associated muscular atrophy. The pain in the arm is much dependent on the weather, and this is the only thing of which the patient complains. He has no headache, no sickness, and no sensory symptoms of any sort. All the functions of his body are performed naturally. Some thickening can be felt about the middle of each femur; this, he says, has been there since he broke them. He has shown me a photograph of himself taken when five years old, and the deformity of the head is very evident.

CLINICAL LECTURES

ON THE

DIAGNOSIS OF CARCINOMA OF THE BREAST IN ITS EARLY STAGES.

[WITH CHROMO-LITHOGRAPHS.]

(Delivered at St. George's Hospital.)

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LECTURE II.

INFLAMMATORY AFFECTIONS.

CHRONIC interstitial inflammation of the breast—or "chronic mastitis," as it is called—closely simulates cancer, and the main difficulty that arises is the consideration that this very condition is stated to be an important precursor of cancerous change or associated with it. Very little really is accurately known about the causation of chronic mastitis or the true connection of it with cancer. Areas of chronic inflammation marked by increase of fibrous tissue, and clinically by hardness and the formation of lumps and knotted portions of tissue, are commonly a sequel of some inflammation about the breast associated with the lactation period or old abscess. The origin is then clear enough and pathologically explainable, and these portions of hard and altered gland tissue may remain for many years or for life, unaltered and harmless. Chronic thickening following blows and effusions of blood is also familiar to surgeons. But in practice you will sometimes find cases of this peculiar condition of induration of the breast coming on in women of 40 or 50, which to my mind are very mysterious. I have suspected that some of these cases, especially when associated with much pain of a neuralgic type in stout individuals, are gouty, and this point has not escaped the notice of Mr. R. Williams,¹ who speaks of the case of a stout gouty clergyman, aged about 50, both of whose breasts had been hypertrophied since youth, with painful nodular induration of the right breast, which he attributed to subacute gouty mastitis. I have clinical evidence that some are due to a syphilitic taint. In many cases I have been quite unable to attribute any cause for the affection, which I feel sure is one not clearly understood by the profession and concerning which much remains to be learned.

I would only now say that in many cases of chronic mastitis the signs of cancer are clearly simulated, and the more closely because the contraction of the fibrous tissue obstructs the ducts and naturally produces one or more small cysts, which, being very tightly distended, may exactly imitate a small hard nodule of cancer. The following diagnostic points have been very useful to me, and I can only hope they will be of equal utility to you:

1. The "tumour" of chronic mastitis is very apparent when the affected portion of the breast is taken between the fingers and thumb. But when the patient is supine on a couch and one examines with the flat of the fingers, you will note at once that no real tumour is present. I can say truthfully that if ever you certainly feel a definite nodule or tumour under the fingers placed flat on the part, this is something more than mere inflammation, and nine times out of ten in the cases we are discussing such a tumour will be a hard nodule of cancer or a thick-walled small cyst.

2. Chronic mastitis is seldom localised strictly, but areas

¹ Diseases of the Breast, p. 109.

of it are scattered about within the breast, and both breasts are commonly enough affected. This is in striking contrast to early scirrhus cancer, when the growth is generally single and isolated; yet I think it right to tell you that some of the worst cases of carcinoma, well termed infiltrating, spread about the breast almost exactly like chronic mastitis. They are exceptional, and in the cases I have seen I have never failed by palpation with "the flat of the fingers" to detect one or more definite nodules, which at once made me suspect the true nature of the case.

3. Remarks made in a previous lecture will prevent you placing too great reliance upon retraction of the nipple or puckering of the skin. I have seen both of these symptoms in chronic inflammation.

4. The glands in the axilla are often enlarged and indurated in chronic mastitis. Without the microscope accurate knowledge of their condition is impossible.

The fact, indeed, is very evident that a number of these cases come before us, when, though our mind may be inclined one way or the other, and though the balance of evidence is in favour of one malady rather than the other, yet those of us who possess the requisite knowledge and experience to be aware of the limitation of our powers of diagnosis are quite unable to answer the question urgently put forward, Is the case cancer or is it chronic inflammation?

Now all this is exceedingly vexatious and puzzling, and often enough such instances are most difficult to manage judiciously in private persons, and I can only tell you the course I always follow myself with regard to them.

In the first place, if I discover any definite tumour by the proper palpation I always advise immediate exploration, with full permission to act as I think fit as to removal of a part or the whole of the mamma.

In the second class of cases, the most perplexing of all, when one is in doubt between chronic induration and infiltrating cancer, I always advise the following course of treatment. The breast is covered with a plaster of diluted ung. hydrarg. co., and then with several layers of cotton wool or Gamgee tissue. The old-fashioned breast bandage is then applied and reapplied daily with care and even pressure. If the parts are not very tender an elastic bandage can sometimes be borne. At the same time I give internally full doses of the iodides with mercury. Sir J. Paget and some of the older surgeons used to give drachm doses of the liquor potassæ in these cases, and I have certainly known the remedy beneficial. Now you will find to your surprise and the satisfaction of your patients that a certain number of these cases will definitely improve under this plan of treatment, that the "lumps and knots" will get softer and less and less, and finally the mamma will assume much its normal condition. The course of events may be, however, very different. The pressure and the remedies do little towards alteration of the conditions observed, which, if anything, increase in spite of them. As a fair average of time, I would give a full three weeks' trial to these tentative remedies. If at the end of that time matters are as bad as ever, what is next to be done? Now these conditions of the breasts are common enough in women under the age of 25, and removal is to them a most serious consideration. In such, unless there is a definite increase, you may wait and watch. The remedies may be continued and the general health carefully attended to. In older persons, when the mammae are functionless, and the time of life is that when cancerous change is prone, I have no doubt that removal is the best policy to adopt, and to urge very strongly. You will be right in saying that the disease is one which will not improve by less severe measures, but I do not know that you are justified in saying that it will "end in cancer." When such breasts are removed you will appreciate to the full the extraordinary difficulty of discriminating. You will find that even distinguished and accurate pathologists are often in doubt whether the cellular proliferations present are inflammatory or really early carcinoma. Sections being made in all parts of the indurated tissue will, commonly enough, justify the expression "probable early carcinoma."

I must honestly say that I have not been much helped by the teachings or writings of others in the matter of chronic mastitis and cancer. I know nothing more difficult, and some of these cases will give you the greatest anxiety in important

private individuals, and none have ever filled my own mind with more doubts and fears of wrongdoing towards the patients. I ask you, therefore, to give the remarks I have made full consideration, and I believe the rules I have laid down will be found sound and useful.

The true connection between chronic mastitis and cancer, as cause and effect, is, in my judgment, still *sub judice*, and the subject is surrounded by all sorts of difficulties and sources of error. The following cases will make my meaning clearer, and help to elucidate what I have said:

Chronic Interstitial Mastitis of Both Breasts simulating Cancer: Improvement under Mercurials and Pressure, with Large Doses of Iron.—A single lady, aged 41, was brought to me in January, 1893, by Dr. Norton, of Queen Anne's Mansions, with an affection of both breasts. I was told they had been pronounced to be cancerous by a hospital surgeon. She was thin, haggard, and pale, and had been losing flesh. She had suffered from very severe shooting pains in both breasts, and three months before I saw her had developed "lumps," which she discovered from their painfulness in both mammae. There was no family history of carcinoma. The skin was not affected, but both nipples were retracted. Very obvious hard tumours could be felt in both breasts, but on feeling them with the "flat of the fingers" these could not definitely be made out, the hardness disappearing. Marked symptoms in this case were the tenderness and hyperæsthesia on manipulation, which, as I have before observed, are not usual in early cancer. There were enlarged glands in both axillæ. I was in complete doubt of the true nature of this case, and suggested a month's trial of mercurials with pressure. The carbonate of iron was administered internally, and the breasts covered with the plaster of mercury with ammoniacum. They were kept well bandaged. I saw this patient again on March 13th. Her condition had steadily improved, and on examining I found only ill-defined thickening, the hardness having quite disappeared; the mammae were flaccid, and even on "pinching up" portions no distinct tumours could be felt. A further course of iron was ordered. In January, 1896, I wrote for particulars regarding this patient, and heard that she remained perfectly well.

Chronic Mastitis following Removal of Adenoma of Breast, leading to Suspicion of Recurrent Tumour and Amputation.—A single woman, aged 46, was admitted into St. George's Hospital on June 9th, 1892. Three months before she was an inmate, and then an undoubted "fibro-adenomatous" tumour was removed from the right breast. Now in the scar of the former operation is a little hardening and slight redness, the little mass being adherent to the skin. On June 10th the whole breast was removed, and the area of indurated tissue was carefully examined by Professor Delépine. He reported that it was "chronic interstitial mastitis."

Case of Removal of Breast for Chronic Mastitis and Retention Cysts.—A. H., aged 45, admitted into University College Hospital, January 17th, 1882. According to her own account the right mamma had previously been removed for "cancer." Immediately after the operation the left breast began to be painful, and caused her great annoyance. The breast was noted to be larger than normal; it was indurated and knotty. It was not very tender when handled, but was the seat of much pain. As the patient was single and treatment produced no effect the breast was removed. General chronic interstitial inflammation was found, with numerous cysts. The cysts are dilated acini, distended by secretion in consequence of the pressure of newly-formed connective tissue upon the ducts.

ACUTE MASTITIS.

Occasionally cancer attacks the breast of young, robust, and vascular women, and if they are pregnant or lactating it grows with frightful rapidity. Indeed, so rapid is the course of cancers during lactation and pregnancy, and so marked are the inflammatory symptoms, that such cases are termed by the French authors "mastite carcinomateuse." The breast is hot, red, and inflamed, and these symptoms occurring in connection with pregnancy or lactation will naturally make you think of abscess. There is one differential sign, however, and that is the condition of the skin which, though hot and red, is infiltrated with cancer, so that it is thickened and brawny to the touch, and has that coarse puckering likened to a pig-skin saddle or the "peau d'orange" of the French. Sometimes the lymphatics of the skin become strangely implicated or obstructed, and then the surface becomes covered with varicose yellow or white lymphatic trunks with bead-like dilatations. This curious appearance is beautifully seen in the accompanying coloured illustration. I may mention in passing that this form of acute, brawny, inflammatory cancer is seldom if ever improved by operative treatment, recurrence taking place with virulence and rapidity. Nunn relates such a case in his work on tumours of the breast. The patient was actually treated for acute mammary inflammation, and an exploratory incision made with the idea of finding pus.

A very striking case is related by Mr. Morratt Baker in vol. xxiii of the *Bartholomew's Hospital Reports*. The patient was a lady, aged 34, who had been confined four months before, and who was still nursing her infant. The right breast became large, hot, tense, elastic, and painful, and the skin over it was ruddy and oedematous, as if occupied by inflammatory exudation. The surgeon who was attending the patient believed that an abscess was in course of formation, and ordered that the breast should be poulticed; and it was not till six months later (at about the time at which Mr. Baker

FIG. 1.—Keloid of skin of mamma in the scar of an old abscess (?) simulating scirrhus. FIG. 2.—A small cancerous ulcer in the skin of the thorax near the mamma. FIG. 3.—Early carcinoma with retraction of nipple and enlarged superficial vein. FIG. 4.—Tertiary syphilitic ulceration of the areola with healing scars and fissures, there is considerable hardness and induration; the case had been diagnosed as cancer.

first saw her) that the real nature of the case was declared by the appearances of numerous cancerous nodules in the skin, and the rapid enlargement of the axillary glands. The mistake here arose because all the circumstances of the case suggested the probability that the breast was the seat of abscess, and secondly because, owing to the comparative youth of the patient, and the vascularity of the breast depending on lactation, the malignant growth was very active and attended with great vascular disturbance, leading to redness and oedema of the skin, and to tenderness and local heat. When Mr. Baker first saw the case, setting aside the presence of cancerous tumours in the skin, and the enlargement of the glands, its likeness to a deep-seated abscess was complete. When cancer, writes Gross,² takes a rapid growth, and is attended by an extensive small-celled infiltration of its framework, it is prone to inflame, as is indicated clinically by increase of suffering, elevated temperature, and discoloration of the skin. Under these circumstances, and particularly when the tumour develops during pregnancy or lactation, an abscess may form at the expense of the infiltrated connective tissue. Even when the mamma is not functionally active, suppuration may ensue, as in the case of a married sterile woman, aged 30, whose breast I extirpated last July. The tumour, which had acquired the volume of an egg in less than two months, contained an abscess as large as a filbert, filled with greenish pus.

Acute Inflammatory Cancer: Affection of both Breasts: Rapid Recurrence after Operation.—On October 25th, 1893, I treated at St. George's Hospital a stout, florid, healthy-looking woman, aged 50, the mother of several children, who had been a patient of Dr. Webb, of Fulham Road. Her right breast had always been troublesome, the nipple was never in a condition to suckle and had given her much annoyance. She stated that two of her sisters had suffered from "stony tumours" in the breast. She has noticed the right breast enlarging for about nine months, and lately has been rubbing it with iodine liniments and ointments, since when it has enlarged rapidly and become more acutely painful. An examination of the right breast showed it to be generally enlarged, the skin was dusky and red, with increase of local heat. The nipple was retracted, and the skin adherent to an ill-defined tender mass beneath it. On the inferior aspect of the breast was another mass, apparently connected with the former by ill-defined tracts of indurated tissue. The glands in the axilla could not be felt enlarged. On the opposite breast is an old scar, marking the orifice of a mammary abscess which discharged many years ago. Seeing the doubtful nature of this case, soothing applications were applied, and the breast slung up with cotton wool padding. Liq. potassæ and iodide of potassium were administered internally. November 30th. There is great redness, heat, and oedema of the right breast, the induration in the left is more obvious. A consultation was held upon the case, and it was decided that an exploratory incision should be made into the right breast. This was done, and though I expected to find pus I was disappointed. Then it was obvious that there was general cancerous infiltration, and that the skin was extensively infiltrated. A very complete operation was performed, the integument being freely removed, and the axillary glands cleared away, but within a month of the operation tubercles of cancer began to show themselves all around the wound, while the skin became reddened and inflamed over the side of the thorax with a peculiar roseate blush, like that of erythema. The woman left the hospital, and the exact nature of the tumour in the left breast was never ascertained. The similarity to mastitis and deeply seated abscess was in this case exact. On inquiry I hear from Dr. Webb that she died within two years of the operation.

CHRONIC ABSCESS.

Cold or chronic abscess forms within the mammary gland from a variety of causes. Some are tuberculous, some are the results of absorption from tiny and overlooked cracks or sores about the nipple and areola, others arise we do not know how, and in rare instances the purulent collection is dependent upon necrosis of a rib.

In many cases where chronic abscess exists there is a distinct history or evident marks of previous suppurations. I have notes of several striking cases to show this, and it is my belief that many chronic abscesses of the breast have their origin in old inflammatory foci; the pyogenic organisms, having long remained latent, are started into activity by some accidental cause. Again, blows may produce extravasations of blood, which, communicating with the milk ducts, admit organisms, and abscess is the result. But however these abscesses originate, it is for you to know that they often closely imitate in their essential symptoms scirrhus cancer, and the mistake of removing the breast for abscess has been probably more often committed than is generally known. Associated with a retracted nipple, surrounded by dense inflammatory material, the hardness is most deceptive and the history invariably dubious.

While asserting my belief that exploratory incision will alone prevent the error of mistaking abscess for cancer, there are certain symptoms which may well raise a suspicion as to the true nature of the case.

On examining with the flat of the pulp of the fingers, the patient being supine, you will often at some one spot on firm pressure elicit a sense of elasticity, and on raising your finger slight oedema of the superficial parts may be observed. These swellings are often definitely tender, and at some one spot the skin may be a little hot and reddened, and if this is

accompanied by the throbbing pain familiar in deeply seated collections of pus, the diagnosis of abscess becomes a very probable one. I have also pointed out to you that in certain of these cases there are little sores or cracks on the nipple only to be seen with a strong lens, or that there is a distinct history of abscess during past lactation with scars and cicatrices. If you get into the systematic way of cutting into every breast tumour before you remove it, you will never fall into the error of removing the breast for an abscess; otherwise you are likely to do so. In some rare cases abscess is associated with carcinoma, and when an abscess exists with very dense, inflammatory material spoiling the breast, perhaps removal is not such bad treatment after all.

Fig. 3.—Breast removed in mistake for cancer. A chronic abscess exists, with thick walls, and a retracted nipple; the puckered orifice of a sinus seen on the left led to the delusive appearance of puckering of the skin.

The following cases will illustrate some of the above remarks. It is especially by the perusal and observation of cases that the similarity between chronic abscess and scirrhus of the breast will become impressed upon your minds. A most interesting and instructive series are quoted by Reclus in the *Cliniques Chirurgicales de Paris*, 1888, p. 417, and also by Castex in the *Revue de Chirurgie*, 1889.

Removal of Breast for Chronic Induration and Abscess.—On August 24th, 1894, I saw a spare and thin, but healthy looking woman, aged 29, a patient of Dr. Hugh Webb, who was suffering from a tumour of the left breast. She had been married, but never pregnant. Her general health was good, and there was no suspicion of tubercle or syphilis. She had noticed the occurrence and gradual growth of the tumour for about four months. The nipple was deeply retracted and incorporated with a hard rounded mass, the size of a small orange, beneath it. The skin was slightly dimpled at one spot, and the axillary glands were not affected; pressure elicited some central tenderness, but I could not appreciate any fluctuation or elasticity. She had never suffered from nipple irritation or discharges. An exploratory incision was made, and after cutting through a quantity of dense tissue, which felt and looked like infiltrating cancer, some pus welled up from a cavity with smooth walls the size of a small walnut. The pus examined by Dr. Slater contained the staphylococcus pyogenes aureus and albus. I was even after incision, completely in doubt as to whether this may not have been one of those rare cases where a suppurating cyst occurred in connection with a mass of scirrhus, and accordingly removed the whole breast. The following is Dr. Rolleston's report: "Groups of atrophied and compressed mammary tubes, enclosed in abundant well-formed fibrous tissue. Sections of the wall of the abscess show well-formed fibrous tissue, with an irregular lining of small cells, among which there are some traces of hæmorrhage."

Nothing could illustrate more forcibly the difficulty of some of these cases. I have no doubt that had I scraped out and drained this abscess and afterwards applied pressure, this breast might have been preserved. The policy of removal would, however, commend itself to those surgeons who believe that chronic inflammatory conditions generally terminate in cancer.

Removal of Breast for Chronic Abscess Simulating Cancer.—The patient was single and aged 32. Three years before her admission into University College Hospital she had noticed retraction of the nipple, with swelling and induration of the parts round, and "shooting pains." This subsided under poulticing. There was a tuberculous history. The left nipple was noted to be deeply retracted. There was slight swelling round it, and the skin was shiny, and rather red and hot; it was tender and hard, and

² *Tumours of the Mammary Gland*, p. 142

beneath the nipple there was a mass of induration about 2 inches in diameter. It was not isolated from the surrounding parts, and there was no fluctuation. The rest of the breast seemed healthy, and there were no enlarged glands. There were aching and shooting pains in the breast. The patient was pale, but strong, and fairly well-nourished. The diagnosis of cancer was made and the breast was amputated. After removal a small abscess with dense walls, surrounded by a wide zone of indurated tissue, was found. The abscess was not connected with lactation or injury. There was nothing in its appearance to prove that it was tuberculous.⁴

Chronic Abscess Simulating Scirrhus.—A woman, aged 44, was admitted into University College Hospital for a tumour of the breast, which had originated in a blow inflicted three months before. A blow had also been inflicted on the same breast three years before. Removal of the breast had been advised at an infirmary. There was an induration of stony hardness. The surface was roughly lobulated and the margin indurated; the nipple was retracted, and there was one enlarged axillary gland. On incision an abscess was found.⁵

*Chronic Abscess simulating Cancer.*⁶—A woman, aged 44, received a blow on the breast three years before admission and again three months before admission. There was an induration in the breast of stony hardness. The surface was roughly lobulated and the margin indistinct. Removal of the breast had been advised at another institution. The nipple was retracted, and there was one slightly enlarged gland in the axilla. An incision was made, and an abscess incised, drained, and fomented. She was discharged cured on the fifty-first day.

Supposed Scirrhus of Breast turning out to be an Abscess on Exploratory Incision.—A married woman, aged 47, was admitted into St. George's Hospital on May 30th, 1883. She had never been pregnant, and stated that her mother had died of cancer of the liver. She had noticed a hard and rather tender lump in the right breast for about five months. There was found a tender, hard, rather lobulated mass deep in the right breast. The nipple was not retracted or the skin implicated, the axillary glands were not affected. A consultation was held upon the case, and an exploratory incision decided upon. This was performed by Mr. Pick, and the supposed solid tumour turned out to be an abscess.

Abscess of Breast supervening upon Old Inflammation: Residual Abscess and Simulation of Scirrhus.—January 20th, 1895. A pale, emaciated married woman, aged 40, saw me at the Waterloo Bridge Hospital for Women on November 25th, 1894, for abscess in the right breast. She stated that the gland had become swelled and painful for some weeks, for no apparent cause. Four years ago had two abscesses in this breast during lactation. These were opened, and they got better in about six or eight weeks. No tuberculous history, but has lost twelve children from different complaints. On examination, the right breast is irregularly swollen, and internal to a deeply-retracted nipple are two rounded, red, fluctuating swellings, obviously abscesses. The breast is very hard and indurated. December 5th. The abscesses were opened by small incision. Boracic lotion was applied with the breast bandage. January 3rd. The sinuses have healed, but there is a hard mass in the breast which feels exactly like a scirrhous cancer. The breast bandage with the cotton-wool pressure to be continued. Large doses of potassium iodide to be given internally. February 1st. Under pressure the formidable hard swelling quite disappeared, and nothing is now left but scars on the gland, and puckerings about them. The pus was examined for me by Dr. Slater, and found to contain the staphylococcus aureus.

Abscess of Breast simulating a Fungating Tumour.—A fat married woman, mother of eight children, aged 60, was admitted into Burton Ward of St. George's Hospital on December 8th, 1882. Seven or eight months ago, she began to suffer from "darting pains" in the right breast, and at the same time she noticed the organ becoming rather "knotty." In the last month the swelling has much increased, and has become hot and tender. On admission, it was noted that there was a prominence near the nipple, which was not retracted. This prominence was black in colour, and serum escaped from it; it looked as though soon about to fungate. The skin was inflamed and hard, but not adherent; beneath it could plainly be felt a firm hard growth. The skin was not adherent, and there were no enlarged glands. A copious discharge of thick pus took place spontaneously in a few days from the prominence near the nipple, and the swelling rapidly disappeared. In a month's time, the patient was discharged from the hospital. No note is made of any tumour having existed.

Scirrhus of Breast combined with Suppurating Cavity.—A married woman, aged 67, was admitted into St. George's Hospital on October 1st, 1892. Her father had died of "cancer." She had children, and never any difficulty in suckling. Quite fourteen years ago she had a discharge of blood from the left nipple, and then noticed a slight swelling. Lately, the breast has increased considerably in size. On admission, a semi-fluctuating tumour occupied the centre of the breast. The nipple was retracted. The skin was reddened, but not adherent. There was a good deal of pain and tenderness. Axillary glands enlarged and hard. On October 6th an exploratory incision was made, and a quantity of greenish pus escaped. It was thought that this came from a suppurating cyst. A hard mass was felt beneath, which had all the characters of scirrhus, and the whole breast was therefore removed. The axillary glands were not thought to be implicated. The disease was proved to be carcinomatous.

Suppurating scirrhus is very rare. Indeed, should a swelling in the breast suppurate, this may rather be looked upon as a proof that the disease is not cancerous. Yet the last case shows you that this rule has its curious exceptions.

A case is related in Vol. xv of the *St. Bartholomew's Hospital Reports*, where a woman, aged 38, six months pregnant, had a hard tumour in the breast for several months. Soon the swelling became red and fluctuated, and on opening it pus escaped. It soon became clear that "more serious trouble" remained behind. The breast was removed, and the tumour was found to be a well-marked case of suppurating scirrhus. In connection with this case a most interesting example of the converse is mentioned. A woman, aged 20, had a hard lump in her left breast, a retracted nipple,

and an enlarged axillary gland. The skin over the tumour was quite adherent. The swelling had been noticed for six months. She had not suckled or been pregnant for seven years. At a consultation, opinions were unanimous that the lump was a solid tumour, most likely scirrhus. On exploratory incision an ounce or more of pus was evacuated, and an "end was made of the tumour."

Again; carcinoma has even been known to actually originate in the floor of an abscess cavity. Mr. Baker, in Vol. xxiii of the *Bartholomew's Hospital Reports*, mentions a most interesting case in support of this statement.

A woman, aged 50, had a discharging sinus in the right breast, which had existed for nearly four months. The deeper parts of the breast were occupied by a tumour growth. Mr. Baker removed the whole mass, and discovered a carcinoma the size of a small orange growing from the abscess cavity.

After hearing these cases, and what I have said regarding them, I hope you will for ever bear in mind the importance of thoroughly exploring by incision supposed "cancers" of the breast before you remove the organ entirely.

(To be continued.)

THE DETECTION OF SPINAL CARIES BY THE ROENTGEN PROCESS.

By NOBLE SMITH, F.R.C.S. EDIN.,

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[With Skiagrams by Mr. Sydney Rowland.]

THE difficulty of detecting spinal caries in its early stages has necessitated the observance of great caution in the treatment of children suffering from obscure spinal symptoms. It has been felt that when any uncertainty exists as to whether caries be present or not, it is better to err on the side of caution, and keep the patient's spine fixed and his body at rest, perhaps unnecessarily, than to run the risk of moving diseased vertebræ by allowing too much freedom.

When we suspect caries, the application of a thoroughly efficient spinal support will enable us in many cases to allow the patient to move about cautiously without having to insist upon the absolutely recumbent position, but some months generally elapse before we can allow greater freedom of movement.

Examination by the Roentgen rays has proved a means of diagnosis of very great value in these cases, and I will now describe two instances in which I have made use of the method.

CASE 1.—Master B., aged 5½, was sent to me by Dr. Keay on February 29th, 1896. There was torticollis dependent upon contraction of the right sterno-mastoid muscle, but although there seemed to be a firm permanent contraction of the muscle, yet there was also some spasmodic action, and it was difficult to decide whether the contraction was due to irritation produced by caries, or whether it was independent of that disease. I found some lateral curvature in the cervical region to the left, and posteriorly, with cedema about the neck, as one sees in cases of caries. There was compensating lateral curvature in the upper dorsal region to the right, and in the lumbar region to the left. There was no severe pain upon movement of the spine, but rigidity and discomfort in the cervical region existed, and as I had seen many cases which proved subsequently to be caries, occurring with exactly the same symptoms, I applied a fixation apparatus to the spine and neck.

The spine was now held in a straighter position, and the child immediately began to improve in general strength and appearance. A few weeks later, April 10th, I found that there was less rigidity about the neck, and I operated upon the sterno-mastoid. Both the sternal and clavicular attachments and subsequently some fibres near the mastoid process were divided, and the head was placed in a perfectly straight position. Although there were now fewer signs of caries than formerly, I still felt uncertain as to an exact diagnosis, and hesitated to relax in any way the careful fixation of the spine. The use of the Roentgen rays, however, enabled me to clear up the difficulty, for a skiagraph (Fig. 1) proved the absence of any tuberculous disease. It will be seen that the shadows produced by the cervical and upper dorsal vertebræ are quite regular, there being no signs of roughness of bone nor indication of an abscess.

⁴ Catalogue of University Coll. Hosp. Museum, p. 442.

⁵ University College Hospital Reports, p. 51, 1884.

⁶ University College Hospital Reports, 1884.