter it will be nearer to the mucous. Pain thus associates the tumour with the peritoneum; discharge connects it with the discharging surface. It is important to bear these facts in mind, as it may exercise a determining influence in regard to treatment. In some few cases, however, there are absolutely no symptoms; and I have on more than one occasion discovered a large fibroid tumour of the existence of which the patient was entirely ignorant, and had absolutely nothing to complain of.

Taking the three chief symptoms in the order I have enumerated, we shall often find that some disorder of menstruation is the first thing that attracts attention. Supposing the tumour to be of the submucous variety, there will be a gradual increase in the amount of discharge; at first the increase will be slight, but it may ultimately amount to a regular hæmorrhage, and be prolonged far beyond the customary time. The more the tumour projects into the uterine cavity, the more polypoidal it becomes; and the larger the exposed surface of mucous membrane with its capillary circulation, the more free, as a rule, will be the discharge. It is easy to understand why this is, because, of course, the larger the extent of surface from which to bleed, the greater should we expect the loss to be. In the submucous and the interstitial variety this will be the leading disorder of menstruation. When, however, the tumour invades the peritoneal surface, there probably will be but little increase in the menstrual discharge, but a great aggravation of pain. A third, but a most unusual disorder of menstruation in connexion with fibroid tumour is, a diminution in the amount of discharge. Of the 180

cases which I have observed, this symptom occurred only 8 times; and in every one of these the tumour was of the subperitoneal variety. This coincides pretty much with Dr. West's experience, for he noted a similar result in 1 out of 36 cases. So much, then, for menstrual irregularity in connexion with uterine fibroids.

In regard to the next leading symptom—*viz.*, irregular discharge, whether of mucus or blood,—I find that this occurs in almost every instance where the tumour is of the submucous variety, and it is extremely common also in cases of the interstitial kind. As a rule, too, the watery or mucous discharge is much more free the more the tumour projects into the uterine cavity; while in the subperitoneal form it is almost or altogether absent, and it is slight in the interstitial kind. Hæmorrhage, on the other hand, is usually very free in the case of interstitial fibroids; but is freer still when the tumour invades the uterine cavity, and most of all when it has become polypoidal, while, on the contrary, it seldom occurs in cases subperitoneal. It appears, then, from all this that the amount of hæmorrhage bears no necessary proportion to the size of the tumour, but is mainly related to its situation. I have seen tumours considerably larger than an adult head attended with little or no discharge, either of blood or mucus; on the other hand, a small tumour no larger than a walnut may occasion almost fatal flooding. We learn, then, from what I have said, that the existence or non-existence of this symptom is very important in a diagnostic point of view in regard to the position of the tumour; and, as I shall show you in my next lecture, it has a very practical bearing in reference to the question of surgical interference, for the existence of a fibroid of the uterus which is not accompanied by any watery discharge, and does not give rise either to excessive menstruation or to irregular hæmorrhages is, as a general rule, not a case for operative treatment, at least not by the vagina.

There is one other point in reference to the discharges which I should mention here, as I have, on more than one occasion, known it lead to an error in diagnosis. I allude to the fetor which is sometimes met with in cases of large intra-uterine fibroids, especially where they have become pedunculate. There is great liability in these cases of mistaking them for cases of cancer. Let me relate a case in illustration. I was asked one day by a highly intelligent practitioner, who had had large experience in uterine diseases, and is a very expert operator, to see a lady who he believed was suffering from malignant disease of the uterus. She was greatly emaciated by long exhausting discharge, which was of an extremely fetid character, and she had had frequent and irregular attacks of hæmorrhage. There had also been considerable pain, and her general appearance was exactly that of an advanced case of cancer uteri. On making a vaginal examination, the finger came at once upon a mass, jagged and irregular in shape, occupying the site of the cervix uteri, and having most of the character of a sloughy mass of epithelioma. At first my opinion coincided with this, but on making more careful examination, and passing the finger completely round the mass, I could feel, on tracing it upwards, that it was surrounded by a distinct ring of perfectly healthy tissue, having a well-defined edge, and being separable from the rest of the disease. This led me to use the sound, and then it was apparent that, instead of a mass of epithelioma involving the entire cervix, the case was really one of large fibroid polypus, in which the lower portion, being constricted by the cervix above, had taken on a sloughing process, and hence the fetid discharge. The moral of this case is—in all cases where a fetid discharge exists, and is found to proceed from a sloughing mass in the vagina, be careful to make out whether the cervix is free above, and the mass is projecting from the uterine cavity; or whether, on the contrary, the disease springs directly from the cervix, and the edge of the os is, either in whole or part, involved in the disease. If it be, then clearly the case is one of cancer.

The last symptom to which special allusion must be made is pain. As I have already said, pain and discharge are, as a general rule, inversely proportionate the one to the other, and indicative of opposite conditions of the tumour, in regard at least to its situation. A polypoid or submucous tumour may grow to a very considerable size without occasioning any pain. An interstitial tumour will certainly occasion some pain, at least in the great majority of cases.

But a subperitoneal tumour will, as a general rule, from the very first be painful, sometimes extremely so, and the amount of pain will vary pretty much according to the situation of the growth. A small tumour in some localities will give rise to considerably more pain than one ten times its size elsewhere. For instance, a small tumour on the anterior wall will occasion much more distress and suffering than one situate posteriorly, and with both it may be said that the nearer the tumour is to the fundus the greater will be the attendant pain. This is especially the case in the early stages of the growth, for the reason, as I believe, that while thus small it drags over the fundus in one or other direction, thus causing a flexion of the uterus, with corresponding pressure on sensitive parts, and great difficulties in menstruation. Pain can never be taken as a measure of mischief in these cases any more than it can elsewhere. Indeed, within certain limits, it may be said that the larger the tumour the less is the pain, though the converse is not equally true. In general it will be found that the greatest suffering occurs before the tumour reaches such a size as to carry it out of the pelvis. After that it is more a question of distress and inconvenience from the bulk of the mass than any severe pain. There is one variety of the interstitial fibroid which is sometimes a cause of great pain—viz., where the tumour, though small, is situate near to the internal os, and gives rise to obstruction in the menstrual flow. Cases of this kind are by no means common, though, as they lie on the border land between the cervix proper, where fibroid tumours are extremely rare, and the body of the uterus, where they are, as we have seen, very common, they are occasionally met with. I have seen certainly four such cases, and the distress occasioned by them is very great. Now it will be evident from a review of these several symptoms that no one nor all of them together afford any positive evidence of the existence of a tumour of the kind we are considering. Pain is, of course, no indication, because it is common to so many conditions. Excessive menstruation, or the occurrence of irregular hæmorrhage, is at most only suggestive; for each may occur under very varying conditions, and is quite as frequent an accompaniment of cancer as of fibroid tumour. In short, there is no symptom which is at all pathognomonic of this disease, and our diagnosis must be founded mainly, if not entirely, upon the result of a vaginal examination.

Suppose, then, after careful inquiry into the symptoms, our suspicions are aroused as to the existence of a uterine fibroid, what are the chief points to be noted in making a vaginal examination, and into what errors are we likely to fall? In other words, what other diseases are likely to be confounded with this? Where the tumour is small, probably the most common mistake is made in cases of flexion of the uterus where the retroflexed fundus is supposed to be a tumour in the posterior wall, or an anteflexed fundus a tumour in the anterior wall. In both cases, or rather in all four cases, there is pain, and there is nothing peculiar about the pain in any case to give it a diagnostic value, except, perhaps, in this respect, that in the case of tumour the pain is more uniform and constant than in flexion, while in the latter it is much more severe during menstruation. In all four cases there will be, according to the position of the tumour or of the fundus, complications in regard to the bladder or rectum. With the former we shall have frequent micturition, with the latter constipation and painful defecation, but in both cases these symptoms are more marked with uterine flexion than with fibroid tumour. In regard to menstruation, this is more likely to be excessive in the case of tumour than in the case of flexion, especially if the tumour be submucous or interstitial, not if it be subperitoneal. The same holds good with reference to irregular hæmorrhage and to mucous or watery discharges. Thus, though a certain differentiation may usually be made between these several conditions in regard to the leading symptoms, yet in the main the diagnosis must turn upon the vaginal examination, and with this there is generally little or no difficulty in forming a correct opinion. First, as regards digital examination, the cervix may in all four cases maintain its normal size and shape and position, but in general it will not be quite the same in tone, for in the case of flexion it will frequently be found soft, whereas in fibroid it will as frequently be found hard. In flexion there will generally be found a good deal of tenderness, in fibroid there is little or none. I am speaking of the cervix only.

As regards the swelling itself, whether it be situated anteriorly or posteriorly, we shall find in the majority of cases that its consistence is much firmer in the case of fibroid than in the case of flexion; we shall also observe that the latter is far more tender to the touch than the former, but it is usually much less mobile; the mobility of the fibroid will, however, depend entirely upon its position and attachment; if it be subperitoneal and more or less pedunculate, then it will be more mobile than if interstitial, or subserous but sessile. In all cases of doubt, however, the diagnosis can easily be made absolute by the use of the uterine sound, for in the case of uterine flexion the introduction of the sound will at once cause a disappearance of the tumour, while in the case of fibroid the tumour will be entirely unaffected by it. I need not, of course, say that in using the sound for this purpose very great care is necessary, and that in passing it the point should be guided, though very gently, in the direction of the swelling, if flexion is supposed to exist, and if any obstruction is met with in that direction, then it should be passed in the normal direction. This will suffice to settle the question as between flexion of the uterus and fibroid tumour, and of course it will not arise at all in any case where the tumour is much larger than an ordinary fundus.

The next most common difficulty in diagnosis will be between uterine fibroid and ovarian tumour; and, curiously enough, this difficulty is not confined to cases where the tumour is small, as might at first sight be supposed; but it exists also occasionally in cases where the tumour has attained a very great size. Of course, in the latter case, the existence of very distinct fluctuation, such as occurs in unilocular cysts, especially where the fluid is thin, is sufficient at once to dispel all doubt, and certainly an error of diagnosis in regard to fibroid is, under such circumstances, little short of culpable. The difficulty, however, is hardly likely to occur in such a case, and it is only where the tumour is very small, or where, being large, either the fibroid is unusually soft, or, if it be ovarian, the cyst is multilocular and the fluid very thick, that any serious difficulty will arise. Those who have had most experience, however, know very well that fluctuation is not at all easy of diagnosis in some cases. I have seen soft, fleshy, but solid fibroids, even when removed from the body, give all the indications of fluctuation, so that it is not possible in all cases, even when the tumour is large, to speak with certainty as to the diagnosis; but undoubtedly the difficulty is much greater in the case of a small tumour, one, say, the size of an egg or of a small cocoa-nut. Quite recently I had a lady under my care suffering from a tumour the size of a duck's egg; it was situate behind and a little to the right of the uterus. There was but slight mobility in it; it had a fleshy elastic feel, was tender to touch, and any movement of it was thought distinctly to affect the cervix. In addition to this, there was an anteflexed condition of the uterus, and a fibroid tumour could be distinctly felt attached to the fundus uteri. There was no irregular discharge either of mucus or blood, but menstruation, though regular, was very profuse. Constant and severe pain existed in the right inguinal region, which was gradually wearing out the patient, and she suffered severely from frequent micturition, which disturbed her rest night and day. She was seen in consultation with me by two of the most experienced authorities in this town, whose opinion was sought as to the propriety of an abdominal operation for the removal of the tumour, which, at the urgent request of the patient, I at first consented to perform, and afterwards recommended; though originally I believed the posterior tumour, which was the cause of all her suffering, was, like its fellow in the fundus uteri, a fibroid of the subserous and pedunculate variety; latterly, however, I had altered my opinion, and now believed it to be ovarian. Both the authorities who saw her thought I was wrong in this, but they, very reluctantly I must own, consented to the proposed operation, if all other measures failed. They did fail, and, accordingly, I performed the operation, and removed the tumour, which proved to be ovarian. The patient, I am happy to say, made an excellent recovery.

Now the experience of that case, as well as some others of a similar kind which I have seen, where the tumour was about the same size, and where the diagnosis of a small ovarian tumour was confirmed by abdominal operation, has taught me this, in regard to the differentiation of small

fibroid and ovarian tumours—viz., that, apart from the difference of pain, which in the case of ovarian tumour is fixed in the ovarian region, but is more central in uterine fibroid; apart also from the question of irregular discharges of mucus or of blood, which are not uncommon in the case of fibroids, but are rare in ovarian tumours; apart, too, from the menorrhagia which is so constant in the one and so rare in the other; apart, I say, from all this, there is a peculiar elastic though firm and tense feel which is very distinct as against the hard solid feel of a fibroid; and, according to my experience, the smaller the fibroid is the harder it is: a small ovarian tumour is more like a stout india-rubber bag tense with fluid, while a fibroid of equal size is like a solid india-rubber ball. There is one other point of distinction between these two to which I may allude—viz., in regard to the position of the tumour: in the case of ovarian tumour, it is distinctly to one or other side as well as behind, while a fibroid is almost always immediately behind the uterus; this, however, is not without exception, for at the present time I have a patient under my care at St. Mary's Hospital who has a fibroid growing from the left cornu of the uterus, but here, though the tumour is certainly lateral, it is not so distinctly posterior.

Another condition with which uterine fibroid may occasionally be confounded is pelvic hæmatocele; for though they differ very much in regard to their clinical history, they are not in all cases so widely dissimilar in their physical characters. As a general rule, however, the swelling in pelvic hæmatocele is much more diffuse, less defined, and less movable than is that in uterine fibroid. Moreover its consistence varies with time: thus, at first it is soft, and has the character of fluid; then it becomes doughy and boggy, and lastly hard and solid. Simultaneously with these changes, the swelling steadily decreases in size. In all this it differs essentially from a fibroid, and the clinical history of the two is also widely dissimilar; for while the latter has nothing severe in its accession, the former always begins with severity, sometimes with symptoms of collapse from internal hæmorrhage, always with signs of peritonitis. It seems, then, that, at least in the earlier stages of the disease, there is not much likelihood of these two conditions being confounded; and although in the later stages, when the fluid portion of the blood and most of the clot in hæmatocele have been absorbed, there remains a swelling which is almost if not quite as hard as that of a fibroid, yet the rotundity of the latter in comparison with the thin edge of the former, and the fixity of the uterus in the case of hæmatocele as against its mobility in fibroid, will generally suffice to establish a correct diagnosis.

Pelvic cellulitis is another condition which presents occasionally a certain resemblance to uterine fibroid. It differs, however, in these respects: first, as to its history, for it generally commences with acute symptoms, with more or less severe febrile disturbance, and following either parturition, abortion, or chill during menstruation. The pain, which is constant, is usually in one or other side, extends down the leg, as well as through to the back, by the sacro-iliac joint. The swelling is situate distinctly in the broad ligament, extends from uterus to pelvic wall, fixes the former, bulges but little if at all into the vaginal cavity, and, except in severe cases, is not to be felt above the pelvic brim. Occasionally we meet with cases of pelvic cellulitis involving both broad ligaments; in that case of course the characters already given will be found on both sides of the uterus; but the diagnosis will not generally be a matter of much difficulty, for the more extensive the inflammation has been the more clearly will the severity of the symptoms mark it off from fibroid tumour. Moreover, the fixity of the uterus, the extent of the pelvic swelling, and the absence of any corresponding tumour above the pelvic brim, may be taken, in conjunction with the clinical history, as fairly conclusive against the existence of uterine fibroid.

I have on one occasion known a stone in the bladder mistaken for a fibroid tumour. Strange as it may seem, the mistake is not quite so gross as may at first sight appear. Of course it could only be mistaken for a fibroid in the anterior wall of the uterus, and though such a mistake would probably never occur to an experienced surgeon, yet the detail of the symptoms of weight and bearing down, of frequent and painful micturition, accidentally coincident as these might be with menorrhagia and dysmenorrhœa, would be very apt, I think, to mislead the obstetrician, who,

naturally as it were, takes it almost for granted that when he is consulted by a lady the case must necessarily be a gynecological one; and if on examination he finds a small, hard swelling immediately in front of the cervix, with such a train of symptoms as I have described, the diagnosis of fibroid in the anterior wall, or of ante flexion, is most natural. It is well, therefore, in all cases of this sort to use the bladder sound before arriving at a definite conclusion.

It might be thought almost impossible for fecal accumulation to give rise to a condition at all analogous to a uterine fibroid. I should have thought so but for a case which lately came under my observation. The patient was suffering a good deal of pain about the pelvic region, which had been gradually coming on for some time past. Menstruation was painful, but not profuse; and there was no irregular discharge. On examination, a tumour existed in the central hypogastric region, extending fully half-way up to the umbilicus, and occupying also the right iliac fossa; it was firm, uniformly globular, and slightly movable. Per vaginam, the cervix was central, somewhat enlarged, and the uterus could be felt apparently to rise pear-shaped from it, very much as in pregnancy at the fourth or fifth month—indeed this condition was at first suspected, but further examination proved it not to be; the firmness of the tumour then suggested the idea of a uterine fibroid, but this was doubtful in the absence of other symptoms. The bowels being rather confined, an enema was ordered, which acted very freely, and a considerable quantity of hardened feces came away; there was at once a great diminution in the size of the tumour. Two days subsequently the enema was repeated, with similar results, and, after a third injection, the whole of the tumour disappeared; the uterus, which had been quite fixed, became freely movable, and the cure was complete. I ought to add that, from the first, there was no accumulation in the rectum, nor could any lumps be detected anywhere per vaginam. The swelling was, in fact, uniform all around the uterus, and seemed to spring equally from it at about the level of the internal os, just as exists ordinarily in pregnancy, or as I have seen it with an intra-uterine fibroid. The lesson taught by such a case is, Be careful always to secure thorough evacuation of the bowel before giving an opinion in doubtful cases.

I have already alluded to the possibility of an error in diagnosis as between fibroid tumour and cancer; such a mistake can only occur in cases where the tumour has taken on a sloughy condition, thus occasioning an offensive discharge, and where on vaginal examination a jagged irregular mass is felt having very much the character of epithelioma. A little care will, however, readily demonstrate the existence of a distinct tumour projecting through a cervix unaffected with disease; and this is proof of the non-existence of cancer. There is, moreover, absence of all the constitutional symptoms of cancerous cachexia.

I have not time now to consider the differential diagnosis of uterine fibroid tumours and pregnancy. I therefore pass on to consider the only remaining point in regard to the diagnosis of these tumours—viz., the liability of mistaking them for ovarian tumours, or vice versa. I have already considered this point in the case of a small tumour which does not rise above the pelvic brim. Let us now see how it stands where the tumour occupies a good deal of the abdominal cavity. First, in regard to clinical history: fibroid tumours of this size are almost invariably associated with menorrhagia, metrorrhagia, or intercurrent uterine hæmorrhage, and more or less watery discharge. Ovarian tumours, on the other hand, have none of these things. Fibroid tumours of this class have usually a very long history, extending over many years, and often producing comparatively slight constitutional disturbance, with little effect upon the general health. Ovarian tumours, on the contrary, grow much more rapidly, often produce great emaciation, and generally give rise to some constitutional disturbance. As regards the tumour itself, uterine fibroids are mostly central in position, freely movable, often nodular and otherwise irregular in shape, hard, solid, non-fluctuating; while ovarian tumours are situate more on one side than the other; and even if they are so large as to occupy most of the abdominal cavity, they still have a one-sided tendency, as revealed by percussion, there being often a greater extent of resonance on one side than the other. They are rarely movable to any extent in comparison with a fibroid,

a fact which is due, I think, in great part to the rapid growth not admitting of proportionate growth in the abdominal muscles, which are consequently rigid upon the tumour, and so keep it fixed. Their shape is generally uniform; they are seldom or ever nodular; always, or with very rare exceptions, fluctuating, never hard, and scarcely ever solid. Percussion is the same in both cases. Auscultation occasionally, but by no means frequently, gives, in the case of fibroid tumour, a distinct bruit. This is extremely rare in ovarian tumours; but I observed it once most distinctly in a case which I subsequently operated upon. It cannot therefore be trusted in diagnosis. As regards the vaginal examination, the indications here are generally very distinct and definite: in fibroid tumours, the relation of the uterus to the tumour is much more intimate than in the case of ovarian tumour, and this applies to all kinds of fibroids, though, of course, it is much more marked with some than with others; much more, for instance, with the submucous and interstitial than with the subserous. The differential characters of the two kinds of tumour already described as discoverable abdominally may be noted also per vaginam—that is to say, hardness, solidity, and irregularity of surface, as against elasticity, rotundity, and a sense of fluctuation by external percussion. The point of prime importance, however, in the vaginal examination refers to the uterus and its relations. In intra-uterine or interstitial tumours there will be no difficulty in tracing digital enlargement of the uterus, even in cases where the tumour is high up towards the fundus, and where the cervix is perfectly free from disease, normal both in size and structure. Pressure on the tumour externally will generally bring it within vaginal reach, and by carrying the finger all round we can always trace its connexion with the uterus. But the most conclusive evidence is afforded by the use of the uterine sound; in cases of the submucous variety the uterine cavity is necessarily elongated, and the measure of its length indicates, not only the nature of the case, but the probable size of the tumour. In the interstitial variety there is also of necessity some enlargement of the uterine cavity, but the evidence which the sound affords is here of far less value, because only a small part of the tumour may project into the uterine cavity, while the bulk of it distends the peritoneal surface. In the case of subserous uterine fibroids, the cavity of the uterus is not necessarily, nor even commonly, enlarged; at least, not in any marked degree. The sound, therefore, affords no indication as to size, which may be judged of by external palpation, but it gives almost equally conclusive evidence as to the uterine character of the disease, for with the sound in utero any movement of the tumour externally is communicated at once to the uterus itself, and may be seen by its effect on the handle of the instrument. This point is seen with even greater distinctness in the case of the two other varieties, for with them the slightest movement of the tumour is at once transmitted to the handle of the sound. Now, in the case of an ovarian tumour, the evidence afforded by the use of the uterine sound is entirely negative in character, though positive in value; in the main it consists in a simple negation of all that I have just described. There are, however, some few exceptions on both sides. For instance, an intra-uterine tumour may be so adherent all round that, though itself of very great size, there may be no measurable increase in the uterine cavity. Again, a subperitoneal fibroid may be attached to the uterus by such a long pedicle that in this respect it resembles an ovarian tumour, and its effect upon the uterus, and so on the sound, by external pressure will be identical in both cases. Lastly, an ovarian tumour may be so intimately adherent to the uterus that the mobility of the latter by pressure on the former will be such that the sound affords no trustworthy evidence in the differential diagnosis of the two conditions. Speaking generally, it may be said that, in the case of large uterine fibroids, there is more deformity and more displacement of the uterus, as revealed by vaginal examination, than in the case of ovarian tumours.

In conclusion, as I have spoken of the great value and use of the uterine sound in the differential diagnosis of uterine and ovarian tumours, I may perhaps be excused for giving a few words of caution in regard to the employment of that instrument. I have seen and heard of so much mischief resulting from its use that I have several times asked myself the question, whether, while admitting to the

full the immense value of the sound in giving us great precision in uterine diagnosis, the balance of evil is not such as to make one regret that it was ever invented. This may seem a hard saying to some; but at least I hope it may lead to greater caution in the use of that instrument. I very much question whether, valuable as the sound is, it has ever been the means of saving a single life; while I have no doubt whatever that it has caused the death of many, and entailed years of suffering on many more. I have seen peritonitis result from its use on several occasions, and I know of two cases in which death ensued. It is only right that I should speak thus gravely by way of caution after all that I have said this evening in favour of this instrument; and I am induced, moreover, to do so because I see in some of our text-books directions for the use of the sound which, if carried out, are sure to entail in some cases evils of the worst kind. When, for instance, we are told to differentiate between a fibroid tumour of the uterus and an ovarian tumour by endeavouring to move the tumour with the sound in utero—when, further, attempts are made to prove that the passage of the sound through the fundus uteri is a perfectly innocuous proceeding, because, forsooth, this has happened in a few most exceptional cases,—I think it is time that a warning note were sounded to prevent catastrophes that must otherwise happen. I trust that what I have said will not be misunderstood, and that caution, not temerity, will be your maxim in practice, especially in the employment of this very useful instrument.

Lectures
ON
**FIBROID TUMOURS OF THE
UTERUS.**

Delivered at the Hospital for Women, Soho-square,

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LECTURE II.

GENTLEMEN,—In my last lecture I considered some points connected with the general history of fibroid tumours of the uterus; their frequency, probable mode of origin, and their differential diagnosis with other pelvic swellings. I propose in the present lecture to direct your attention entirely to the question of treatment; and, naturally, this branch of the subject divides itself into two heads—namely, the medical, and the surgical, treatment. Before, however, I proceed to the consideration of this question, it may be well, I think, to pass briefly in review the changes which occasionally take place in these tumours. Some of these, undoubtedly, have a certain curative influence; and, as they are brought about by means entirely independent of the application of art, it would seem at first sight that the changes in question are in reality the result of Nature's effort to effect a cure. To a certain extent this is, perhaps, true; and hence it is that some of the medical or drug treatment of these diseases has been based upon these supposed natural methods of cure. How far these are likely to be successful I shall presently inquire; promising only now that, as it appears to me at least, there is a very wide difference between the several steps of a process which is brought about by the unaided efforts of nature with the means only at disposal which are already within the body of the patient, and the attempt to bring about that same process by the enforced introduction into the body of certain drugs which it is assumed are capable of effecting the change in question; although at the same time the only ground for this assumption is the fact that, after the change has been effected, products are found within the space sought to be acted upon—namely, the tumour—which bear a certain chemical resemblance to the drug which is recommended for administration. You will, of course, have guessed already that the natural curative process to which I am referring is that which goes by the name of calcareous degeneration—a condition which I will describe immediately; and the artificial substance alluded to, the exhibition of which it is thought is capable of bringing about the same condition, is the chloride of calcium, or some other of the salts of lime.

Now, you will remember that, in my last lecture, I insisted strongly upon the fact—for I believe it is a fact—that these tumours are of very inferior organisation, that they have a low degree of vitality, and that in all probability they result from some form of local and limited malnutrition, characterised by deficient formative power. I have already given you my reasons for this belief, and the facts upon which that inference is based. I told you, also, that this was no fanciful or useless speculation, but that it has a practical bearing on our medical, and, I might add also, on our surgical treatment of these growths. To this point I shall recur presently; but I allude to it now because it throws light upon some of those processes by means of which nature seems at times to render these tumours innocuous, and occasionally effects their partial or complete removal. The processes to which I refer are chiefly the following—namely: calcareous degeneration; suppuration; softening and disintegration, by sloughing or otherwise; and, lastly, absorption, aided probably by some process allied to that which takes place in the uterus after parturition.

The first of these processes is described by Sir James Paget as "a calcareous degeneration, consisting in an No. 2601.

amorphous and disorderly deposit of the salts of lime and other bases, in combination with or in the place of the fibrous tissue." Now, that this process does occasionally take place there can, I think, be no doubt; it is, however, unfortunately, extremely rare, for in twenty-two cases of post-mortem examination that I have seen where the uterus was affected with fibroid disease, in but one of them had the tumour undergone this process, and that was a case of small subperitoneal fibroid which was almost entirely converted into a chalky mass of stony hardness. Curiously enough, I have seen this condition many times in the ovary, where the organ was large from some pre-existing disease, and where apparently abortive ovulation had occurred pretty frequently, the follicles being filled with cretaceous matter. The appearances presented by fibroid tumours which have undergone this form of degeneration vary greatly. In some, the tumour is encased with a kind of cretaceous shell; in others, portions only of the tumour are thus affected in different parts; in others, again, and those only which are very small, the entire tumour has become converted into a chalky mass. I do not know whether either, or if either which, of the three varieties of uterine fibroid—viz., the submucous, the interstitial, or the subperitoneal—is most liable to this condition. It is probable that it occurs in all of them. I have seen it in the subserous variety, and there are several cases on record where stones have been passed from the uterus, so that it certainly occurs with these two varieties—the subserous and submucous. The process in question appears to be precisely analogous to that which occurs in the case of atheromatous disease of arteries; and in both the use of the term ossification is altogether misapplied, because no true bone is ever found in such places.

The essential nature of this process of calcareous degeneration, and the several steps by which it is brought about, are little, if at all, understood. Some writers appear to think that an actual deposition of the calcareous matter takes place in or upon the substance of the tumour, and that atrophy results as a consequence of this. I venture to criticise this view, for I do not believe that it represents at all truly the process in question. On the contrary, I believe that, so far from its being the first, it is, in fact, the last step in the change, and that, instead of being a cause, it is, in truth, a consequence of the fibroid atrophy. The distinction is one of great importance, because upon it, in reality, depends, in all probability, the question of the efficacy of medication which is designed to bring about this result. Obviously, if the deposition of calcareous matter be the first in the order of sequence, and the atrophy of the tumour results directly from that, then of course the administration of the chloride of calcium or of any lime salt appears to have a reasonable basis, and ought to be much more largely employed. On the other hand, if calcareous degeneration be the result of atrophy of the tumour, then clearly it is useless to give these drugs, unless it can be proved that they have the power of causing such atrophy, and so of inducing indirectly the calcareous deposit. I am bound to express my belief that we have no such power at our command. I have administered for months—aye, years—the chloride of calcium in full doses, and I cannot say that I have seen the very smallest diminution in the size of the tumour. One effect I certainly have observed, at least as a sequence, if not as a consequence—viz., a very marked diminution in the amount of hæmorrhage, in cases where hæmorrhage had been excessive. For this result, however, it is very necessary that the drug should be given in full doses (forty to sixty minims) for a considerable time—extending, in fact, over many months. I know of one case where this effect was so marked that the patient began to experience uncomfortable head symptoms, apparently from the diminution of the menstrual discharge, and where by discontinuing the medicine the discharge was reestablished in all its former excess. Arrest of hæmorrhage, then, is the only advantage that I know of in the administration of the chloride of calcium.

Another degenerative process which these tumours occasionally undergo is that of suppuration. Here, again, the change in question is, like the one I have just considered, not a primary, but a secondary process, and results from some previous inflammation. Here is a specimen in which this change had occurred. There was nothing in the history of the case from which this tumour was taken that led me

to suspect such a condition; indeed, it was only after the operation, when I had removed the tumour by the écraseur, that I discovered, on making a section of it, that this abscess had formed. You will observe that there are several cavities in the tumour, all, however, communicating, and these when first seen were filled with thick creamy pus. As to the cause of such a condition—in regard, I mean, to the inflammation which precedes the suppuration—we know absolutely nothing. Whether or no the tumour can be inflamed without affecting the uterus, or whether the inflammation extends from the uterus to the tumour, these are points about which we are entirely ignorant. We know that inflammation and suppuration is not at all an infrequent occurrence in cystic ovarian disease, and in one instance I have seen this occur after the employment of the uterine sound for the purpose of diagnosis. If, then, this result can be brought about by so trivial a cause in the case of ovarian disease, may it not be the same with a uterine polypus? In any case, however, the point is not of much practical importance; because, in the first place, we have no absolute proof that this process has any curative influence; in the next place, it has not, so far as I know, been found in any uterine tumours except those which were distinctly polypoid, and these, as we know, are quite within our control; besides, if even it were certainly curative, and could be applied to other forms of uterine fibroid, we yet know of no method by which it can with safety be brought about.

A third change which occasionally affects these tumours is a peculiar softening, which has been variously described by different authors. Some have designated it as a kind of fatty degeneration, and, regarding the tumour as made up chiefly of muscular elements, they have described this process as one analogous in all respects to that which occurs in the case of the gravid uterus after parturition. Hence, Klob says: "In fatty degeneration, chiefly the muscular portions of the tumour are affected, and we often find them transformed into fatty granular cells." Besides this, he says, "fat is always found in large or small drops, and the cells of the connective tissue undergo a similar metamorphosis." Now, with all due respect to so great an authority, I venture to question this statement; and as it refers to a matter of fact which anyone who is at all accustomed to microscopic observation can test for himself, I am prepared to state that, so far from it being of frequent occurrence, I am convinced that it is extremely rare; for of the numerous specimens which I have examined I have never once met with any indications of the process in question. I have never seen a single muscular fibre in the state here described, nor have I ever seen the oily drops spoken of as present in the connective tissue. The parallel sought to be established between this alleged metamorphosis and that which occurs in the muscular fibres of the uterus after parturition is, I think, wholly out of place, and based upon an erroneous assumption, because the tissues in the two cases have little or no resemblance to one another, as you may see by examining the microscopic specimens on the table. One shows the large muscular fibres of the parturient uterus; the other the exceedingly minute fibres of one of these tumours. The prominent characters visible to the naked eye and touch which Klob gives as indicative of this supposed fatty degeneration are, in reality, indications of a totally different kind. He says: "The external appearance of a fibroid tumour undergoing fatty degeneration is altered; it becomes flabby, doughy, and soft; pits on pressure, and is very friable; its colour changes to pale yellow or faded brown; on section its structure appears uniform, it having lost its fibrous character."

Now, the condition here described is due, in my opinion, not to fatty degeneration of fibroid or muscular tissue, but to a peculiarity in the original constitution of the tumour. You may remember that in my last lecture I expressed my dissent from the view that these fibroid tumours are in all cases made up of elements identical with the normal tissues of the uterus. On the contrary, I affirmed that in numerous cases there is a very large proportion of cellular elements, with a very scanty supply of fibres, and I showed you microscopic evidence of this statement. I told you, further, that this variety of tumour is often softer than the others, and that they grow much more rapidly; in fact, you will find that the more quickly a uterine fibroid grows the more cellular, and the less fibrous, it will be on microscopic examination.

I have observed also that this variety is peculiarly subject to certain fluctuations in size, and these changes are due, I believe, to a kind of oedematous infiltration, the result probably of inflammatory action, so that at one time a tumour of this sort will be considerably larger than at another, whereas the true fibroid tumour—I mean that which is composed mostly of fibrous elements, and has very little cellular structure—will scarcely ever vary either in its size or consistence. I am unable to give you any explanation of the fluctuations in question other than the one I have offered, but I am inclined to believe that they indicate a condition which is of happy augury for the patient. It is in this respect that the question is important from a practical or therapeutical point of view, because undoubtedly this temporary increase in the size of the tumour is entirely amenable to treatment, and not only so, but I am convinced that I have seen such tumours yield to surgical interference in a way that the true hard fibroid tumour never does. I mean that such a tumour, if seriously interfered with surgically in the manner to be described, will afterwards sometimes disintegrate and disappear. I have never seen the like result from the other variety. One of the most remarkable instances of this kind of action which I have met with occurred under my care about two years ago. The patient was twenty-six years of age, single, and had been suffering from an abdominal tumour for about two years. On examination, the abdomen was enlarged to at least the size of pregnancy at the seventh month; the top of the tumour reached to about an inch above the umbilicus; the uterine sound gave a measurement of five inches and a half, but it was evident that the tumour occupied the entire fundus uteri, and was attached also to at least half the body of the uterus. I determined to attempt the removal of the tumour; and, in accordance with the plan which I usually adopt in these cases, I divided the cervix freely on both sides. Subsequently I broke down the attachments of the tumour, and, finding that the tumour itself was soft and easily torn, I decided to break it up as much as I could. The result was a very free watery or mucous discharge, with some shreds of tissue, which continued for some weeks afterwards, accompanied by a remarkable diminution in the size of the tumour. On three separate occasions I repeated the operation, introducing the entire hand into the uterus, and breaking up with my fingers as much of the tumour as I could. The final upshot of this case was that, without any further operation, and aided by the occasional employment of the ergot of rye, the whole of this large tumour disappeared; and, what is more, I have seen this patient several times since, the last time being quite recently, and the uterus is exactly normal in size; there is, in fact, no return whatever of the disease, and the cure is complete.

There is yet one other change which I will briefly allude to as occurring sometimes in these tumours—viz., the formation of numerous cellular spaces in the substance of the growth. Here is a specimen of the kind to which I allude, and you will see that it has quite a honeycomb appearance. I removed this from a patient by a process of partial enucleation, for the tumour was of the submucous variety, and had to be detached a good deal from its bed before the wire of the écraseur could be applied. I have also a microscopic specimen of this tumour, from which you will see that it is made up very largely of the cellular elements, and, except in some places, corresponding perhaps to the dissepiments between the cavities or cysts, there are comparatively very few fibrous elements. Here again, then, I think, is an illustration of a process tending possibly to disintegration, and occurring in a tumour in which the cellular element largely preponderated. I have met with no similar instance in the hard fibroid form of growth, where comparatively few cell structures exist. It is not unlikely, I think, that in the larger developments of this variety we have what is known by the term "fibro-cystic disease."

Into the question of the transformation of these uterine fibroids from what they are to cancerous growths, I have no time now to enter, nor, indeed, does it come exactly within the range of my subject. I will only say that I have certainly never met with any instance leading to the belief that such a change is possible. Still I do not deny that it may be so, though I am disposed rather to think that in the few very rare cases where the fact has been affirmed the true explanation is to be found in the simultaneous occurrence of the two diseases, and possibly the actual growth of

the cancer upon the fibroid tumour; for there is nothing impossible, or even improbable that I know of, in one such growth fastening upon another.

So much, then, for the changes incident to these tumours; they are, no doubt, all of them more or less of a degenerative kind, and some of them certainly have a curative tendency, though it is more than doubtful whether art can in any way initiate, or even favour, the processes in question. Let us now see what art can do and what it cannot; for it is quite as useful to know what to avoid on the ground of incompetence as it is to know what to undertake with a fair hope of success. There is, in truth, no folly greater than to attempt the impossible, and no worse treatment of conscience and of character than the habitual practice of unreality—the pretending to do what in our heart of hearts we know we cannot do. I fear there is not a little of this deception habitually fostered by the useless administration of drugs for a purpose which we must know to be utterly impossible of attainment. That there is ample scope for the employment of drugs in the treatment of these fibroid tumours I am well assured by abundant experience; but I am none the less firmly convinced that to persuade women for months and years to swallow gallons of medicine, mostly of a depressing and debilitating kind, and to irritate themselves with so-called absorbent ointments and embrocations, in the vain hope that we can thereby bring about the absorption and removal of a hard fibroid tumour the size of an adult head, or even of a walnut, in an organ deeply seated, and having no anatomical or physiological relation to the part we irritate, is not only unscientific, but it is unreal and dishonest. I would only repeat what I said on this subject several years ago—viz., that if we bear in mind the histological elements of which these tumours are composed, and the anatomical relations of the tumour itself to the part where the inunction is applied, we must at once recognise the absurdity of the treatment, and wonder how it could ever have been proposed, though that is far less difficult to understand than that in our day, with all our advance in pathology and therapeutics, it should still be practised as diligently as if success had been a uniform result. I have seen this treatment perseveringly adopted for many years; but I cannot say that I have ever traced the smallest benefit to it, and I have certainly never seen a tumour appreciably reduced by it. I do not believe that the current practice of giving preparations of iodine, bromine, and chlorine, in combination with iron, mercury, potassium, or calcium has anything more than custom in its favour, or can boast of such success as to warrant its continuance. If these drugs had the virtue which is imputed to them, we should expect to see it exercised, not occasionally and with extreme rarity, but, if not very frequently, at least in a fair proportion of cases; for it is unreasonable to suppose that a remedy which must act, if at all, in a definite and intelligible manner, should exercise its influence only once in hundreds or thousands of cases.

There is no doubt that of late years our knowledge of the action of many drugs has greatly increased; and the clearer our insight becomes, the more completely does it dispose of the false reputation which has been dishonestly acquired by the remedies usually given in these cases. Take for instance bromide of potassium. All our positive knowledge of the clinical and therapeutical value of this drug points to its action directly upon the nervous system; how, then, can it be expected to exercise the smallest influence in promoting the disintegration and absorption of a solid tumour? Its well-known influence in certain diseased conditions of the ovaries, or at least in disordered ovarian function, is, in my judgment, traceable directly to its effect upon the nervous system, and possibly upon the generative nervous system in particular. Its value in certain convulsive diseases, the relation of these to the cerebellum, and of the latter to the sexual system, throw, I think, great light upon its therapeutic properties in certain disorders of menstruation; but they certainly lend no countenance whatever to the idea that two or three grains taken three times a day can promote the absorption of a uterine fibroid. Take again the case of mercury, which is believed by some—I must confess I am not of the number—to have the power of promoting the absorption of inflammatory products; what relation is there between this reputed property and the alleged power of absorbing the organised constituents of a solid fibroid tumour? I have used perseveringly the chlorides, iodides, and

bromides of mercury, even to the maintenance of slight salivation, kept up for some time; but I must frankly own that, beyond the mischief to the patient's constitutional powers which they are well capable of effecting, I have not observed any result, and most certainly I have never seen the very smallest diminution in the size of the growth for whose removal it was given. In iodide of potassium and iodide of iron I have just as little belief for the purpose in question. Their value in certain glandular enlargements which are chiefly or entirely of an inflammatory kind, and in the inflammatory syphilitic affections, is undoubted; but there is a very wide difference between all these and the diseases we are considering; and while I have seen abundant evidence of the one, the other has never come within my observation, albeit I have been only too ready to see it.

There is just one other drug to which I must allude, because it, perhaps more than any other, has gained great, but I believe most undeserved, reputation for promoting the destruction and decay of these tumours—I mean the chloride of calcium (not the chlorinated lime). Now, there are two views put forward by different observers in regard to the supposed powers of this drug. Dr. M'Clintock, than whom there is no more competent or careful observer, has recorded one case in which this drug was given perseveringly for two years, with the result that a tumour or swelling the size of an orange above the pubes, and situate in the central hypogastric region, entirely disappeared, and menorrhagia, which had existed for some months, ceased. I gather from the record of this case that Dr. M'Clintock believes in the absorptive power of the drug in question; he does not appear to favour the other view which has been put forward—namely, that because fibroid tumours are found occasionally to undergo a process of calcareous degeneration, as it is called, therefore to give the chloride of calcium is the best and most efficient mode of promoting such a result. I must confess that such a hypothesis seems to me to savour rather of the ludicrous, and is about as scientific as the notion that rickets in children is best treated by the administration of lime water! Such purely chemical views take no account whatever of the vital processes, and seem to regard the human body as a kind of chemical laboratory, where inorganic compounds can be precipitated in any part or organ we wish. There is nothing to prove that those persons whose tumours do not undergo calcareous degeneration have less lime in their composition than they have who are in this respect more fortunate, and if even we could prove this we should still be far from certain that the exhibition of this drug could favour its deposition in the particular place we wish. The same observation applies with equal force to the case of rickets; the injection of any quantity of lime into a rickety child will do nothing to remedy the defect by reason of which the process of ossification is arrested; it is not the chemical ingredient but the vital act that is wanting in the latter case, just as it is not the calcium, but the death, decay, and absorption of the fibroid, which leads to the process of calcification, that is deficient in the former. I believe that the whole of this hypothesis is founded in error, and that where we find this calcareous degeneration has occurred, the deposit of lime has been left only as a residuum after the absorption of the tumour, and not that the tumour has been starved out as it were by the calcareous deposition. Of course it is not possible to prove this, but neither can the converse be demonstrated; and at least we know that in other cases, as, for instance, in old abscesses, say of the ovary, where I have several times seen it, or in tubercle of the lung, the deposit of cretaceous matter is certainly not a cause but a consequence of the pre-existing curative action; therefore I hold it is more consonant with reason and experience to suppose the same in this case.

While, however, as I have said, I believe that drugs are utterly inert in promoting the removal of uterine fibroids, I, nevertheless, fully recognise their value in alleviating or removing the distressing symptoms which sometimes attend these growths, and here there is a very legitimate exercise for them. Sometimes these tumours, either in connexion with or apart from the uterus, become inflamed, and they may, as I have shown you, go on to suppuration; they swell up, soften, as if from a kind of cedematous infiltration, and become more than ordinarily painful to touch. Quite recently I had a case of this sort under my care. The patient had been treated mechanically for anteversion—that is to

say, she had worn a pessary for the purpose of curing this supposed displacement. No relief, however, followed; on the contrary, the pain increased greatly. When I saw her the swelling in front of the cervix was excessively sensitive, and had a boggy, oedematous kind of feel. My suspicion that it was not ante-flexion was first aroused by observing that the swelling was not entirely in front, but a little to the right of the cervix, and on passing the sound, which I did very gently, I found that it went in the normal direction, and left the tumour unaltered. The diagnosis being therefore clear, it was easy to understand that the severe pain and tenderness were due to the irritation and inflammation set up by the pressure of the pessary on the tumour. I at once ordered leeches, warm injections, and effervescing salines, followed afterwards by anodyne vaginal suppositories. The result was most satisfactory as regards the relief of pain and inflammation, and, what was especially noteworthy, the tumour rapidly and considerably decreased in size, no doubt by the removal of all inflammatory products, for the tumour at last became hard, and did not diminish beyond a certain point.

The treatment which I adopted in this case will be found, I think, generally successful in all cases where there is reason to suppose that inflammation of the tumour exists. This is not at all an uncommon occurrence, and the suffering is often very great. After the more acute symptoms have subsided and the tenderness is diminished, we shall find great benefit from the local application of iodine in promoting the absorption of the effused inflammatory products. This should be applied directly to the part itself, and we may do so either by freely painting the cervix with the linimentum iodi every other day, or by applying pledgets of iodised cotton wool after the manner suggested originally by Dr. Greenhalgh. Both these methods are very effective for the purpose in question; but, on the whole, I give the preference to the former, where the use of the speculum is not objected to, on the ground partly that patients generally prefer it to having a plug of cotton wool left in the vagina for twenty-four hours, and also because not unfrequently the vagina is irritated a good deal by contact with the iodised plug, which necessarily affects a much larger surface than when the paint is applied over the limited space of the cervix.

In regard to this local employment of iodine, I may say that I have on many occasions resorted to it for the purpose of securing, if possible, some absorption of the fibroid tumour itself; and, although I have absolutely no belief whatever in the value of iodine when applied with this view over the skin of the abdomen, and not very much faith in its efficacy as a local application directly to the uterus itself, yet in a few cases I certainly have observed some diminution in the size of the tumour, which appeared to me to be due to the treatment adopted. I think, too, that the efficacy of this method is greatly enhanced by the occasional application of a few leeches to the uterus itself. It has appeared to me that this treatment is more successful in some kinds of cases than others; and, in general, I should say that the smaller the tumour, the softer it is, and the nearer to the cervix, the more likely we are to be successful. I have noticed also that the subperitoneal varieties are far less amenable to this method than the interstitial; and of course it is only in these two varieties that we should think of adopting such treatment, the submucous and polypoid forms being reserved for the surgical treatment which I shall presently describe. It may be added that this iodine and depleting treatment is of no avail unless it be perseveringly continued for many months; if therefore the patient is not prepared to submit to this, it is useless beginning it. I seldom give any medicines internally, as I have no belief in them; they often do more harm than good to the general health, and it is quite enough to be obliged to give some drugs for the purpose of combating the more urgent or distressing symptoms. This brings me to the consideration of the palliative or symptomatic treatment.

(To be concluded.)

Lectures

ON

FIBROID TUMOURS OF THE UTERUS.

Delivered at the Hospital for Women, Soho-square,

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LECTURE II.—(Concluded from p. 4.)

As I stated in my last lecture, the most prominent symptoms—those which call more particularly for treatment—are, the arrest of hæmorrhage, the relief of pain, and the checking of irregular discharges, whether of mucus or of blood. Before resorting to any plan of treatment, it is of course, above all things, necessary to determine, if possible, the exact position of the tumour; and, in reference to this point, you will bear in mind what I stated in my last lecture as being, on the whole, fairly deducible from a consideration of the leading symptoms—viz., that excessive hæmorrhage, or other irregular discharge, is indicative of a polypoid, submucous, or interstitial fibroid, while great pain, on the other hand, results much more frequently from tumours which are subperitoneal, or which, if interstitial, are so placed as to cause obstruction to the menstrual flow or pressure on adjoining sensitive parts. As, however, the fitness of the case for medical or surgical treatment depends entirely, at least so far as our advice is concerned, upon a correct appreciation of the exact position of the tumour and its relation to the uterine walls, it is desirable that I should consider a little more fully the means at our command for determining this point. Of course if a case comes before us in which excessive menorrhagia, irregular attacks of hæmorrhage, and profuse watery discharges are the leading symptoms, so that the patient has been reduced to a marked anæmic condition, and we find on examination that the uterus is occupied by a tumour, that the cervix is expanded over it equally all round, that its tissue is soft, the os a little patulous, its edges thin, and through it, though the opening be very small so as hardly to admit the tip of the finger, a tumour is felt projecting into the uterine cavity, no doubt whatever exists as to what ought to be done in such a case. Medicines, even of the palliative kind, are here quite out of place, and the case is a perfect one for surgical interference by one or other of the methods I shall presently describe. Our advice should be given accordingly, and in no faltering tone.

Again, suppose a case presents itself similar to the foregoing as regards the general symptoms, with perhaps this difference, that, though menorrhagia is excessive, there is no history of irregular attacks of hæmorrhage, and no profuse watery discharges, but that there is rather more pain in this than in the former case, and more disturbance of the functions of the neighbouring viscera—the bladder or rectum. The inference before vaginal examination will tend rather to the opinion that an interstitial fibroid exists. And if, on examining the uterus, we find its tissue hard, the cervix displaced from its central position in the pelvis, the os closed, or at least not patulous, and that a hard swelling exists in the pelvis, immediately connected with the uterus and opposite to the position of the cervix, most likely in the anterior or posterior wall of the uterus; if, further, on cautiously introducing the sound, we find that the uterine cavity is enlarged in all directions, that the sound seems to pass over a rounded surface, and that the slightest movement of the tumour at once affects the sound in utero, then there can be little doubt that we have to deal with a fibroid tumour of the interstitial kind, and the question of medical versus surgical treatment becomes one of pressing importance, and is at the same time full of great intricacy, difficulty, and danger. Such a case requires unquestionably the greatest skill, judgment, and discretion. It should be examined again and again before a definite course of action is decided on, at least if surgical interference is contemplated.

And here I would urge very strongly the great importance of careful examination under chloroform before any surgical measures are attempted in any doubtful case. I do not think it is possible to gain a correct idea of the relations of an interstitial fibroid unless the patient is completely under the influence of chloroform, so that by combined internal and external examination, with and without the use of the sound, the whole position of the tumour can be mapped out, as in most cases it can with almost absolute certainty and accuracy. When this is done, then and not till then shall we be in a position fairly to decide for our patient's welfare as to the course that should be adopted. I shall presently describe the surgical bearings of such a case, and the character of the operation suited to it.

Lastly, if a case occurs in which the leading symptom is pain in and about the pelvic region, with accompanying disturbance of the functions of the adjoining viscera—the bladder or rectum; with a certain but comparatively slight excess in the menstrual discharge; with no hæmorrhage at irregular times, and no amount of watery discharge: if, on examining such a case, we find much displacement of the cervix uteri, with but little alteration of its size, shape, or consistence, and that a tumour exists somewhere in the opposite direction to the cervix, causing its displacement; if, further, we find that the tumour is very mobile, and does not affect the cervix to the same extent as does an interstitial fibroid, showing that its connexion with the uterus is not so intimate in the one case as in the other; if, moreover, the uterine sound gives a measurement showing that the uterus is little if at all increased in size,—then the tumour, if uterine at all, is most probably of the subperitoneal form.

Having, then, determined accurately the position of the tumour, the question of its medical or surgical treatment is thereby settled; and, supposing that palliative treatment is required, our attention will probably be directed chiefly to the relief of one or other or all of the three leading symptoms—namely, menorrhagia, irregular discharge of mucus or of blood, and pain. Of these, undoubtedly excessive discharge, either at or between the menstrual periods, will be the most common, and probably the most trying and troublesome symptom to treat. Of course I need not say that astringents will under such circumstances be called for; and, among the many that at different times enjoy popularity, it is difficult to select one which shall prove most effectual; indeed, I do not hesitate to declare that there is no single remedy that I know of which can be relied upon with anything like certainty to check the hæmorrhage or arrest the menstrual flow in cases of this sort. I have tried, in turn, most, if not all, the so-called hæmostatics, and I cannot say of any one of them that it has been uniformly successful, or that it has not at times most signally failed. Gallic acid in one case, astringent chalybeates in another—and, of the latter, I know of none that is so effective as the ethereal peracetate of iron in half-drachm doses; acetate of lead in a third, taking care always, in giving the latter, to do so in solution with the dilute acetic acid; ergot of rye in a fourth, in half-drachm doses, giving this in the recent powder in preference to any other form;—these are, according to my experience, among the most efficient remedies of this class. But there is one that I have used during the last twelvemonth which certainly seems to me by far the most effective remedy of the kind that we possess: I mean the watery extract or liquor of the common periwinkle—the *extractum vincæ major liquidum*, as it is called. This, taken in drachm doses, properly diluted, every four hours, I have seldom known to fail; it is certainly by far the most efficient remedy that I know of for the purpose in question. Why one remedy answers at one time or in one case better than another I am quite unable to say; constitutional or local peculiarity may have to do with it; but in any case I can lay down no rule for your guidance, for the whole thing seems to be purely empirical. Of those agents which, while possessing no astringency, have nevertheless in some hands proved effective as hæmostatics, such as digitalis, Indian hemp, turpentine, and mercury, I have no satisfactory opinion to offer, for the reason that they have all in my hands proved utter failures. Of course, where great anæmia exists, a chalybeate astringent would seem the most fitting, but I have on many occasions found it rather increase than diminish the bleeding. The same may be said also of ergot. Dr. McClinton speaks

very highly of the hæmostatic properties of mercury, confirming in this respect the experience of Dr. Tanner, who found it a most useful agent for this purpose. I must own that I have never seen such a result. If I were to place the medicines in the order in which I have found them of greatest value, I should assign them as follows: the liquid extract of the common garden periwinkle, the ethereal peracetate of iron, ergot in the form presently to be described, gallic and sulphuric acids with the compound infusion of roses, the acetate of lead with dilute acetic acid, and, in a few rare cases of the congestive kind, the local abstraction of blood by means of leeches to the cervix; these have all, in turns, proved efficient in my hands. As a general rule, I have observed that when hæmorrhage does occur, which is very seldom, in cases of subperitoneal fibroids, it is more easily arrested than in either of the other varieties, and for such the periwinkle, or the chloride of calcium, given perseveringly for months, has been the most successful. In interstitial fibroids the bleeding is more difficult to control, and ergot of rye or borax has proved the most efficient agent in such cases. In the submucous, and still more in the polypoidal forms, the difficulty of arresting hæmorrhage is greater than in either of the others; here the vinca major and the more common astringents, such as gallic acid, sulphuric acid, iron alum, or the peracetate of iron, have appeared to me to answer best.

There is one other remedy which I have tried quite recently in three cases, and the result in one of these was very marked; I allude to the subcutaneous injection of ergotine. The solution which I employed contained ten grains of ergotine to a drachm, and from five to twenty minims were injected each day. In one case severe cellular inflammation followed in the site of the puncture, so that the treatment had to be discontinued; in another it excited so much pain and distress about the præcordia that I was obliged to desist, and in neither did any good result; while in a third the remedy was continued daily for ten days, and not only did it produce a decidedly beneficial result in regard to the next menstrual period, but the hæmorrhage was restrained for two months afterwards, when the case passed from my observation. I believe that we have in this agent a powerful hæmostatic remedy, for I am informed that very good results have followed its practice in other hands.

In addition to the above, the local application of astringents will often prove most successful, and these we may apply either in the shape of vaginal suppositories of tannin, or the glycerine of tannin, or matioc, or alum, or we may inject the uterus with the perchloride of iron, though I very much prefer the use of the anhydrous zinc points as suggested by Dr. Braxton Hicks. In the more severe cases, where a fatal issue seems almost to threaten, it will be necessary to resort to the use of the tampon.

Besides all these remedies there is a measure which has been greatly extolled by some as most efficient in arresting hæmorrhage—viz., the division of the cervix. Various explanations have been given to account for this result, but none of them, I think, are satisfactory, nor has the proceeding itself proved successful in my hands. Occasionally, however, where the cervix has been dilated with sponge tents, and some inflammation has followed in consequence, the disposition to hæmorrhage has been afterwards completely arrested. It seems likely, therefore, that the good result which occasionally flows from dividing the cervix is to be explained in the same way. A similar method to this has been recommended by Dr. Atlee, of Philadelphia, which he describes as most successful. His plan is "to pass a bistoury along the vagina into the cavity of the uterus, and make a very free incision into the most exposed portion of the tumour." The operation is to be done during the occurrence of hæmorrhage, and he declares that it is "invariably arrested instantaneously." I have had no experience of this method, but anything coming with the approval of Dr. Atlee is deserving of every attention. So much, then, for the question of hæmorrhage, or excessive discharge of any kind, in cases of uterine fibroid.

In regard to the relief of pain, there are several ways open to us by which we may hope to accomplish this end; and we shall be probably guided to the right method according to the correctness of our appreciation of its causes. Sometimes the pain is produced mechanically, by pressure of the tumour on neighbouring parts. This is especially likely to occur in the subperitoneal and pedunculate variety;

and in such cases great relief has occasionally followed the removal of the tumour by the hand from one part to another. In one case that came under my care, where the tumour was situate posteriorly, the introduction of an air-pessary behind the cervix proved very successful in supporting the tumour, and gave great relief to the patient. In a movable tumour, therefore, the possibility of a mechanical cause of pain should be borne in mind. The pain which is due to a congested or inflamed condition of the tumour must be met by the remedies already described when treating of this condition. And in cases where neither of these two causes is in operation, but where the pain is, nevertheless, constant and wearing, though its cause may not be very clearly defined, there we must resort to the employment of anodynes; and these we may use either subcutaneously or by the mouth, or better still, I think, by the vagina. I will only speak of the latter mode of treatment, because, of course, the two former are well understood. The advantages of this method are—first, that the anodyne is applied directly to the affected nerves; and, secondly, that the stomach and digestive organs are not so injuriously affected as when the same drug is given by the mouth. On the other hand, the disadvantages are—first, what I may call the moral or sentimental objection to the practice of daily introducing a foreign substance into the vagina; and, secondly, the discharge which must necessarily take place of those portions of the pessary which are not absorbed. This latter objection formerly applied with much greater force when the greasy substance—cocoa-butter—was used, than it does now, because, as I showed long ago, in a paper which appeared in *The Practitioner*, "On the Use of Medicated Vaginal Pessaries," it is no part of the function of the vagina to digest fats; and the presence of such a greasy substance in the vagina tends to prevent the absorption of the active ingredients. Moreover, the discharge of all the unabsorbable part, including the whole basis of the pessary, is, in private practice, very objectionable. I have, therefore, long since discarded the use of the cocoa-butter, at least in all cases where an astringent is not required; and in its place I now use, as the basis of the pessary, a mixture of gelatine and glycerine, in the proportion of one part of the former to four of the latter. This makes an admirable mass, it readily melts at the temperature of the vagina, and any ingredient that is not astringent can be added to it; but as all astringents combine with the gelatine to form an insoluble compound, it cannot be used in these cases. There is one other point I may mention in connexion with these pessaries—namely, their size. Very commonly they are used as large as a Minie ball, or even larger. There is no necessity for this; and I think it is on every account desirable that they should be as small as possible. I therefore always use them the size of a suppository, which is quite large enough to carry any drug you may require. Another advantage of using the gelatine and glycerine is, that the latter promotes the secretion of the vaginal mucous membrane, and so favours the absorption of the active ingredient. The anodynes which I have found most useful are the alkaloids conea, atropia, and morphia—one to two grains of conea, one-eighth to one-twelfth of a grain of atropia, and half a grain to a grain of morphia. These may be used once or twice a day, according to circumstances. On the whole I am inclined to believe that conea is by far the best and most efficient anodyne we possess for vaginal purposes. I am satisfied that it is in all ovarian cases, but am not quite so sure of it in the class of cases we are considering.

So much, then, for what we must call only the palliative treatment of these tumours. Happily we are not restricted to this, for we possess many means by which we can effectually remove these growths. The mode of procedure to be adopted in any given case must of course depend upon the nature of the case, and especially upon the situation of the tumour. Hence the great importance of being able to diagnose accurately the position of the tumour, and its relation to the uterine walls. In the polypoid and in the submucous varieties our course of action is clearly marked out; in both cases the first step is to secure free dilatation of the cervix, so as at least to admit easily two fingers within the uterine cavity, in a case where the tumour is small, and has a distinct pedicle; while in others where the tumour is large, and has an extensive attachment, though only to the mucous surface, there we must

dilate the cervix more freely by means first of the sponge or sea-tangle tents, and afterwards with the india-rubber air- or water-bags, so as to admit not merely two or three fingers, but even in some cases the entire hand. I have succeeded in doing this on several occasions, detaching thereby tumours considerably larger than a foetal head at full term, and separating them completely from the uterus by means of the écraseur. In one case, after cutting off such a tumour I had the greatest difficulty in extracting it from the uterus, and was obliged to use a pair of long obstetric forceps for this purpose. We shall generally find, at least I have hitherto found, little or no difficulty in separating a submucous tumour from its attachment; as a rule, one or more of the fingers is quite sufficient for this purpose, except at one part where it will be found to have a firmer attachment than elsewhere, and there the écraseur must be used. The old-fashioned canula of Gooch is now, I think, pretty generally abandoned, and deservedly so, for there is nothing to be said in its favour, and very much may be fairly urged against it. It is, I think, most objectionable practice to retain, as with the use of this instrument we are obliged often to do, a sloughing putrid mass in the vagina, or even in the uterus, sometimes for days together, until the ligature, which is here used for the purpose of strangulation, has succeeded in cutting its way through the tumour. I am in the habit always of using, and greatly prefer, the single wire écraseur. The wire in question is the same as is used in pianofortes; it is extremely tough, but is most conveniently stiff and at the same time springy, so that the loop may be nipped tightly and narrowed for facility of passage through the vagina and os uteri, but as soon as it gets beyond this into the cavity of the uterus it springs open so as to encircle even a large tumour, and its stiffness makes it very easy of application because it can be passed, of course with all due care and gentleness, along the uterine wall, even without the guide of the finger, if the operator is accustomed to such manipulations, and so up to the stalk or base of the tumour. While this is being done, and also when the screw is being worked so as to fix the wire round the tumour, the instrument should be constantly semi-rotated, so as to free the wire from the uterus, at the same time that the point is pressed home as far as it will go. Occasionally when there is much difficulty in passing the wire up to the fundus, I have used a small hook as a carrier of the wire to the point sought. The application of the wire is, I think, easier if we use a new wire for every operation; it is inexpensive, and it is much easier to use than when the wire has before been drawn through the instrument, and so spoils its round shape and springiness. I usually cut through the tumour quickly. There is seldom or never any bleeding of consequence; if there be, I plug with cotton wool and tincture of matioc and a little carbolic acid.

With reference to the subperitoneal fibroids, I can conceive no justification for surgical interference, except it be in cases where the suffering caused by the tumour is so great, or the condition so alarming, that life is either insupportable from pain and general distress or is threatened by the growth of the tumour. Even in these cases there ought to be at least a fair presumption that the tumour is removable by the operation of gastrotomy. But while I would deprecate any hasty resort to operative interference in these cases, I must at the same time express again my opinion, as I have done on more than one occasion in writing, that "many of these cases might be attacked which are now left alone to the great distress of the patient; and I cannot help thinking that, with our rapidly diminishing mortality after ovariectomy, due in great measure to the knowledge we are gaining from daily accumulating experience, the time will come, and is fast approaching, when we shall be fully justified in attempting the removal of many of these growths by abdominal section." I regret that I have not more time to discuss this question, but the subject has been fairly and ably handled by Professor Thomas, of New York, in the last edition of his admirable "Treatise on the Diseases of Women."

Between the two varieties of tumour the treatment of which we have considered—viz., the submucous and the subperitoneal—there is a large group, indeed, as I believe, by far the largest group, of cases—namely, the interstitial; and it is to these that the attention of the profession will, I am sure, be more and more directed in future. Since I began to attack these growths by the process of enucleation

I have been surprised often at the facility with which they may sometimes be removed, and the comparatively slight constitutional disturbance which their removal has involved. At the same time, I fully recognise the danger that may be run, and the serious and even fatal consequences that may ensue, unless, on the one hand, we are very precise and clear in our diagnosis of the exact position of the tumour, and its relation to the uterine walls, especially on its peritoneal aspect; and, on the other hand, are extremely careful and, as far as possible, gentle in the somewhat rough handling to which the uterus must necessarily be subjected in the process of enucleation. Hitherto the results in my hands have proved so successful that I do not hesitate to recommend its more frequent adoption, even though so great an authority as Dr. M'Clintock expresses an adverse opinion upon it. It was, indeed, to a great extent due to the strong objections urged by him and other writers that I was for a long time deterred from resorting to this operation. Dr. M'Clintock's opinion is thus expressed: "The results of this operation are very far from encouraging, and it may be doubted whether it will ever become an established mode of practice. It is attended by grave dangers of an immediate and remote kind—viz., hæmorrhage and pyæmia. The idea of the operation suggested itself to Velpeau from observing the looseness of attachment between some of these tumours and the uterus. But in my experience it is quite exceptional to find the connexions of the tumour with the uterus so lax as to admit of its ready enucleation or dislodgment; while in most cases very great and direct force would have been required to effect this; and in some instances, as Dr. Rigby remarks, the tumour seems to be almost continuous with the uterine substance, so that its detachment would be next to an impossibility. However," he adds, "this operation should not be wholly proscribed." Dr. West, again, expresses himself still more strongly to the same effect. He states that "twenty-seven operations yield fourteen deaths to thirteen recoveries, while in four of the latter the operation was incomplete, and a portion of the tumour was left behind." Later on he expresses the opinion that, if we could get correct statistics of the operation, it would be shown that most of the cases have ended fatally; and, accordingly, he classes the operation "among the most hazardous in surgery," and concludes by saying that "the hazard attendant on operations for the enucleation of interstitial fibrous tumours of the uterus, when still imbedded in the walls of the organ, is so extreme as to render them generally inadmissible, and to remove them to that class of exceptional proceedings which the special condition of the patient and the unusual dexterity of the surgeon alone justify." Now, I cannot agree with either of these two authorities, for I am sure from my own experience that they have greatly exaggerated the dangers that are incurred, if only due care is taken in the selection of cases suitable for the operation. You can readily understand that an interstitial fibroid, not perhaps of very great size, may yet be so placed that only the very thinnest layer of uterine tissue covers it on its peritoneal side; and, of course, in such a case very great danger will be run in attempting its enucleation. On the other hand, you may have a fibroid equally interstitial, of large or small size, completely covered with uterine tissue, but with a good thick layer upon its peritoneal surface, and a comparatively thin layer on its mucous surface. Obviously the danger in these two cases is widely different, and in the latter it is comparatively slight. How, then, is the differential diagnosis of these two conditions to be made, at least with some approach to accuracy? For, of course, accuracy in such a matter is of the very utmost importance. I have already considered this subject in part when speaking of the differential diagnosis of the several varieties of uterine fibroids. It must be judged of partly by symptoms and partly by physical signs, and, as a general rule, it will be found that the more subperitoneal a tumour is, the less will the size and form of the uterine cavity be interfered with; while, on the other hand, the more submucous it is, the more will those relations be distorted; so that where the hæmorrhage or other uterine discharge is very free, and where the size of the uterine cavity, as measured by the uterine sound, bears a fair proportion to the size of the tumour, there we may reasonably expect to find a fair amount of uterine tissue on the peritoneal surface of the tumour, a thinner layer on its mucous surface, and, consequently, the

case is a favourable one for enucleation. I should add, too, that the lower the tumour is in the pelvis, the more the body of the uterus is involved; and the nearer the tumour is to the cervix, still more if the cervix itself is invaded by it, the greater are the chances of successful interference. A long cervix, especially if it be little or not at all altered from its natural size and shape, must be regarded as unfavourable for surgical treatment in cases of uterine fibroids.

I regret that I have not more time for the consideration of this part of our subject; but I have left myself only a few minutes for a description of the operation, and cannot, I fear, detail the cases I hoped to bring before you where I have resorted to this proceeding. Now, the operation of enucleation should be conducted upon a definite plan, and according to some fixed principle; and both may, I think, be summed up as follows:—First, that these uterine tumours should be regarded as essentially foreign bodies. Secondly, that Nature's method of dealing with these foreign bodies is to expel them; we see this often in the case of polypi, and occasionally even in large submucous fibroids. Thirdly, that for her success in this matter a dilated or dilatable os, and uterine contraction, are the only essential requisites. Fourthly, that it is the duty of the physician, when these conditions are absent, to step in with his art and imitate the process. Fifthly, that for this purpose the cervix must be opened up, and the uterus be stimulated to contraction. Lastly, that both these objects will be greatly facilitated, in the case of interstitial tumours, by their forcible detachment from the position in which they are embedded, thus making them more and more foreign to the organ where they are lodged.

Now as to details. The conditions of success are, as I have said, an open os, uterine contraction, and detachment of the tumour. As to the first, I am strongly opposed to the method of dilatation, and in favour of free division. I have seen infinitely greater evils result from dilatation than from division. Moreover, the former is inadequate to the subsequent steps of the operation, because—and this applies especially to cases where the tumour is large—I think it is most important that the process of detachment should be conducted gradually, and in successive portions, so as not at one time to expose a very large surface to the risk of inflammation and purulent absorption. If the cervix be divided, it is done once for all, and is ready for the successive steps of the operation; whereas in dilatation the same process has to be repeated every time that we resort to detachment.

My plan, then, is, first to divide the cervix freely in two or three places, taking care to prevent reunion of the divided surface, and always to plug the vagina for a few hours after the division is made. In about a week or at most a fortnight from this time, supposing that all has gone on well, I introduce the finger up to the tumour, and, with whatever force is necessary (sometimes a good deal is required, sometimes but very little), I break through the tissue covering the tumour at the point where it joins the healthy uterus. Once within what I call the intracapsular space—that is, the space between the tumour and the uterus,—there is, according to my experience, very little difficulty indeed in passing the finger freely round the tumour in all directions, breaking down its loose cellular attachments, and, in short, shelling it out from its uterine bed. As I have said, I greatly prefer not doing all this at once, but in successive steps. When the tumour is in good part detached, but not before then, we may advance to the next step in the process, and endeavour to procure its expulsion. This we do by the administration of any of the various oxytotoxic agents, of which ergot and borax are certainly the best. Sometimes I have used galvanism, with evident success; but in this matter I do not think it is of much importance what we use, for, if the tumour is only well separated, the uterus will usually contract most efficiently, and all the more readily, no doubt, because of the irritation to which it has been subjected by the previous operations. The last step in the operation is the removal of the tumour by means of the *écraseur*, in the same way as has been already recommended in the case of polypoid growths. I have once succeeded in entirely enucleating such a tumour without the use of the *écraseur*; and I do not at all see why in some cases we should not be able completely to detach it with the finger, just as I have done again and again in post-mortem cases. Where we are deal-

ing with a very large tumour, it may occasionally be necessary to remove it in successive portions. I had a case of this kind under my care some time ago: the uterus was occupied by one of these interstitial fibroids, and was of such a size that the fundus reached fully up to the umbilicus. In that case, after I had detached a good part of the tumour, the uterus contracted so vigorously upon it that in four days a large mass was forced into the vagina, and I was compelled to remove it before waiting for the subsequent separation and removal of the remaining portion. Ultimately, however, I got it all away, and the patient came to me the other day perfectly well.

Such, then, is the plan of enucleation which I am in the habit of practising, which I recommend strongly as by far the best way of treating these cases of interstitial fibroid, and which, if conducted with all due care and in properly selected cases, is, I am convinced, not nearly so dangerous an operation as it has been represented.

If you will pardon my detaining you a little longer, there is just one other method of treating these cases about which I should like to say a few words. It is a method which was discovered, I believe quite accidentally, by my friend Dr. Greenhalgh; and it consists in the application of the actual cautery directly to the tumour itself. Dr. Greenhalgh was engaged one day in some cutting operation upon a rather large interstitial fibroid, when the hæmorrhage became so severe that he was obliged to desist; and as all styptics failed to arrest the bleeding, he applied the actual cautery so freely to the bleeding surface that he burnt quite a hole in the tumour. The bleeding stopped, and, to his great surprise, he found in the course of a few days that the tumour was protruding forcibly through the opening made by the cautery. Little by little the tumour descended, until the whole mass was eventually extruded, having been but slightly assisted by art. Encouraged by this, he in a subsequent case determined to repeat the experiment. I was requested to meet him in consultation, and was present when the operation was performed. The case was one of a large interstitial fibroid, growing entirely in the posterior wall of the uterus, and invading the cervix so completely that its posterior lip formed part of the tumour, and was, in fact, expanded over it; the tumour itself occupied three-fourths of the pelvis posteriorly, the os and anterior wall of the uterus being thrust forward against the symphysis pubis. A small conically bulbous cautery was thrust through the vaginal roof and into the centre of the tumour, about an inch or so behind the os uteri, to a depth of about an inch or an inch and a half. No bleeding followed the operation. In the course of a few days the opening thus made began to dilate, and the finger, when passed through it, readily detected a space between the tumour and the posterior wall of the uterus, where detachment could be easily effected. Dr. Greenhalgh being obliged to leave London for the Continent, I was requested to take charge of the case. At that time, which was about a week after the application of the cautery, the opening was fully as large as a crown-piece, and through it the tumour was beginning to protrude. All this, too, by the natural effort, and without the help of any drug. In four or five days more, during which time I had aided the process of expulsion by daily detaching it more and more, the mass came to occupy the whole vaginal cavity, and began to assume a sloughy condition, from which serious constitutional disturbance threatened. I therefore applied the *écraseur*, and removed all that was then practicable. A week after this Dr. Greenhalgh returned, and by that time more of the tumour had been extruded. The patient was accordingly placed under the influence of chloroform; and then, without the slightest difficulty, the entire mass was turned out with the finger, no other instrument being used. The patient made a completely satisfactory recovery.

Such a case is highly instructive from several points of view; it seems to open up an entirely new plan of treating these growths, and one which, I think, has very much to commend it. It avoids the danger of hæmorrhage in the cutting operations, and may possibly prove preventive of purulent infection; while it seems also in some way to promote uterine contraction and expulsion of the tumour. It is, however, of course very limited in its application; for it can only be resorted to in cases where the tumour is closed down upon the vaginal roof and has entirely invaded the cervix.