Clinical Lecture

ON THE

SIMPLE CYST CONTAINING SEROUS FLUID DEVELOPED IN THE MAMMARY GLAND.

Delivered at Guy's Hospital.

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It may be in the recollection of some gentlemen who now listen to me that, last year, I directed their attention to a class of tumours found in the breast which contained fluid, and depended upon the development of the membranous sac of the echinococcus. (See THE LANCET, March 2nd, 1867.)

If you refer to the report of that lecture in THE LANCET, you will read that the fluid in the sac showed very characteristic peculiarities. Tumours thus formed of a closed sac containing fluid so closely resemble each other, as well as also small solid growths, that the surgeon must be glad to be able to discriminate between one disease and the other, after a careful examination of the fluid which he is able to remove. Further, a knowledge of the composition of the fluid not only leads to accurate diagnosis, but to the suitable treatment and correct prognosis of the diseases.

I propose, therefore, in this lecture and the following to consider with you some other diseases of the breast produced by the development of cysts. At the present day, the expression "cystoma" is employed to describe a tumour composed of a single cyst or of several cysts. The cyst is a closed membranous sac. The contents of the cysts vary characteristically in chemical composition. The disease upon which I propose to fix your attention at this moment depends upon the existence of a delicate fibrous membrane enclosing a serous fluid. Our attention will be first devoted to the examination of the walls of the cyst; secondly, to the peculiar chemical composition of the serum it circumscribes.

But I will now read you the history of a typical case of this kind, which you saw in my ward in November last.

CASE 1.—A single woman, aged fifty-four, a domestic servant, in the enjoyment of good health, was admitted into Martha ward on account of a tumour in the right breast. The gland was small and atrophied. Her attention was first directed to the swelling two months since, quite accidentally, for it had never been painful. Amongst the axillary lobes of the gland there was a globular tumour about two inches in diameter, which slightly elevated the integuments. It extended through the body of the gland-tissue, and was distinctly identified with it. The fluctuation of fluid could be indistinctly felt over its surface, although its resistance to the pressure of the finger might lead a superficial observer to suppose the tumour was solid. The nipple was not affected by the swelling, nor were there any axillary lymphatic glands enlarged. The patient remembered a contusion of this breast about three years ago. It was not difficult to distinguish the presence of fluid in a circumscribed sac—that is to say, it was palpably a cyst with fluid contents. On November 27th a trocar and canula were introduced, and four drachms of pale-yellow serum, very slightly turbid, flowed through the latter. This serum showed an alkaline reaction; it was not coagulable either by the application of heat or the addition of nitric acid. The puncture rapidly healed, and she left the hospital a few days afterwards well. I have seen the patient since, and she was quite free from the tumour. In place of it there was a slight hollow, between the lobes of the gland, as if they had been separated by its pressure.

Cases of this kind are rare. In the practice of the hospital very few have occurred, but in private I have seen several. Surgical authors have not described these cysts very fully. Sir B. Brodie writes: "A thin membranous cyst, containing a transparent watery fluid, without coagulable matter, is occasionally found in the breast. This disease is probably rare, as only two examples of it have fallen under my observation."

* Works of Sir B. Brodie, vol. iii., p. 229.

In order therefore to illustrate the characters and varieties of this disease, you must allow me to introduce some cases which have been in the hospital, or which I have seen in private practice.

We have in the museum a preparation of a cyst of this kind, together with a small portion of the mammary gland which surrounded it, which I removed from the breast of a woman in 1851. This drawing also shows the appearance of the cyst when recently dissected. Its walls are very delicate; the internal free surface is smooth and bright, like the surface of a synovial capsule; and its outer surface is firmly attached to the surrounding gland-structure, which does not, however, show any morbid alteration. A delicate tessellated epithelium lines the internal surface of the cyst.

CASE 2.—The patient was a married woman, but sterile; thirty years old. She had not enjoyed very good health. The catamenia did not appear until she was twenty-one years old; and she was nervous and hysterical. The mammary glands were hard and disc-like. Pain attracted her attention to the right breast, when she felt "a lump," about an inch in diameter, amongst the axillary lobes. This was five months since; when I saw it the swelling was about double that size. She complained of a shooting and pricking pain in the swelling, especially after the pressure of the dress was removed. The tumour was movable with the gland, to the tissues of which it was firmly united; together they rolled freely beneath the integuments; and the true swelling, irrespective of the gland-tissue, felt very hard. It was also elastic, and fluctuation of fluid was perceptible. Through a small incision in the skin I removed the cyst, together with a small piece of the breast. The wound soon healed. In 1853 I saw this patient with a small cyst of a similar nature in the right breast amongst its sternal lobes, and a smaller one in the left. Knowing they were innocent, I did not disturb them.

CASE 3.—In 1860, Mr. Leslie, of Alton, was kind enough to send me a domestic servant, from whose right breast he had removed, by puncturing a cyst, "about two ounces of straw-coloured fluid." In this case the cyst collapsed, and never re-filled. That operation was performed in 1857, and when I saw the patient there were several small cysts in both breasts. The patient was single, and when the cysts were forming was between forty and fifty years of age. The mammary glands were well developed, the catamenia normal, and her general health good. In 1864 there was not a trace of the cysts in either gland; they had all disappeared.

Thus we may meet with cases in which not only a single cyst, but several cysts, may be developed, and both breasts become affected. The last case also demonstrates the fact that as the serum becomes absorbed the tumours disappear.

Occasionally these cysts reach a considerable size, and the secretion of the fluid is rather rapid. Under these circumstances great apprehension is excited, and the satisfaction of curing the case is in proportion enhanced.

CASE 4.—A lady was under my care in 1860, with a swelling in the left mamma, which had been accidentally noticed six months before she consulted me. She was single, between forty-five and fifty years old, in good health and capital spirits. The catamenia had ceased about the period when the left breast enlarged. Two months before she detected a tumour among the clavicular lobes of the organ, which had been painless, and was now from three to four inches in diameter. The elasticity of the swelling and fluctuation clearly led to the discrimination of its composition—i. e., it was undoubtedly a circumscribed collection of fluid. Paracentesis with a trocar and canula was performed, and four ounces of greenish-brown serum escaped. After standing in a test-tube some hours no change took place in it, nor did it coagulate by heat or acid. The puncture healed immediately, and two months afterwards the patient continued well, the fluid not having re-formed.

CASE 5.—The following year I saw another single lady, between forty and forty-five years old. She enjoyed good health, the catamenia were persistent, but the mammary glands had always been unusually sensitive just before those periods. Three months before I saw her she accidentally felt a small and very hard swelling among the axillary lobes of the left breast, which had not, however, given her any pain. She showed me a globular swelling close beneath the integuments, elastic, firm, and rising rather above the level of the anterior surface of the true gland. The detection of fluid within a cyst was very easy. I punctured the cyst with a trocar and canula, and withdrew one ounce and a half of slightly turbid serum, which, after rest in a test-tube, deposited a very little floccu-

lent precipitate. The serum did not coagulate by heat or acid. The cyst collapsed, and never refilled.

But we frequently meet with cases in which the assistance derived from the manipular examination of the tumour is so slight, and the sensation of fluctuation in the fluid contents so indistinct, that the surgeon is unable to satisfy himself that only serum forms the swelling. You must be prepared to meet with cases of this kind, which, when they occur at that period of life during which carcinoma is so commonly developed, excite the most unbounded apprehension and fears of all the horrors attending that direful malady. We have, however, the gratification of knowing that the trifling operation of introducing a fine canula, and emptying the cyst, not merely cures the complaint, but at once removes every source of anxiety. As, for example, in a case of this kind.

CASE 6.—A patient, forty-eight years old, married, but sterile, accidentally discovered a small hard lump among the axillary lobes of her left breast only fourteen days before I saw her. Certainly the tumour was very firm, even hard, and quite distinct enough to make any surgeon careful as regards its diagnosis and prognosis. Besides, the smallness of the swelling and the ample proportions of the mammary gland made its critical examination extremely difficult. The tumour was not more than one inch in diameter; but, from being surrounded by indurated gland-tissue, it felt much larger. Opinions differed upon the structure of the swelling; therefore I resolved to introduce a canula to ascertain its contents. This was done, and two and a half drachms of serum flowed out. This was odourless, clear, of dark greenish-brown colour, alkaline, and was not affected by heat or acid. This patient was at once relieved, and the cyst never refilled.

CASE 7.—Another patient whom I lately saw, through the kindness of one of our physicians, was a single lady, fifty years old. She had enjoyed uninterrupted good health, and accidentally discovered, about two months before her visit to me, a small swelling in the left breast. The catamenia had ceased, but the mammary glands were not atrophied. Around the central swelling, which was a cyst filled with serum, and not so firmly united to the gland-tissue as usual, a sort of annular fossa was perceptible. This circumstance rendered the fluid more easy of detection than usual. I introduced a trocar and canula at once; six drachms of pale brownish serum escaped, and the complaint was cured. This serum did not change by rest or cooling, nor did it coagulate by either heat or acid. The cyst never refilled.

It is highly probable that some of the cases called "scirrhus" are of the kind described in this lecture. When such tumours disappear the patient has the opportunity of reporting the cure of a cancer. I saw a patient, under the care of Mr. Few, of Ramsey, Hunts, in 1856, who very obligingly sent me the information a few days since to the effect that the tumour had entirely disappeared.

CASE 8.—The woman, forty-two years of age, married, but sterile, was very healthy. She observed, six months before her visit to me, a hard lump amongst the sternal lobes of the left breast. I was able to distinguish the fluctuation of fluid in a swelling about one inch in diameter. Manipulation caused pain. The tumour had not increased since its discovery. After constitutional treatment, of an alterative and tonic character, it slowly dispersed in three or four months.

CASE 9.—A healthy, prolific lady, thirty-nine years old, noticed a hard lump among the clavicular lobes of the right breast a year and nine months before she asked me to see it. I found a circumscribed collection of fluid, about one inch in diameter, very hard, and causing a throbbing, burning pain. That was in 1856. The general health was improved, an ammonia and mercury plaster was applied, and the tumour disappeared.

CASE 10.—That the presence of fluid may be overlooked is shown by the following case of a poor Irishwoman, sent to the hospital by Dr. Perrochaud, of Boulogne. She was a married but sterile woman, forty-six years old, who observed, two months before admission, a hard lump amongst the clavicular lobes of the right breast. It was painful when pressed. I excised that which I considered to be a solid growth; but it proved to be a very tense cyst, containing serum, as above described. A preparation of this cyst is in the museum. From this case we may take a lesson. Carelessness in diagnosis must be guarded against.

CASE 11.—Occasionally severe local pain is felt as the consequence of the presence of a cyst of this kind. The irritation

of the collateral nerve is probably produced by pressure on one of the intercostal filaments, or by its being stretched by the tumour. The pain may even extend in the course of the distribution of the other branches of the intercostal nerve, and be felt in the arm, neck, or back. Relief is at once afforded by the removal of the exciting cause. A single woman, thirty-five years old, was sent to me by Dr. Pye-Smith, suffering from great pain in the left thoracic region, which she stated arose after the observation of a small lump in the sternal border of the left breast. There had been a tumour resting on the fifth intercostal space six months, which from its situation, might press upon the filaments of the nerve coming through the foramen in that region. The pain shot along in the course of the distribution of its filaments, and even still further, but clearly in relation with the anastomoses of the nerve. The tumour was formed of a collection of fluid. By using a trocar and canula, one drachm and a half of turbid, brown, alkaline, and uncoagulable serum was removed. The pain left the part after the removal of the tumour.

CASE 12.—Inflammatory action may be excited in these simple cysts by rough handling. Under these conditions the local symptoms resemble those of the ordinary character preceding suppuration. The complaint may then be mistaken for an abscess. An instance of this kind occurred as follows. A sterile, but healthy married woman, thirty-five years old, having noticed for a few weeks a tumour in her right breast, consulted a medical man, who caused great pain by his roughness and pressure in its examination. When I saw her three days afterwards, the part was very painful, hard, larger than it was before, and the skin over it was red. I expected an abscess would form. Goulard lotion was applied, after which the pain subsided, and in a few days the existence of a simple serous cyst was easily diagnosed.

Let us now apply the knowledge derived from the preceding details to practical advantage, and endeavour to eliminate those leading facts which may aid us to form a correct diagnosis, and institute a successful treatment, of these harmless formations.

First, in relation to the ages of the patients at the time when the tumour was observed. The extremes were thirty and fifty-four years; eight of the whole number being between forty and fifty-four. Now that happens to be the period of life at which carcinoma is most commonly developed, and when any woman discovers a hard tumour in her breast at this age she at once concludes that it must be cancer.

We may next observe that six of the patients were married women, and six single. But of the six married, four were sterile. The physiological fact deduced from this examination of the procreative function is, that these simple cysts are probably associated with a state of the breast produced by functional inactivity. For in one case only had the affected gland performed its natural functions; in eleven it had never been stimulated to do so.

The general health of the patients was usually good. Some had been slightly inconvenienced by catamenial irregularities, but not to a severe degree.

We must next fix your attention on the aid derived from the tactile examination of the tumour. The objective signs are firmness, even hardness, a globular, uniform body produced by some circumscribed growth embedded between the lobes of the gland, or rising upon their surface. But you should be cautious how you estimate the size of these tumours. If you grasp the tumour and surrounding gland-tissue between the fingers and thumb, you will imagine that there is a much larger growth than really exists; but if you carefully define the limits of the tumour alone by using the point of the index finger only, its dimensions may be meted with sufficient accuracy. The patient may be placed in the recumbent posture with advantage during the examination; but in every objective examination of a tumour developed in the breast, the surgeon has to decide, first, whether it consists of a solid growth or of fluid, or of both together. This, the primary object in the examination, must be ascertained with the utmost precision. Now, by repeated practice you will be able to discriminate between a cyst containing fluid and a solid growth by the sensation, termed "fluctuation," which fluid, when compressed, communicates to the finger tip. If this sensation be not distinctly felt, which happens when the cyst-wall is tightly stretched, the elasticity of the tumour forms a marked characteristic of small circumscribed collections of fluid. Sometimes in these cases a very peculiar furrow has been felt running round the tumour between it and the gland-tissue. That circumstance I regard as a very important aid to diagnosis.

Having then arrived at the conclusion that the tumour contains fluid, the surgeon should insert a very fine trocar and canula with the object of obtaining some of it for examination. That done, and a few drachms of coloured, clear, or turbid serum having flowed out, which on examination shows an alkaline reaction, and which does not coagulate either with nitric acid or when heated, the diagnosis is clearly established. Thus, in adopting the above measure, we at the same time perform the operation suited for the cure of the complaint, as the cases show that the cyst does not refill.

In another lecture we shall examine those cysts which contain coagulable serum.

ON THE NATURE AND TREATMENT OF PULMONARY CONSUMPTION

AS EXEMPLIFIED IN PRIVATE PRACTICE.

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STATISTICS OF CONSUMPTION.

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It rarely happens that physicians in large private practice lay before the profession the collective results of their experience. Remarkable or extraordinary cases they may be induced to record, as opportunity offers; but the common events of ordinary disease, which come under their observation daily, and on which they have to exercise their judgment and apply their knowledge so constantly in practice, are seldom noted with sufficient precision to be suitable for publication. Nor is this to be wondered at, for it requires no small amount of resolution and perseverance to take careful notes of cases amid the hurry and fatigue of a busy professional life, unaided by registrars and clinical clerks, who render the recording of hospital practice comparatively easy. Yet it cannot be doubted that from private practice may be obtained an amount and a kind of knowledge which hospitals cannot supply. Whether as regards the experience and skill of the physician, who, after a career of hospital work, concentrates his improved powers of observation and treatment on private patients; or whether, as regards the class and resources of these patients, who may remain under observation much longer than those in a hospital, and who may avail themselves, as the latter cannot, of the advantages to be reaped from change of climate, mineral waters, various kinds of exercise, avoidance of fatigue and cold &c.,—it is obvious that much valuable and peculiar information may be expected from the faithful records of practice among the well-to-do classes of society. It is therefore, to a certain extent, on the advantages arising from the class of patients, the absence of certain unfavourable conditions, such as poverty, injurious trades, and the like, that the experience comprised in these papers depends for interest. Several authors have given results of their hospital practice; and three years ago the able and laborious work of my colleague, Dr. J. E. Pollock,* appeared, founded chiefly on his experience of the out-patient department of the Brompton Hospital, supplying excellent statistical information as to consumption among the lower classes. To this treatise I am indebted for many valuable hints, and shall make many references to it.

The object of the present paper is to give some results of 500 cases of pulmonary consumption, selected, as was stated in a previous paper (THE LANCET, May 2, 1868), on the grounds of their having been *at least one year under observation*, and of their having first consulted Dr. C. J. B. Williams during the period of sixteen years, commencing with 1842 and ending with 1857 inclusive. Examples of these cases have already been given, with a view to illustrate the duration, varieties, and treatment of the disease; and attention will now be directed to a summary of results from the whole number, as gleaned from tables, in which the information concerning them was arranged under the following headings:—Age. Sex.

Hereditary predisposition. Occurrence of hæmoptysis. Date of first symptoms. Date of first visit. State of lungs at first visit (as evidenced by physical signs). Treatment. Result. Duration of disease.

Age.—The distribution of the cases among the different periods of life was as follows:—

Under 10 years	...	...	...	8
Between 10 and 20	...	...	...	71
„ 20 and 30	...	...	...	198
„ 30 and 40	...	...	...	150
„ 40 and 50	...	...	...	54
50 years and upwards	...	...	...	19

500

The great preponderance seems to be between the ages of 20 and 30, and constitutes nearly two-fifths of the whole number; next in order comes the period 30 to 40, which includes three-tenths of the cases; while those between 10 and 20 are more numerous than those between 40 and 50. Dr. Pollock's observations on the ages of 1200 cases of consumption, whose duration varied from half a year to four years and upwards, tallies with the above; for he says, "the age of the greatest prevalence of consumption in all its forms is from 20 to 30; next to which is the decade between 30 to 40; then the period under 20; and the least of all is that over 40."

Sex.—311 were males, and 189 females; or 62·2 per cent. of the former, and 37·8 per cent. of the latter. Of Dr. Pollock's cases 60·75 were males, and 39·25 females.

Hereditary predisposition.—The register of the presence or absence of this feature has been very carefully attended to. In 226 cases out of the 500, or in 45·2 per cent., the hereditary predisposition was distinctly traced. Of Dr. Pollock's cases 30·16 per cent. had this feature, being 15 per cent. less than our average, which is very high, and should be borne in mind in reference to the prognosis in these cases.

First symptoms.—In the greater number of the cases the symptoms were those of the ordinary tuberculous form of consumption, of which examples have been already given (THE LANCET, May 2nd, 16th, June 6th); but in 67 cases, or in 13·4 per cent., the patients had suffered from an attack either of pleurisy or pleuro-pneumonia, from which only partial recovery had taken place, the cough, &c., had continued, and symptoms of consumption had eventually come on. In 44 cases out of the 67 no hereditary predisposition could be traced. In 83 cases, or in 16·6 per cent., the disease originated in an attack of influenza or bronchitis, and 36 of these patients were free from hereditary predisposition. 150 cases of consumption therefore may be described as arising from inflammatory attacks of the lungs—e. g., from pleurisy, pleuro-pneumonia, bronchitis, or influenza; and in 80, or more than half of these, no hereditary taint could be traced.

Hæmoptysis.—This symptom was recorded to have been present in various degrees at some period of the patient's history in 278 cases out of the 500, or in other words, in 55·6 per cent. of the whole number. Of Dr. Cotton's* 1000 cases of consumption, 53·6 per cent. had hæmoptysis, and of Dr. Pollock's 1200 cases alluded to above, 58·41 per cent. That recorded in the First Medical Report of the Hospital for Consumption was 63 per cent.

State of the lungs.—Whatever importance we may attach to general symptoms in cases of pulmonary consumption, the state of the lungs is the true basis of our diagnosis; and the changes in those organs, according as they proceed slowly or rapidly, or tend to destruction or recovery, form the principal elements of an unfavourable or favourable prognosis. In these cases the physical signs at the first visit, and, in almost every instance, in the last also, have been carefully recorded, so that by comparing these records a fair estimate may be made of the amount of change that has taken place from first to last. The classification of the conditions of the lung—consolidation, softening, and excavation—into first, second, and third stages, is open to objections, because such stages are not always well defined, it being sometimes difficult to distinguish between the end of the second and the beginning of the third stage; and again, various parts of the same lung may be in different stages.

However, it has been found difficult to avoid some such classification for the purposes of statistics, and therefore that of stages has been adopted, with the understanding that the first stage embraces various amounts of consolidation, and that the second and third are sometimes only different degrees of the state of softening and excavation.

* Elements of Prognosis in Consumption, 1865.

* Consumption, Second Edition.