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Clinical Lectures

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BY

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LECTURE IV.

ON THE DIAGNOSIS OF TUMOURS OF THE BREAST.

GENTLEMEN,—In my lecture last week, I brought under your observation the subject of the diagnosis of various forms of abscess of the female breast from cancer of that organ; and to-day I shall continue the same subject in connection with cystic and adenoid tumours.

These cystic growths, though not so common as cancer and the other solid tumours, are yet of by no means infrequent occurrence. They are of three distinct kinds:—1. Those in which the tumour consists of a single unilocular cyst; 2. Those which consist of several independent cysts aggregated together into one tumour—multilocular cysts; 3. Those in which a series of small cysts are diffused through a fibrous or hypertrophied mass; in fact, a combination of cysts with a chronic mammary tumour. Two theories are in vogue as to the origin of this form of cystic development. According to one set of pathologists, it is produced by the obstruction and subsequent dilatation of a lacteal duct. But this theory, I think, is weak: from the fact of our not being able to trace one of these ducts into the cyst; from the fact that the fluid contained in these cysts shows no trace of lacteal origin; and from the fact that such cysts are met with elsewhere, in places where no lacteal duct previously existed. The other theory is, that these cysts are entirely new formations; and this, partly for the reasons before mentioned, and partly because these cysts closely resemble those met with in other secretory glands, both as to structure and contents, appears to me to be the more tenable of the two.

These tumours, I must premise, whether unilocular, multilocular, or consisting of cysts diffused in a mass of fibrous or hypertrophied gland-tissue, are always composed of thin walls, formed of condensed cellular tissue, and containing in their interior a fluid variable in amount and character; being in one serous, in another glairy, in a third bloody; it is very commonly of a light straw colour, not unfrequently it is brown, and sometimes sanguineous, but these differences are accidental and of no importance.

We will now consider the diagnosis of these cystic growths from cancerous and other solid tumours of the breast. And, first, with regard to the unilocular cyst: this is the most common form, and occurs generally in women at what one might call the "cancerous age," viz., forty-five to fifty; it is frequently referred to pressure, or to a blow on the part, or it may be connected with uterine disturbance at the period of the cessation of the menses. Thus so far as the age and proximate cause are concerned, the history throws comparatively little light on the subject, and the diagnosis has therefore to be made entirely by palpation and examination of the tumour. Now you can easily conceive that, depending only on manipulation to form a correct judgment of the nature of the tumour, the surgeon may be exceedingly liable to form an erroneous opinion. I could relate to you many cases in which error of diagnosis has occurred, but I will confine myself to a few of the more illustrative.

I was requested some time ago, by my friend, Mr. Walter Wilson, to see a married lady, aged 45, who had in the right breast a tumour of about the size of an apple, hard and painful on pressure. This, she said, had been diagnosed as a fibrous tumour by a surgeon in the country, who had recommended her to come to London and have it removed. On examining the tumour, I suspected it to be a cyst. It had not the stony hardness of a solid tumour, but felt obscurely elastic on deep pressure. Acting on this supposition, I introduced an exploring trocar and let out about two ounces of dark serous fluid; the cyst never refilled, and the patient went home perfectly cured.

I was requested one day to see an unmarried lady, aged 44. On going to the house, I found her bathed in tears, and her sisters in great distress around her. I was told she had a tumour of the breast, which had been pronounced to be a cancer. On examination, I found a tumour in the right mamma, about as large as a pigeon's egg. It had been noticed about fourteen months previously, and the patient had been under both medical and surgical treatment for it. It was rounded, circumscribed, situated at the outer and upper part of the gland, hard but smooth, and not heavy to the feel. On close manipulation, I felt some elasticity. I told the patient that I did not think it was a cancer, but a cyst, and that if I punctured it and drew off the fluid contained within it she would probably have no further trouble. She then informed me that she had seen an eminent surgeon, who had pronounced it to be cancer; had explained that an operation was necessary; that the whole of the breast must be removed, and had fixed an early day for its performance. I requested to meet this gentleman, but this was refused by the patient and her friends; and as the opinions expressed differed so widely, it was agreed that she should have the benefit of Sir B. Brodie's opinion. That distinguished surgeon saw the case with me the next day, and, he having acquiesced in the opinion I had expressed, I tapped the cyst, and let out about an ounce and a half of yellowish serous fluid. The tumour collapsed, all idea of operation was abandoned, and the patient has continued well up to the present time.

I saw the other day a very similar case. It was that of an unmarried lady, aged 48, who had had for about twelve months a tumour in the left breast, which had gradually increased in size, until it had attained about the magnitude of a Tangerine orange. It was hard, circumscribed, situated at the axillary border of the gland; it had also been pronounced to be scirrhus. But, suspecting from its elasticity that it was cystic, I punctured it with an exploring trocar, and drew off about ten drachms of clear fluid, causing the immediate subsidence of the tumour.

Now here were three cases of simple cystic or fluid tumour of the breast, which had erroneously been pronounced to be solid, and which would have been submitted to amputation of the mamma if the mistake had not been discovered in time. It is of very great consequence, therefore, to be cautious in these cases in pronouncing a definite opinion, and to neglect no means in perfecting your diagnosis. How is this to be done? As I have already stated, the history very often throws no light on the nature of these cases. Cysts occur at the same age and among the same class of people as cancer of the breast, but there is one circumstance of great importance to which you must always attend, and that is the presence or absence of *elasticity*. This last character may be said to be the great diagnostic point between these tumours and cancer; and whenever you feel, or even suspect, elasticity, you ought to introduce an exploring trocar. If the tumour is cystic, the fluid escapes, and you probably hear no more of the case. But if, on the contrary, it is solid, a drop or two of blood only oozes out, the puncture soon closes, and no harm is done. In making this puncture, there is one little point to be attended to, and that is, if you use an exploring needle, take care to push it straight in, and not to make the puncture in any way valvular; for if you do, the fluid may not escape, and thus a serious mistake may arise; it is, however, far better in all cases to use the exploring trocar in preference to the grooved needle.

If this little operation—tapping—does not procure the closure of the cyst, you must resort to other measures, such as injecting it with iodine, introducing a seton, or, if these fail, excision of a piece of the cyst-wall. But you will generally find that tapping and the subsequent use of iodine lotions will suffice to effect a cure.

The next kind of cyst—the *multilocular*—is more difficult to diagnose than the *unilocular*; firstly, because it is generally seated deeply in or beneath the gland, while the *unilocular* occurs chiefly at the border or anterior surface, and because there is not so much fluctuation, owing to the fluid being divided among several cysts. But yet there is that never failing sign of cystic disease,—elasticity. You will find, however, that there often exists a good deal of condensed fibrous matter round about these tumours, and hence the removal of the whole gland may be required, the extirpation of the cysts alone being impossible. One reason why cyst-tumours are often so difficult to diagnose as such, is that they are often associated with cancer. There great difficulty exists, especially in the early stage; and these cases are exceedingly liable to be confounded with cystic sarcoma, and indeed in some cases you cannot make your diagnosis until the tumour is removed, and then only by a careful microscopic examination.

A woman, aged 45, was admitted into this hospital with a tumour of the size of an orange, situated in the right mamma deeply over the pectoral muscle. It had existed for about five years, was not adherent to the skin, and there were several cysts of the size of plums. At the upper part of the mass, which could be felt through the lately mucous covering, the nipple was not retracted; there was only one slightly enlarged gland in the axilla. Now, here were all the characters of a "cystic sarcoma"—slow growth, no adhesions, cysts, and no material glandular implication; and yet, after the removal of the breast, the microscope revealed the tumour to be distinctly and decidedly cancerous.

You will sometimes find that tumours of a mixed, possibly a semimalignant character, occur with cysts, and give rise to great difficulty in the diagnosis of their exact nature, and render it impossible for you to pronounce with certainty whether they are benign or malignant. The following is a case of this kind.

An unmarried lady, 40 years of age, and in excellent health, was sent up to me by my friend Mr. Tuxford of Boston, last November, with a tumour of the right breast, which, without assignable cause, had commenced growing about five years and a half ago; it increased slowly until it had attained the size of an orange about two years since, but afterwards much more rapidly, until at last it reached the size of an adult's head. The skin covering it was not reddened, and, though thinned, was neither adherent nor infiltrated. There was no pain at night, or after handling it; and no enlarged glands could be felt in its neighbourhood. The superficial veins were much enlarged over the tumour, and a good sized artery was felt to pulsate over its upper part. It was elastic, lobulated; and a large mass, of a cystic character, projected from its anterior surface. There were no adhesions between it and the pectorals, or to the skin. The operation was performed on November 10th. On removal, I found that the tumour weighed ninety-six ounces, and consisted of large encapsuled masses, of a dull grey or brown colour. On section, it was solid in parts, and infiltrated with a gelatinous fluid; in others, there were large cysts, containing several ounces each of dark stringy mucoid fluid. Dr. Harley, who examined it, pronounced it to be colloid. There were also masses of fibroplastic deposit in some parts.

Now here was a case that approached closely to malignancy in its local characteristics, without any constitutional symptoms of cachexy; and which presents an appearance on examination that renders it doubtful whether it may or may not yet recur.

The next class of cases to which I would direct your attention are the chronic mammary or adenoid tumours. These are of exceedingly common occurrence; and there are two or three conditions with which they are often associated, the knowledge of which materially assists the surgeon in his diagnosis. 1. With regard to the age, they generally occur before the cancerous age, in early womanhood, between the ages of 18 and 25. 2. They are almost invariably slow in their progress. 3. They are lobulated, distinct, non-adherent to the skin or pectorals, and circumscribed. 4. There is no cachexy or glandular enlargement; and, in fact, they appear to be quite local and benign. There is usually no cause to which they can be assigned; but I believe that they frequently occur

in young women of nervous temperament, and are commonly associated with uterine disturbance of some kind. The chief diagnostic points are, therefore, the age of the patient, the slowness of growth of the tumour, and the perfect freedom from constitutional symptoms; but yet any one of these conditions may be present in cases of undoubted cancer of the mamma.

Scirrhus very rarely occurs at the early period at which the adenoid tumour is common; but yet it is occasionally met with in young women. Some years ago, I removed in this hospital a tumour from the right breast of an unmarried female aged 23. It was as large as a small flattened orange, was hard, nodulated, but not adherent to the skin. There was no retraction of the nipple, and it had been growing for about eight months. No cause could be assigned for its appearance, and it was supposed to be adenoid. However, on account of the large size of the tumour, as compared with that of the somewhat atrophied mamma, I removed the whole of the breast, together with the tumour; and it was well that I did so; for, on microscopic examination, it was found to be scirrhus. The patient subsequently married; and when I last heard of her, two years after the operation, she was in good health. Now, here is a case in which cancer occurred within the period usually assigned to chronic mammary tumour; and hence you cannot rely altogether on the age of the patient as a means of diagnosis.

Next, with regard to the slowness of growth: although it is an undeniable fact that benign tumours usually grow slowly, and that rapidity of growth is generally a sign of malignancy of action, yet this rule must also be taken with exceptions, as in the following case.

Last June, I was requested to see an unmarried lady, aged 40, of a nervous sanguineous temperament, who had been in bad health for many years, suffering from uterine disturbance, dyspepsia, and latterly from pulmonary symptoms. At the age of 18—that is, twenty-two years previous to my advice being sought—she noticed for the first time a small tumour in her left breast; this continued perfectly stationary, and about the size of a pigeon's egg, until last February, when it for the first time became painful, and began rapidly to enlarge. Being at this time in Italy for the benefit of her health, this lady saw two distinguished Roman surgeons, who, after careful examination and exploratory punctures, pronounced the tumour to be "myeloid", and recommended extirpation of the mamma. The patient, however, preferred to return to England, and have the operation performed here. On her way home, she saw Velpeau in Paris, who, with great accuracy of diagnosis, pronounced the tumour to be "benign", and gave her a written statement to that effect. When I saw her, on her return to this country, in June last, I found a tumour of the left mamma, perfectly mobile, firm, solid, and inelastic; it had attained the size of an adult's head, and it was rapidly increasing. There was no glandular enlargement in the axilla; the skin was thinned and reopened, but not adherent; the superficial vessels were much enlarged, a tortuous network of veins and one or two large arteries running over the tumour. There was no constitutional cachexy; but the patient's health and strength were at the lowest ebb, from general and long standing constitutional derangement; and she could not sleep at night, not so much from pain (which, however, was constant, and at times very severe), as from the constant anxiety of mind which the presence of the growth produced. Sir B. Brodie and Dr. Walshe, who saw the case in consultation with me, both agreed that it was probably benign, but that no operation was practicable until the patient's state of health was improved. However, by attention to diet, and by being put on a proper plan of treatment, this was so much ameliorated that, in July last, I was enabled, with the assistance of Mr. Marshall and Dr. Cowan of Glasgow, to perform the operation for its removal. This was attended by no difficulty, and by very little hemorrhage, notwithstanding the size of the tumour, which weighed rather more than five pounds. The patient made an excellent recovery, and was able to leave town in less than three weeks. On examination after removal, the tumour was found to be lobulated on its surface. The section showed it to be homogeneous, and of a uniform greyish colour, with no soft points or cysts, but distinctly and firmly encephalous. Dr. Harley, who examined it microscopically, found it to be a specimen of the chronic mammary tumour of Sir Astley Cooper. In the plastic matter taken from different lobules, examples of the glandular tissue were found. Some of the blind tubes were remarkably distinct, and well filled with cells. There was no trace of cancer.

Now here was a tumour which, after remaining of small size and stationary for more than twenty years, suddenly, and without obvious cause, began rapidly to increase; so much so that, in less than six months, it had increased in size from that of a pigeon's egg to the magnitude of a mass weighing more than four pounds. Here was extreme rapidity of growth, without malignancy of character. In fact, this extreme rapidity of growth resembled rather what is not unfrequently found in encephaloid disease, than what we expect to meet with in the chronic mammary tumour, and rendered the diagnosis not a little difficult; the more so, as it was possible that the chronic mammary tumour, which had existed for so many years in a stationary and passive condition, might have suddenly undergone malignant degeneration, and thus taken on rapid increase of bulk. This, however, was disproved by the careful microscopical examination made by Dr. Harley, who found that the tumour did not present a trace of malignant structure.

It is, however, important to bear in mind that cystic and adenoid tumours may remain for a long time in a benign and passive state, and then assume malignant characters. This happened in the case of a woman aged 48, who was sent to the hospital by my friend Mr. Adams two years ago. At the age of 27, she had first observed a tumour in the left breast. This had slowly increased in size, until it had attained, at the end of fifteen or sixteen years, the size of the fetal head. When I first saw it, in January 1858, it presented the appearance here depicted. (Fig. 1.) One of the cysts of which it was com-

Fig. 1.

posed had ulcerated, and a thin sero-sanguineous discharge oozed out of the opening. The general health was good. There was no glandular enlargement in the axilla, or adhesions of the skin, except around the ulcerated parts. It was freely moveable on the pectorals. An operation for the removal of the tumour was proposed, but this the patient refused to consent to. At the end of six months, she returned with a large ulcerated cavity in the centre of the tumour, and fungating masses sprouting from the bottom of it. (Fig. 2.) There was still no cachexia, or enlarged glands in the axilla. The patient now consenting to an operation, I extirpated the whole mass with the mamma. On examining the tumour after its removal, it was found to be cystic. There were several large cysts, of the size of pigeons' eggs, containing turbid but light coloured serous fluid. The central portion of the tumour, and that at the base of the fungus, were solid, grey, and rapidly undergoing softening and disintegration. On squeezing this portion of the mass (the base of the fungus), a milky juice exuded; and Dr. Harley, who examined the tumour, stated it to be encephaloid. The sarcomatous structure beyond this, constituting the general mass of the tumour, appeared to be adenoid. The surface of the fungus, when exposed and protruding beyond the cyst, was epitheliomatous.

Now here were cystic sarcoma, encephaloid, and epithelioma, associated in one growth. The encephaloid was stated by Dr. Harley to be cellular, without fibres, shewing rapid develop-

ment. The epithelioma was confined to the surface of the fungus. The history of this case, the very lengthened period (more than twenty years) that the tumour had existed, the absence of all constitutional cachexy, of deep adhesions, or

Fig. 2.

of glandular enlargement or other secondary deposits, and its appearance only six months previous to removal (Fig 1.), all pointed to primary simple cystic disease of the mamma, in which, as the result of secondary changes, encephaloid had developed itself; being an instance of the conversion of a simple into a cancerous tumour of the breast. This patient died about a twelvemonth after the operation, of gangrene of the foot and disease of the heart. The cicatrix was quite sound; but in the substance of one of the ventricles a nodule was found, which was considered by those who examined it to be of a cancerous nature.

ACADEMY OF SCIENCES. At the last sitting a commission was appointed, composed of MM. Velpeau, Rayer, J. Cloquet, Andral, and Cl. Bernard, for the purpose of awarding the Barbier prize. This will be the first time of its being adjudged; and as it is intended as a reward for any great discovery in surgery, medicine, pharmacy, or medical botany, there will be several candidates in the field; and we need only remind our readers that, in the course of a few months only, hipnotism, coal tar plaster, the regeneration of bone, the cure of lockjaw, and santonine applied to amaurosis, have been in the field, to convince them that the conflict will be a severe one. M. Bou-tigny, in a note, endeavoured to show that the expression commonly used of the spheroidal state of liquids was erroneous, and calculated to give a false idea of the molecular state of matter. He observes that it is by no means necessary that a body should be in a liquid state in order to assume the spheroidal one; and that he has made chloride and nitrate of ammonia, the bichloride of mercury, camphor, iodine, stearic acid, wax, tallow, etc., pass directly from the molecular to the spheroidal state. He more especially calls the attention of the Academy to a curious fact in corroboration of his theory—viz., that if small pieces of ice, of the weight of a few grammes only, be operated upon, and they be thrown on the back of the hand, partly in a liquid and partly in a solid state, two different sensations will be felt in a very short time; first, a strong heat (98° centigr., 208° Fahr.), and afterwards an equally strong sensation of cold (freezing point). M. Prou sent in a paper on the possibility of suppressing switchmen on railways by introducing a self-acting lever, by means of which the engine driver himself may have the switches under his command. The Academy received a paper from a competitor for the Bréant legacy. He is a physician in the island of Java, but has concealed his name under a sealed cover. His remedy for cholera, and which he states to have always succeeded, is liquid ammonia in sugar and water, aromatised by a few drops of essence of peppermint. (*Galignani*.)