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BENIGN TUMORS OF THE BREAST.

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A CLINICAL LECTURE DELIVERED AT THE SUFFOLK DISPENSARY
ON MARCH 26, 1895,

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GENTLEMEN:—The subject of non-malignant tumors of the breast is an important one, and I propose to devote a little time to this question today, leaving aside the malignant growths so frequently met with in this gland, which I shall take up at another time.

Of the purely benign neoplasms of the mammary gland, there are three, viz.: Fibroma, adenoma and cysts. In this lecture I do not intend, nor could I, in the time allowed, discuss the entire subject; but I will limit myself to certain important points on pathological anatomy, ætiology, and treatment that I feel sure will be of value to you.

Without any doubt fibroma are by far the most frequent benign growths

that are met with in the breast. This fact is amply demonstrated by Labbé and Coyne, who found that out of 34 cases of tumors of the mammary gland, 18 were pure fibroids; 3 were cysts by retention of products produced by hyperplasia of the connective tissue; 8 were sarcoma, 4 of which had fibroma as a starting point, and they say that sarcoma is, at its origin, a fibroid; but I believe that this statement is slightly amiss in some cases, as I have seen sarcoma develop in subjects in whom no growth had previously been found. Fibroid tumors of the breast occur between the age of twenty and forty, in other words during the active sexual period of woman. Billroth and Birkett claim that this neoplasm

never appears before puberty, nor after the age of forty. The cases that have come to my notice have been from eighteen to thirty years of age, although they certainly do occur later in life, though this may be due to the fact that they were not noticed by the patient, especially so if the nucleus of the neoplasm is seated in the deep part of the gland.

Some writers claim that the unmarried state is more favorable to the development of these growths, while others deny this statement, claiming that married life produces them. It is infrequent to find both breasts involved at the same time, and I have never been able to discover that the left breast was any more subject to the affection than the right, and *vice versa*.

An important point in the ætiology of fibroids of the breast is put forth by Labbé and Coyne. They say that menstruation may be related to their formation in certain cases, and is sufficient to explain the development of the growth.

Now, gentlemen, if you will consider this fact you will see that this is about the only cause capable of explaining the development of multiple fibroma of the breast in women who have never had abscess of that gland or who are nulliparæ. If you carefully question these patients regarding their breasts during the menstrual periods, they will be pretty certain to tell you that they often are subject to a greater tension of the organ, with redness, heat, swelling and pain,—symptoms which indicate a severe congestion, and even inflammation of the gland. I consider this

as a real *menstrual mastitis* in the first stage of development, and which, by the histological changes that it produces, will ultimately result in fibrous nuclei.

You are all aware of the considerable vascular supply nourishing the mammary gland, and when these vessels become dilated by the genital reflex that I have just mentioned, an active diapedesis of leucocytes takes place; or, if Cohnheim's theory is not accepted, a proliferation of connective cells in the connective tissue surrounding the acini is set up, and it is to this condition that corresponds the tumefaction, redness, etc., with an indurated and lobulated condition of the mamma.

A tumefaction of the auxillary glands may be found, but this symptom must not be confounded with the aberrant portion of the mammary gland, which is situated under the posterior border of the pectoralis major, when congestion is present.

These symptoms of which I have just spoken disappear with the menses, but in time this recurring congestion will ultimately result in the presence of nodosities in the breast, because the neoplastic elements are transformed into connective and fibrous tissue, thus forming a fibroid tumor. During the first few years, at the time of the menses, one or both breasts are enlarged in a diffused manner, and after a certain time you will be able to detect a solitary nodule by palpation. This nodule increases in size, and it is then that the patient will seek your advice.

That menstruation has a very con-

siderable importance in the ætiology of fibroids of the mammary gland, by producing localized interstitial chronic mastitis there appears to me little doubt, and for that matter chronic mastitis is the first step in the formation of fibroma.

For Kennedy, a fibroid growth, even though it may be solitary, is simply a circumscribed interstitial chronic mastitis in the highest degree of development, which, by becoming encysted, no longer communicates with the surrounding tissues, thus forming an isolated neoplasm and developing as such. König states that fibroids simply represent the last stage of this type of mastitis, and which is overlooked and not understood by surgeons as it should be.

I feel sure, gentlemen, that if more attention were given to this type of interstitial inflammation the appearance of a number of neoplasms in apparently healthy mammæ, such as simple or multiple cysts, fibroids, etc., could be easily accounted for, if we may judge from analyses of reported cases. At the commencement of the affection, round, generally hard and painful nodosities are found in one or both breasts, which, if treated properly, would result in cure. After an insidious period extending over a certain lapse of time, these attacks of chronic mastitis may take on a rapid course, the disease developing after a few successive attacks, and often simultaneously in both glands. The patient may not be aware of the existence of the nodosities, which are first discovered when the patient is examined.

The menstrual periods especially

are the times at which these nodosities develop. The breast becomes painful and a more or less watery liquid may be secreted; this liquid sometimes resembles milk in appearance. Tumefaction of the lymphatic glands may occur quite often.

Now, if you examine a microscopical section of one of these nodosities, you will see the morbid process consists of all stages of connective tissue formation, the most recent being an infiltration of embryonic cells surrounding the acini, while the most advanced stage is simply a formation of adult connective tissue. The acini may be found compressed and atrophied by the infiltration of round cells, while their epithelium may undergo granulo-fatty degeneration.

Besides the cases, in which the inflammatory process results in the formation of a fibroma, there are others in which cysts, varying in size and number, develop at the same time as the fibroma; the cysts may also be found alone. These cysts vary in size from a millet seed to that of a walnut; they are round, very hard, and when pricked with a needle they send forth various colored liquids with considerable force. It has been demonstrated by Labbé and Coyne that these cysts are formed by means of cystic cavities, gaps and spaces which are in their turn formed by means of the acini, and are to be found in fibroid tumors of the breast. The acini are drawn on in all directions by the development of perilobular connective tissue, and become greatly increased in size, while the excretory canals are effaced; in certain points obliterated and atrophied

by the process. The epithelium of the acini tumifies and proliferates by the continued irritation of the process. The acini become distended by their secretion, which is perhaps increased in quantity and cannot find exit.

The pressure exercised by the liquid on the periphery may cause degeneration of the epithelium, which becomes detached and floats in the liquid, and is found in an undistinguishable form, as the cells have been transformed by a granulo-fatty degeneration, which makes them most difficult to recognize.

The formation of cysts may be general or localized to some zones, being above all situated in the excretory canals. This pathological condition, by which the cysts are formed, certainly appears to apply to the formation of cystic cavities in certain cases of Reclus' disease, as is pointed out by Jacobs. In fact, the disease described by Reclus, presents the above mentioned histological characters according to Malassez, Brissand and Cornil.

I have only spoken of chronic mastitis consecutive to the menses, as an inflammatory influence producing fibroma, but this neoplasm may be determined by an abscess of the breast. In infectious mammitis, the microbe, an important element, intervenes. The micro-organisms produce a more active proliferation of connective tissue cells, which are destroyed or produce pus. If they resist, they undergo a rapid metamorphosis into connective tissue.

Now the only difference between the infectious and menstrual mastitis, regarding fibroid formation, is, that

in the first variety the fibrous nodosities appear rapidly. They are hard, multiple nuclei, generally seated in both breasts.

Velpeau laid great importance to traumatism as an ætiological factor in fibroids tumors of the breast, by producing a localized focus of mammitis, resulting in the formation of fibrous elements. This ætiology is accepted by a large number of surgeons, but I think that it is only applicable to completely isolated fibroid neoplasms, appearing in a breast that has been healthy up to the time the traumatism was received; while chronic mastitis produces multiple fibroma in breasts that are painful at the menses.

When the patient seeks medical aid, the growth has usually attained the dimensions of a walnut or even more. By palpation a hard lump is felt as in the case I now show you, and you will find that it is movable in the deep structures and does not adhere to the skin. By pressing the growth, there is no pain.

Pain does however occur in these cases, but only when the nerve terminations are pressed upon or bound up in fibrous tissue, a state of affairs commonly met with in multiple fibroma.

Another element which favors pain, is when we have to do with a nervous patient. They are very subject to it. In syphilitics, and especially patients with a malarial diathesis, it is well known that neuralgia often is present, consequently patients suffering from painful fibroma of the breast should be particularly questioned regarding their antecedents, as

the pain may be made to disappear under well directed treatment.

On the other hand, pain in the breasts is often a reflex symptom of some uterine affection, which, if the latter be properly diagnosed and treated, will result in a disappearance of the pain in the mammary gland.

The differential diagnosis between fibroma and scirrhus of the breast is often most difficult. If pain be present it generally points to a non-malignant neoplasm. The pain in scirrhus appears at a comparatively late stage of the affection, when the glands are invaded and by their increased dimensions compress the nerves, while in fibroma even of small size, pain may be present and quite severe.

Fibroma develop slowly, remain stationary for several years, and then suddenly enlarge. Their transformation into a malignant neoplasm has been amply demonstrated, and no doubt is to be entertained as to this fact.

The treatment of fibroma of the breast is purely surgical, for the simple reason that later the growth may become malignant. Of course, if you are called to treat a mastitis of any variety, you must bear in mind the probable ultimate outcome of this inflammatory lesion, and use such medical means as are of some real and rational value. I would suggest iodide of potassium internally, with mercurial and iodide frictions externally, or an ointment of ichthyol. Compression is an excellent means, and when well applied gives very excellent results. Another treatment, due to Dr. D. Mollière of

Lyons, consists of an application to the breast of an ointment containing pilocarpin, which is then covered by absorbent cotton and the whole enveloped by thin rubber sheeting.

There are two operations which I most favor in cases of non-malignant tumors of the breast, one due to Tripier of Lyons, the other to Tharras.

I said I favored them in these cases, and my reason for so doing is simply because they produce only very little disfigurement of the organ, a most important element to my mind, because the patients on whom you will operate are young women, and it is most essential to preserve their appearance to the highest possible degree.

As to the instruments necessary for performing extirpation of these growths, the fewer and simpler they are the better. One metal handle knife, with a narrow blade about an inch long, a dozen hæmostatic forceps, a Kocher's director, two four-sharped pronged retractors, needle-holder, scissors, silk, and large half-curved needles will be found quite sufficient. It is needless for me to enter into the details of antiseptis and asepsis of your hands, instruments, etc., as well as the toilette of the patient and operating table, as you all know the importance of this question quite sufficiently.

When the tumor is encysted, well limited and not adherent to the gland, enucleation should be performed. If on the other hand the neoplasm is cystic, diffused, without distinct limits, or is intimately involved in a *large portion* of the glandular structure,

you will then be obliged to resort to partial amputation of the breast. As fibroma of the breast are not likely to recur, and as they are more or less well limited, enucleation can usually be performed, and I should advise you to do the operations that I will now describe to you, for the reasons I have already given.

The first is Tripier's operation. After thorough antiseptic cleansing of the field of operation, the armpits having been shaved, you make an incision over the growth. This incision should be made from above downwards, and from behind forwards, carefully following the external border of the pectoralis major. The length of the wound varies, but should not be carried far enough to reach the areola.

Incising the skin and subcutaneous cellular tissue, ligating all vessels layer by layer as you go along, for I can assure that a clean wound with all bleeding stopped is the only proper method of operating, you cut down upon the neoplasm, which should be divided in two parts.

Now, both sections of the tumor are separately removed with the sclerosed parts of the gland, the portion removed having the shape of a triangle, its base being at the periphery of the gland, the apex near the nipple. The size of the segment removed depends upon the extent of the lesions.

When hæmostasis is perfect, a drainage tube is inserted under the gland and is brought out through a counter opening, made in the fold formed by the junction of the breast, with the thorax on the outer side.

This drainage tube is intended to insure the flow of liquids which may exist in the submammary tissue, and when in place the gland is sutured by three points; the first and third are at the extremities of the wound, the second in the middle; this forms the *deep supporting suture*. The sutures are introduced from without inwards, entering the surface of section of the gland. A second drainage tube is now inserted at right angles with the first; it is placed in the gland, its upper end directed towards the axilla, emerging from the upper angle of the incision. The cutaneous incision is then closed by interrupted sutures or by the continued suture, as I am in the habit of employing. Nothing now remains but to disinfect the region, inspect the drains to see that they are all right, and apply a good sublimate gauze dressing and bandage.

By this method of suturing the gland, the crater-like depression so often seen after other operations is done away with. A breast, which before operation may have been soft and pendant, becomes prominent and firmer after operation, this result being obtained simply because no cavity is allowed to remain in the gland. Tripier's operation is particularly indicated in tumors situated in the supero-external region of the breast. For neoplasms occupying the lower half of the breast, enucleation should be performed by Tharras operation, which consists in incising the skin in the furrow separating the organ from the thorax. The breast is raised up, the sub-mammary bursa incised, and the tumor attacked on its deep sur-

face. This operation was perfected by Tripier, who, by suturing the gland as in his operation, obtained a superior result. Tumors situated high up are also best removed by this operation.

There are cases that demand amputation of the breast, and where it would be impossible to perform a radical operation by the above mentioned methods, but as this subject is fully treated in all text-books on

surgery, I particularly refer you to them.

The young woman whose left breast you have examined, presents a simple fibroid tumor the size of a hen's egg, resulting from abscess of the breast after her confinement two years ago. As she is rather anemic, I shall build her up a trifle with suitable tonics, and when she feels stronger I shall remove the neoplasm by Tripier's operation.

