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 The surface was roughly lobulated and the margin indurated; the nipple was retracted, and there was one enlarged axillary gland.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 The nipple was retracted, and there was one slightly enlarged gland in the axilla.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.,

Senior Surgeon to the City Orthopaedic Hospital, and Surgeon to the All Saint's Children's Hospital.

[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.

CASE II.—Miss M., aged 27. I first saw this patient in July, 1893, when she complained of severe pain upon the least movement in the cervical and upper dorsal region, and pain with a choking sensation upon attempting to swallow. The symptoms had been attributed to hysteria, but they increased rapidly. The patient was then seen by an eminent physician, who thought more seriously of the case, and at his desire I was consulted. I formed the opinion that caries of the cervical vertebræ existed. When the spine was thoroughly supported the pain was greatly relieved, and the patient from that time very slowly but steadily improved.

Fig. 1.—Skiagraph of Case I showing even shadows of the three lower cervical and six upper dorsal vertebræ.

At the early part of this year (1896), although the patient had improved very greatly in strength and in ability to walk about, she still very much dreaded any movement of the neck or disturbance of the supporting apparatus, and I became anxious to determine how far this was due to any active disease at the present time, or to other causes. The skiagraph (Fig. 2) shows from the second to the seventh cervical vertebra. The intervertebral spaces between the fourth and fifth, the fifth and sixth, and the sixth and seventh are distinguished by light shading, but above the fourth there seems to be a mass of bone, there being no sign of cartilage. The appearance of the bones demonstrates the severity of the disease which has existed and the amount of repair which has taken place. The value of this information can hardly be overestimated. It cleared up all doubt as to the nature of

the case, and also indicated the line for future treatment. Upon this evidence I have commenced a course of massage of the neck and shoulders carried out very cautiously, and so far the result is satisfactory. It is in the neck that this diagnostic process must be most applicable, for, except in very young children, the obstruction caused by the sternum and other dense tissues interferes with a satisfactory shadow of the vertebræ.

The skiagraphs were kindly taken for me by Mr. Sydney Rowland, whose medical training enables him to apply the method of Roentgen with an aptitude impossible to the non-medical operator. In future cases we shall endeavour to get profile views, as they will possibly show the disease more definitely.

Fig. 2.—Skiagraph of Case II showing clear shadows of 5th, 6th, and 7th cervical vertebræ with the lighter intervertebral cartilages. From the 5th upwards there is an irregular mass of bone; A indicates the junction between the 5th and 4th cervical vertebræ.

A METHOD OF TEMPORARILY CLOSING THE OPENING AFTER GASTROSTOMY OR ENTEROTOMY.

By HARRISON CRIPPS, F.R.C.S.,
Surgical Staff, St. Bartholomew's Hospital

THE chief trouble after gastrostomy or enterotomy is the keeping of the wound clean. The gastric juice or fluid faeces, if allowed to escape, excoriate the wound, making the surface raw and tender for some inches round. Dressings or trusses, however carefully applied, quickly get sopped, while plugs put into the wound unnecessarily enlarge it. In three cases recently under my care I have found the following plan effectual in overcoming the difficulty. The opening in these cases is, of course, always small, seldom larger than a sixpenny piece. A circular disc of sheet india-rubber the