CLINICAL LECTURE ON MAMMARY TUMOURS.

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GENTLEMEN,—I propose to bring before you to-day some cases that have happened at different times during the previous few weeks, and of which we have another example to-day. I refer to cases of tumour of the mamma. Before introducing the patient, the history of whose case will form the text of our lecture, I have to remind you that the study of tumours, and especially of malignant tumours, may be viewed in three aspects. First, in your systematic lectures on surgery, you get a complete view of the whole subject of tumours, without reference to particular examples. Secondly, in your class of pathology, you study and have demonstrated to you the origin, growth, and internal structure of these tumours. The object of a clinical explanation of these subjects is to concentrate into a focus just as much of all that scattered information as really avails you in practice. It is exceedingly interesting philosophically to study what are the causes, proximate and remote, the mode of growth, the internal structure, and the progress of these things; but when you have to deal with a living person, only a certain amount of that great extent of information really comes into play. I wish, if possible, to concentrate into these remarks the most of what is available, supposing you in private have to deal with a case such as that now brought in.

This woman is forty years of age, unmarried, of spare habit of body; and hitherto she has enjoyed good health. The catamenial function was regular from its appearance up till eighteen months ago, since which time it has altogether ceased, without any cause. Three months ago, she became aware of a tumour in her right mamma. Her attention was drawn to it by feeling her dress a little tight. There was no pain when she discovered it. During the last three months, it has increased in size, and the growth has been more rapid of late, especially during the last two weeks, following on a slight blow on the back of a chair; though, remember, I do not say that was the cause. In the right mamma, occupying the upper portion, there is a tumour which is irregular, nodular, about four inches in diameter, and to the feel about three inches thick. The tumour and the gland in which it is imbedded move freely upon the subjacent structures, and are not in any way adherent. Immediately above the nipple, the skin is partially adherent to the tumour; but towards the circumference it is freely movable upon it. The nipple is slightly retracted, but not to any extreme degree. The axillary glands are perfectly free from implication. So far as the patient's sensation is concerned, there is no difference between the two mammae, except what is produced by the weight of the tumour on the right side. I may say negatively that there is no shooting or burning pain. The tumour is, as I have said, slightly irregular in form, and hard to the feel.

Such is the case, and a very valuable case it is to learn from; because, although I have no doubt in my own mind as to the nature of the tumour, if you take any work upon the subject, and examine into the symptoms there given of scirrhus mamma, you will find that, in a great number of important points, the symptoms are here absent; yet there is not the slightest doubt that this is a case of scirrhus mamma; and that, I hold, is the value of clinical observation as compared with doctrinal teaching. If a surgeon go and examine a case of this kind with his mind filled with the tabular statement of symptoms, the absence of many of the most important of these symptoms might lead him to believe that it was not a case of scirrhus. But by bringing the patient before you, and making her tell, in her own simple way, all that she knows and all that she could tell you in private, and by examining the tumour simply and regularly before you, and by learning everything about it, we are driven to the conclusion that in practice we must meet with a great variation from the ordinary run of cases as described in books.

What is the nature of this tumour, and what should be done in the circumstances? Now, I do not intend to give you a list of all possible tumours, or of all growths in the mamma or other parts of the body; but I think it is very important to put before you a clinical view of the subject. Tumours of the mamma are of two great classes—the malignant

and the non-malignant. Simple or non-malignant tumour consists of the collection into one spot of one of the normal constituents of the body. Thus, confining our attention to the mamma, we may have fatty tumour, fibrous tumour, adenoid tumour; and these are simple, because they consist of the same substances which form normal parts of the body. Malignant tumour, on the other hand, is formed of a collection of substances which are a new growth in the human body: of abnormal substances which do not exist in the body of the living man. That is the essence of the distinction between the two kinds of tumour. If you examine the minute structure of the simple non-malignant tumour, you will find it to consist of a modification, it may be of one of the normal tissues of the body; if you examine the malignant tumour, you will find it to consist of tissue of which there is no example in the human body.

With regard to the mode of growth, simple tumour extends by increase of bulk, displacing, pushing aside, perhaps causing to be absorbed, the tissues with which it is surrounded. Malignant tumour increases in bulk by incorporating with itself the adjacent tissues, and gradually converting them into itself. Further, simple tumour is for the most part isolated and incapsulated, contained in a membrane which is called its capsule. Real malignant tumour has no absolute defined membrane, but invades all the neighbouring tissue without any well marked margin. The ordinary name of cancer is well given to malignant tumour, because it gradually draws into its centre all the neighbouring parts, so that in the end it extends without limitation.

Now it is very important for you to mark well a few of these characteristics, because upon them will depend the opinion that you will give with regard to the propriety or impropriety of operating upon a patient. It is perhaps unnecessary to go further just now; but it will complete the clinical view of the case if I state that, while it is true that there are two great classes divided from one another by well defined marks simple and malignant, there is a debatable ground between the two—a variety of tumours or growths which it is exceedingly difficult, if not impossible, to assign either to the one or to the other; and, in addition, the malignancy of the tumour occurs in different degrees of intensity. That form of malignant disease which is called encephaloid, that called scirrhus, and that called colloid, are three varieties in which there is no doubt whatever of the intense malignity—I mean of their inherent abnormality of growth, if I may use the term, and their enormous tendency to return if removed; so much so that, in dealing with tumours of that kind, we are absolutely unable to say that we expect them not to return, though the time of their return is a matter of doubt. But then there is another kind of malignant tumour, which, though properly called cancer, is less malignant than the others, and this less malignancy is shown both clinically and microscopically. Epithelioma or epithelial cancer differs from those which I have previously mentioned in being an exaggeration of the epithelial tissue. I beg you here to remember that I am not going into the deep pathology of tumour; because, were we to go a little farther than we are doing at present, we would fall into the discussion between the epithelial and fibrous pathologists. There is one class of pathologists who hold that all tumours, especially malignant tumours, arise altogether from an abnormal change taking place in the epithelial tissues. Another set hold that all malignant tumours arise from an alteration of the fibrous structure in the particular part. Epithelial tumour resembles closely the natural epithelium, only it is more complex in its arrangement. In this way, therefore, while in internal structure it has a certain resemblance to the true malignant tumour, it partakes, also, of the character of simple tumour clinically, because it can be removed with success.

But there is a kind of tumour which belongs to the simple or non-malignant fibrous kind, which partakes of malignancy, inasmuch as it returns after removal. Such is the tumour which used to be called recurring fibrous tumour. You will observe that I am adhering to the old nomenclature; and I do so with the view of conveying information to the comparatively junior students. When you enter the pathological class, you will find that tumours are differently classified.

Having, then, stated these elementary views as to the character of tumours, let us now say a word or two with regard to their treatment. The question I am going to discuss is not so much the possibility of treating these tumours medically in the way of palliation, but particularly with regard to surgical removal. I wish, however, to tell you at the outset that, because a person has a well defined tumour in the mamma, it is not absolutely necessary to excise it. I shall say nothing at present with regard to removal by caustics; but it has fallen within my own experience to have seen several most remarkable examples of the disappearance, I might almost use the term cure, of tumour by pressure; and that information is, I think, of great value, because in many

cases, from the constitution or the age of the patient, or from the implication of the neighbouring parts, you could not, with any degree of conscientiousness, recommend removal of the tumour; but I could show you ladies in Glasgow at the present day who have had tumours in their mammae, and who are now absolutely free from the disease by the application of careful and well directed pressure. You are aware that pressure will cause absorption both of normal and of abnormal tissue; and you are probably aware that, if a person have an aneurism of the aorta, and if the aneurism continue to grow, it not unfrequently happens, through the tumour pressing upon the sternum, that it gradually induces absorption of the bone until it appears underneath the skin, and, if not arrested, it spontaneously bursts, and causes loss of life. We are all aware of the importance of pressure in assisting the absorption of abnormal fluids; as by the use of a splint and bandage in cases of effusion into joints. In the same way, pressure, well directed to the breast, has a remarkable effect in causing the absorption of tumours; and I now am in the habit of ordering the application of a properly prepared apparatus in cases where, either from the situation, or the implication of the neighbouring parts, I consider that the operation of excising the mamma would be inadvisable.

But, next, with regard to operation: what is the difference in the probable result or prognosis between excision of simple tumour and excision of malignant tumour? If we excise simple tumour, we remove the whole disease, and there is no more tendency to its reappearance. We can, therefore, undertake its excision with absolute certainty of success, so far as return of the disease is concerned. We can never, however, promise to perform any operation with absolute freedom from danger, because, in certain states of the constitution, the smallest scratch may end in death. Persons frequently come to the surgeon suffering from a serious disease resulting from very simple causes. We have at present a man in the infirmary with his hand and arm inflamed to such an extent that he is likely to lose them, and all from a scratch at the point of one of his fingers. It does not matter, then, whether the scratch is given by the surgeon or by the patient; it depends upon the state of the constitution whether or not inflammation will ensue. In the excision of simple tumour, then, all that is necessary is that the whole tumour shall be removed—you must not leave a bit of it. But you can do this with absolute certainty; because all that you have to do is to cut through the surrounding tissues, and remove it entire with its capsule. Should it chance to be irregular, and should you leave any part of it, you have simply to take the precaution of dissecting the bit that remains; and, having done this, you may give a certain opinion that there will be no return of the disease. But, with regard to malignant tumour, it is different, inasmuch as it is not isolated or encapsulated, but is of the nature of invading the neighbouring tissues. It is a difficult point to decide how far it extends in the neighbouring tissues; but, taking it for granted that what appears to you to be the limit of the tumour is not the limit, the golden rule is to make your incision clear of the tumour, to cut well beyond it into the sound tissue.

In excising a tumour from the mamma, do not, if possible, leave a single gland-cell—take the whole mamma away. In certain instances, especially in cases of epithelioma, such as may be situated on the back of the hand, on the sole of the foot, or on any part of the limbs, upon the edge of the lip, upon the face, or upon the extremity of the penis, where epithelial tumours are found, in such situations you can with safety cut away a large portion of the sound tissue beyond the disease; and in these circumstances, you may with certainty predict that the cure will be complete. But, in regard to other tumours not epithelial, there is this one other thing to be said: that, while you can remove a tumour and its surroundings perfectly accurately, the constitutional tendency that has been the cause of the malignancy—of which I have said nothing at present—that tendency still remains; and you can only hope that it will not show itself, and return in some other part of the body. In the case of malignant tumours, all the other parts in the neighbourhood of the mamma are apt to become secondarily implicated.

Most of you are aware, of course, of the absorbents of the mamma. And here I would say to the students who are not yet out of their anatomical studies, that the study of the absorbents in certain regions of the body is very important—as, for instance, the groin, axilla, etc. Now, it not unfrequently happens that a tumour in the mamma irritates the absorbents, that irritation is communicated to the absorbent glands, and they become enlarged. Besides, while the absorbents are naturally adapted for the purpose of carrying away the fluids of the body which are to be used again, in the case of the diseased tissues they take up the diseased substance, and carry it backward to the lymphatic glands, for the purpose of undergoing elaboration. In this way, there is a danger of the lymphatic glands becoming infiltrated with the can-

cerous matter. It is not because of the proximity, but because of the course of the absorbents from the mamma through the axilla, that the removal of the mammary gland will not cure or destroy the disease; it will be left in the absorbents. Hence, with regard to the return of the disease, it is of absolute importance, so far as the prognosis is concerned, that you should know whether the axillary glands are implicated or not. If they be, you may be certain that the day is not far distant after the operation—it may be weeks, months, or years—but the day will come when the disease will show itself in the axilla or neighbourhood. You may relieve the patient for a long time; but I believe, if the absorbent glands be in any degree affected, it is a question of time.

Such being a general view of the nature of an operation and its results, let us come back to our case. Here is a woman with a tumour of the mamma that presents many of the appearances of scirrhus, yet some of the symptoms are absent. There is, first, the absence of pain. You will find in most of the treatises on the subject that pain is considered diagnostic of scirrhus—shooting pain, tearing across the chest, very frequently shooting down the arm and giving rise to want of rest. When that is present, it is almost always a diagnostic sign of scirrhus. But its absence is not a proof that it is not scirrhus; for here is a patient who has a tumour as manifestly scirrhus as it can possibly be, as you shall see next Wednesday when we cut it out. Secondly, there is often implication of the neighbouring glands, and that is absent in this case. And there is another point in which this tumour differs from most mammary scirrhus tumours; namely, absence of retraction of the nipple. This, which is commonly regarded as one of the symptoms of scirrhus, is simply a mechanical result. In scirrhus of the mamma, the whole substance involved is converted into a firm, hard, rigid structure. The progress of scirrhus is to extend, to draw together what is a soft, irregular, moist substance into a hard rigid substance, the section of which, in a freshly excised tumour, has very much the appearance of a frosted turnip. The skin of the mamma is more or less movable on it; but the nipple is joined to the gland by ducts and fibrous structures, and consequently, when contraction of the scirrhus takes place, it may recede a little from the skin, and yet the skin does not follow it till adhesion actually takes place; but, the nipple being attached to the gland in which the malignant substance is infiltrated, retraction is simply a mechanical result. In this case, the nipple is partially retracted, but not to such a degree as would indicate scirrhus if there were no other symptoms.

What, then, is the characteristic mark which enables me to say that it is scirrhus? The name indicates. Scirrhus is a substance hard, unyielding, slightly nodular. When these symptoms are present, there is almost no other tumour of the mamma that it can be.

If this, then, be a case of malignant tumour, of undoubted scirrhus, and if it be true that scirrhus, after being removed, has a great tendency to return either in the former seat of the disease or neighbouring parts, why do we perform the operation? That is one of the most difficult points for the surgeon to make up his mind upon, and it is a very poor subterfuge for him to tell the patient the *pros* and *cons*, and leave her to decide. In the present instance, the patient is so absolutely unable to come to anything like a correct judgment, that the surgeon should be definite in his opinion. There are a great number of operations in which the patients can assist the surgeon; in which they can make up their minds for themselves. In cases where it is not a fatal malady, in cases where it is a mere deformity of appearance, in these and numerous similar cases, the patient can be taken into the surgeon's confidence. But I do not think it is possible for any patient or friend of a patient in a case such as the present to put himself into the position of having proper information with regard to it, and it is, therefore, for the surgeon to make up his mind. In not a few cases of patients who have been brought before me in private for consultation, I have said, "No; I shall not operate". In a notable example, I have said, "This operation ought to be done"; but it is very difficult to convey to you the reasons that should induce the surgeon to operate, or refuse to do so.

But let us take the present case as an example. What are the circumstances which should induce me to perform an operation upon this patient? First, as regards the tumour; and, second, as regards the woman.

As regards the tumour, it is perfectly movable upon the subjacent parts; it is quite clearly non-adherent upon these parts; secondly, the skin upon the circumference of the tumour is absolutely healthy; thirdly, the axilla is perfectly unimplicated. These are the three points with regard to the tumour which make it certain that, if operation be properly performed, the tumour and its connections can be removed without leaving a trace of the disease behind it. Now, scirrhus is one of those forms of disease so connected with the constitution, that it is not at all unlikely that, at no distant day perhaps, the disease may reap-

pear in the other mamma, in the axillary gland, or in some other part of the body; but, even supposing I were perfectly certain that within a year the disease were again to show itself, should I not take that into account?

Let us next, therefore, consider the woman. And I think it is a very important thing for students to get into the habit of considering their patients. I am afraid that the tendency both of the surgeon and the students of surgery is to look at the physical condition of the part, forgetting a little the circumstances of the patient. I hope that is not the case with you; but it is important that it should every now and then be brought before you. Here is a woman who has comparatively suddenly become aware that she has cancer in the breast. I did not need to tell her that; she knew well enough, and that was why she came to me. She said, "I have got cancer in the breast". As you saw, she is of a nervous temperament, and she has a very disagreeable and painful feeling with regard to this scirrhus in the mamma. She has the horror of cancer upon her. Unlike many other diseases, cancer creates in the patient who is conscious that he or she has it a feeling of great depression. This patient wonders what will happen. We do not tell her what will happen, but we all know very well. A growth discovered three months ago suddenly puts on activity, which causes it to increase in size very much more than before. Within that time, probably, adhesion to the skin near the nipple has taken place, and that is the only part that is adherent. What will be the history of the case if I do not touch it? The adhesion to the skin will increase; a little red spot will show itself where the adhesion to the skin exists; within a short time, ulceration will take place, creating a loathsome discharge; the life of the patient will extend to two or three months, during which her whole existence, till death relieves her, will be most painful. That would probably be the history of the case. Well, if we be able to perform the operation in such a way as to enable her to recover from its effects, and if we be able to eradicate the disease, temporarily even, we will then have it in our power to say to the woman, You are free from cancer; your tumour is away; your disease is removed; it is in the hands of Providence when it may return; in the meantime, you are a healthy woman. Is it not worth while undergoing an operation which is rarely fatal, rarely dangerous, for the sake of being free from the condition I have described, restored for weeks, months, perhaps years, to a state of perfect health? I maintain that excision of the mamma ought to be performed; and for these reasons, which you may extend to others, I intend to operate upon that woman. I hope and believe the operation will be successful, and, when the wound is cicatrised, she will leave the hospital perfectly healthy for the time being. To show that this is no chimerical notion, I ask you to remember the operation you saw performed the first operation-day in this hospital, where you saw removed from a woman a large tumour somewhat of the same kind. She is not here now, because, two days ago, I gave her an admission here to the Convalescent Home at Dunoon, where she is at present enjoying herself; whereas, if the operation had not been performed, she would have been lying in bed, suffering from a loathsome discharge from a disease which would result in her death in a very short time; and I think that is a great deal gained.

In connection with this case, I here show you a remarkable specimen of colloid tumour, the second I have seen during my whole experience, which I removed the other day from a patient aged 70, who is now perfectly recovered.

The second patient I now present to you tells us that she is about 40 years of age, unmarried, and that, about three years ago, she got a blow on her right breast. A year after that, she became conscious of a small swelling on the breast, which has gradually enlarged till the present time. The whole mamma is converted into a firm hard tumour, which adheres to the pectoral muscle; the nipple is retracted, the skin nodulated and ulcerated, and the glands of the axilla enlarged and indurated. I need not tell you that, in such a case, no one would for a moment hesitate. To interfere surgically would not only hasten the fatal issue, but would bring opprobrium on surgery.

TESTIMONIAL.—On Friday, February 11th, the officers of the Sarn Mielltyrn Friendly Society and other friends met at the residence of R. H. Owen, L.K.C.P., of Bottwnog, to present him with a testimonial and address. The testimonial consisted of a handsome timepiece, a tea and coffee service, a pair of candlesticks, and chimney-piece ornaments. The timepiece had on it, engraved upon a silver plate, the following inscription. "Anrheg i Dr. Owen. Presented to Dr. R. Humphreys Owen, Plas Coch, Bottwnog, by the members of the Sarn Mielltyrn Friendly Society and other friends, in token of their feeling of respect and confidence in him as their professional adviser."

LECTURES ON PATHOLOGY.*

Delivered before the University of Cambridge.

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LECTURE I.

I PROPOSE in the ensuing course of Lectures on Pathology to omit all of an introductory nature, and shall not occupy your time, therefore, in defining theoretically or in a conventional sense disease† in the abstract, and shall pass over, likewise entirely, the large subject of the etiology of disease.

The shortness of the course renders it expedient that I should do this; and for these preliminary matters, if not already familiar with them, you can refer with equal advantage to the introductory chapters of any of our best works on pathology, and I shall thus be enabled to commence at once with what is capable of being communicated to you by description and demonstration combined, which I think is the most appropriate method that can be adopted in the delivery of lectures, to which your reading may furnish the supplementary matter.

It will, I think, be a further economy of our time, if, instead of giving you any preliminary statement of the arrangement or order which I propose to follow in treating of pathology, I at once state that I shall adopt, at least in great measure, both as the most convenient, and, as I believe, the most scientific, the same order as is followed in treating of physiology; and will ask you to take as a text-book, which may furnish you with a syllabus of the heads of our subject, any familiar work on physiology; I will mention Kirkes's *Manual*, as that at present is in most English students' hands, and as a good one. I propose to follow, for the present at least, the same arrangement of subjects as you will find in that work; and give as an appendix, as it were, to each chapter in the order in which it occurs, its pathological counterpart or commentary. For pathology is in truth but an extension of physiology, *i.e.*, physiology under the conditions of disease.

Omitting the introductory matter, the first chapter in that work is on the chemistry of the body. My first subject, then, shall be the pathological chemistry of the body.

I would invite you also, during the course, to come prepared in advance with a fresh acquaintance with the physiological function, of which I propose next in succession to give the pathological representation.

PATHOLOGICAL CHEMISTRY.—In commencing the exposition of the pathology of the human body by the consideration of the relation of its chemistry to the *genesis* of disease, it must be acknowledged that we shall not have the advantage of beginning with what is best understood.

But the chemical constitution and laws of the human organism form the first chapter, by the author treating of its physiology, whose work I have assumed to be your manual in the study of this science. I have chosen, therefore, the same as the commencement of our own subject, in conformity with the plan I have proposed of making, as far as possible, physiology our text, and treating pathology as an extension of its subject-matter; *physiology*, in fact, as presented under the conditions of disease.

In the first place, we may (but for a moment only) view the matter theoretically, and consider whether we may not perceive in some measure a reason why the distinctive character of *organic* chemistry should, under the influence of external pathogenic agencies, induce a liability to disease, and, it may be, entail the first step in its genesis.

As I have already stated that it is not my intention to enter upon the etiology of disease in general, I assume that we have admitted the operation of the predisposing and exciting causes of disease to be such as represented in the systematic works on pathology; and we have now to inquire only how far we are entitled to conclude that the peculiarities in the chemistry of organic life facilitate, if they do not even invite, this operation.

We observe in the inorganic world that the surfaces of most bodies

* I am anxious to acknowledge the very great obligation I am under to Dr. Bond, late Regius Professor of Physic, for the materials he has kindly and most liberally placed at my disposal in the preparation of these lectures, which are in great measure an expansion of a syllabus of lectures prepared by him for the use of students in the University.

† Disease in its totality is a "process" (Moxon); it cannot, therefore, be represented in a photograph taken at any one instant (Lectures on Analytical Pathology, *Medical Times and Gazette*, 1870).