Operation and Result.—Dr. Willy Meyer, May 26, performed a cholecystectomy. The gallbladder was found filled with stones. The pathologic diagnosis was chronic catarrhal cholecystitis. The patient was discharged from the hospital, July 12. Three weeks after the operation, the last tampon was removed. After that, bubbles of air came from the upper angle of the wound. Then a persistent discharge developed from this part of the wound. Frequently a great many bubbles of gas would come up from the same source and annoy the patient greatly. He was first seen by me with this discharge, October 11. The discharge was examined and found to contain food, was alkaline, and looked rather grayish.

EXAMINATIONS OF DUODENAL CONTENTS AS OBTAINED FROM
THE FISTULA AND THROUGH THE DUODENAL TUBE

Discharge from the Fistula					
Date	Reaction	Amylopsin	Steapsin	Trypsin	Comment
10/11/19	Alkaline	2	0	0	Food present; many pus corpuscles; few red blood cells
10/15/19	Alkaline	—	—	—	Direct smear; white blood cells; milk; red blood cells; mucus
10/26/19	Alkaline	—	—	—	No food; pus corpuscles; few red blood cells
Duodenal Contents Obtained Through the Tube					
Date	Reaction	Amylopsin	Steapsin	Trypsin	Comment
10/21/19	Alkaline	5	2	1	Yellow; slightly turbid; mucus; pus corpuscles
10/24/19	25	9	1	3	Golden-yellow; mucus
10/25/19	20	9	1	3	Yellow, bile-stained cells; white blood cells; goblet cells
10/25/19	25	6	1	2	Here the duodenal contents were yellow, brown and turbid

The accompanying table shows the result of examination of the fistula discharge as contrasted with the duodenal contents proper obtained through the tube.

The discharge being slightly alkaline, containing food, and hardly any traces of bile, the diagnosis of a duodenal fistula in the ascending portion of the duodenum, probably not very far from the pylorus, was made. The patient was then given duodenal (jejunal) feeding. A duodenal tube (44 inches long) was inserted, October 15. Duodenal feeding was started, October 17.

October 22, a roentgen examination was made by William H. Stewart. The tube, inserted through the fistula, entered the duodenum and ran parallel with the duodenal tube.

October 27, the tube, being clogged, was removed, cleaned and reinserted. It was left in place until November 19; another tube was introduced, November 23.

December 4, the wound closed by itself; the tube was removed.

December 12, the patient was discharged from the hospital.

December 22, I saw the patient. The wound had healed perfectly, and the patient had gained in weight and strength.

COMMENT

The diagnosis of a duodenal fistula situated between the pylorus and the papilla of Vater was established by the character of material oozing from the fistula. It was of alkaline reaction and contained food particles and usually no bile. As the patient had enough acid in his stomach the fistula must have come from the duodenum. The frequent absence of bile in it demonstrated that the opening must be situated above the papilla of Vater. This conclusion appears to find corroboration in the roentgen-ray examination and also in the clinical syndrome of the case.

The roentgen ray shows the catheter inserted into the fistula, meeting the duodenal tube a short distance from the pylorus.

Among the symptoms the patient presented from the fistula, the intense inflammation of the skin around the

duodenal fistula usually encountered was missing here, the skin preserving its natural color. This must be explained by the fact that the secretion did not contain pancreatic juice, as is in fact seen from the examinations of the fistulous material given in the table. The lack of pancreatic juice likewise speaks for the location of the fistula above the papilla of Vater.

The treatment consisted of atropin in conjunction with the jejunal alimentation. The patient first lost considerable weight (20 pounds). After three weeks of jejunal alimentation, the tube was pulled up to some extent so that the capsule end was now situated in the duodenum proper. We now had real duodenal alimentation, which agreed with the patient much better, as he did not lose any more in weight.

A short while after the jejunal alimentation had been begun there was no food found in the secretion from the fistula, although some pus corpuscles and a few red blood corpuscles were always encountered. A little while later, December 4, the opening closed up by itself and has remained closed ever since. The patient is now enjoying perfect health. He eats and drinks anything he chooses, without any discomfort. He has regained his lost weight, and there is no trace of the fistula left, excepting the visible scar on the abdomen.

The healing of the fistula by duodenal alimentation, in the case described and in the one reported a year ago, shows that we have in the duodenal tube, and the method of feeding through it, an important aid to overcome this very tedious and what was formerly thought to be an almost intractable condition.

20 East Sixty-Third Street.

GUMMA OF THE BREAST

REPORT OF A PROBABLE CASE

LOYD THOMPSON, M.D.

HOT SPRINGS, ARK.

The paucity of references, particularly by American writers, to the subject of syphilis of the breast makes this report and a review of the subject at this time desirable.

REPORT OF CASE

History.—Mrs. W. E. S., aged 33, housewife, came to me, Oct. 27, 1919, complaining of "nervousness" at times, pains in the arms and neck, frequent headache and a lump in the breast. An older sister was operated on for cancer at 36. The mother was living and well at 65. The father died following an injury. Five brothers and sisters were living and well. The patient had had appendicitis nine or ten years before, followed by several attacks. After the lapse of eighteen months, the appendix was removed. She had had measles as a child. She had been married twelve years and had had a miscarriage at seven months during the first year, and a second miscarriage at two months during the second year. I treated the husband for syphilis during the early spring of 1917. He had suffered from this disease for three years before marriage, but was assured by his family physician that he was cured. The patient never showed any outward manifestations of the disease, had enjoyed quite good health all her married life, and at the time I treated her husband, her blood Wassermann reaction was negative. About January, 1918, she began to notice pains and nervous twitches in the neck, arms and legs. These were never severe. The lump in the breast was noticed in November, 1918, at which time it was about the size of a walnut. It gradually became larger, and during the summer of 1919 she was examined by a surgeon and had a Wassermann test made. This was reported as weakly positive. A short time

before coming to me she was examined by another physician, at which time her blood Wassermann reaction was strongly positive, and in spite of this he advised her to have an operation at once. This she refused, and came to me for treatment.

Examination.—The external genitals were negative. The superficial lymphatic glands were not palpable. The skin and mucous membranes were negative. An examination of the bones revealed a slightly tender spot on the sternum. The heart, lungs and abdomen were negative. The systolic blood pressure was 110; diastolic, 80. The eyegrounds were negative. The pupils reacted to light and accommodation. The left knee jerk was quite sluggish; otherwise the neurologic examination was negative. An examination of the left breast revealed a tumor of horseshoe shape, about 4 inches long and from 1 to 1½ inches in diameter, in the lower left quadrant of the breast. This was not tender, and the axillary glands on the left side were not enlarged. The blood Wassermann test by the classical method, with cholesterinized antigen, was +++; in the ice-box and by the Thompson modification, + + + +. A diagnosis of gumma of the breast was made and the patient placed on treatment.

Treatment and Course.—Mercuric benzoate was administered intramuscularly in doses of 0.02 gm. daily. Potassium iodid was given by mouth, 10 drops three times a day, increasing 5 drops daily until 100 drops three times a day were reached. Neo-arsphenamin in 0.6 gm. doses was administered at weekly intervals for six weeks. At the end of this time, Dec. 8, 1919, the tumor had decreased in size until it was about one fourth of its original dimensions, when the patient was forced to leave for her home, but promised to return for further treatment if the tumor began to increase in size. About six weeks after leaving Hot Springs the patient began taking "mixed treatment," which was continued more or less regularly till Feb. 26, 1920, when I again saw her during a visit to her home city. At this time the tumor had become considerably smaller and had divided into two parts, one being about the size of a walnut and the other one about half that size.

In view of the history of syphilis in the husband, the two miscarriages, the positive Wassermann test and the result of the therapy, there seems to be no doubt that this case was one of gumma of the breast.

HISTORICAL

Most writers on the subject of breast syphilis state that Sauvages,¹ in 1768, was the first to recognize this condition. However, Astruc,² as early as 1736, speaks of cancer of the breast as one of the symptoms of syphilis peculiar to women, but does not mention any specific instances. Sauvages' case undoubtedly was one of gumma of the breast. An unmarried woman of 30, who had contracted syphilis ten years before, presented a hard and knobby tumor in each breast, the size of a hen's egg, both of which were painful. There were also present small ulcerations in the mouth and the vagina. All symptoms of lesions cleared up in six weeks under mercury, and never recurred.

The leading syphilographers who followed Astruc in the latter part of the eighteenth and the early part of the nineteenth centuries, notably Hunter,³ Bell,⁴ and Swediaur,⁵ do not mention syphilis of the breast; but about the middle of the nineteenth century gummas of the mammae began to be recognized, and cases were reported by Yvaren,⁶ Verneuil,⁷ Richet,⁸ Velpeau,⁹

Lancereaux¹⁰ and others. The latter author, in his *Traité de la syphilis*, published in 1867, gives a very good description of the condition and mentions five or six cases which had been reported. Since that time, reports of less than forty cases have appeared, and these mainly in the French and German literature.

PATHOLOGY

The only description of the pathology of syphilis of the breast which I have been able to find is that of Reinecke,¹¹ who described a case of syphilitic mastitis. The patient was a woman of 37, who died from uremic coma. The kidneys and spleen were extensively amyloid, and the liver the site of gummas and deep scars. The upper half of the breast was very hard, the tissue on the cut surface dry, while numerous red or yellowish-red, circumscribed foci, the size of a pinhead or larger, projected above the cut surface. These red, firm nodules were found to be due to proliferation of the interlobular and intralobular connective tissue, with degeneration and destruction of the glandular cells whose place was being taken up by connective tissue. The vessels, especially the arteries, were markedly thickened. While this description is not that of gumma, in the strictest sense, the nodules may be considered as small gummas, and there is no reason to believe that larger gummas of the breast would show any essentially different histopathology than similar lesions of other regions.

CLINICAL HISTORY

While gummas of the breast are more common in women (about three fourths of the reported cases occurring in that sex), they are sometimes seen in men. One or both breasts may be affected, and the tumors may be single or multiple, varying in size from a pea to an orange, or larger. They may be subcutaneous or intraparenchymatous. They may occur in any portion of the breast, and usually appear as hard, well circumscribed, movable tumors, which slowly increase in size. As a rule there is no pain, but in a few cases this has been a rather marked symptom. This was true in one of Bissell's¹² cases, in which the pain was sharp and always occurred at night. Sometimes, while there is no pain, the tumor is exceedingly tender on pressure. Usually there is no involvement of the lymphatic glands of the axilla, but this has been reported in some cases.

If untreated, these tumors go on to softening ulceration and sloughing. The ulcerations present the typical punched-out appearance of ulcerating gummas of other regions, with more or less infiltration of the borders. When sloughing occurs the lesion is most foul smelling and filled with a grumous, brownish fluid. A most remarkable case of this kind was reported by Bryant,¹³ in which the entire breast sloughed out and left a clear, granulating surface. Actual gangrene also has been noted, as in Robinson's¹⁴ case.

Usually the tumors are not adherent to the overlying skin, and they are freely movable. As a rule, also, the nipples are not retracted, but this does sometimes occur, as in the case of Gay.¹⁵

1. Sauvages: *Nosologia Methodica*, Amsterdam 1:149, 1768.

2. Astruc: *De morbis venereis*, Libri sex, Paris, 1736, p. 296.

3. Hunter: *A Treatise on the Venereal Diseases*, Philadelphia, 1791.

4. Bell: *Treatise on Gonorrhea Virulenta and Lues Venerea*, London, 1796.

5. Swediaur: *Traité des maladies syphilitiques*, Paris, 1801.

6. Yvaren: *Des métamorphoses de la syphilis*, Paris, 1854, p. 435.

7. Verneuil: *Bull. Soc. anat. de Par.* 30:96, 1856.

8. Richet: *Traité d'anatomie chirurgicale*, Paris, 1857, p. 513.

9. Velpeau: *Traité des maladies du sein*, Paris, 1860, p. 534.

10. Lancereaux: *Traité de la syphilis*, Paris, 1867, p. 180.

11. Reinecke: *Centralbl. f. allg. Path. u. path. Anat.* 10:316, 1899.

12. Bissell: *Syphilitic Tumors of the Breast*, *Med. Rec.* 72:14, 1907.

13. Bryant: *Diseases of the Breast*, London, 1887, p. 72.

14. Robinson: *Case of Syphilitic Gangrene of the Breasts*, *Med. Times & Gaz.*, London 2:261, 1864.

15. Gay: *Syphilitic Mammary Disease, Report of a Case of Inherited Syphilis, Removal of Mammary Tumors by Thomas Method, After Treatment by the Iodides*, *Med. Rec.* 24:91, 1883.

Gummas of the breast may also affect congenital syphilitics, and cases have been reported by Gay,¹⁵ Gromo,¹⁶ Neumann¹⁷ and others.

The breast may also be the seat of gummas which have extended from gummatous lesions of the skin over the breast, or from gummatous lesions of the underlying ribs.

DIAGNOSIS

Any tumor of the breast should be looked on with suspicion, and careful anamnesis and examination for other evidences of syphilis, including the Wassermann reaction, should be made.

In women, the history is not of so much importance, as quite frequently women are not aware of a syphilitic infection, although a history of miscarriage would be at least suggestive. Too much reliance also is not to be placed on a negative history in men, as for various reasons the history may be given incorrectly.

Of course, the differential diagnosis of any breast tumor can be made by microscopic examination of a section; but it is unwise to perform a biopsy for such an examination unless preparation is made to perform at the same time a radical operation for carcinoma if the tumor is found to be such.

Gumma of the breast is to be differentiated from chancre, abscess, benign tumor, carcinoma, sarcoma, tuberculosis, actinomycosis and sporotrichosis.

Gumma of the breast sometimes markedly resembles chancre and has been mistaken for this condition. However, as a rule, spirochetes can be demonstrated in chancre, while they are very hard to find in gumma, and the axillary lymph glands are more frequently enlarged. If the chancre is seen early, the Wassermann reaction will be negative, but later will become positive, while with gumma it may or may not be positive.

Abscess of the breast will present more pain than gumma, will fluctuate, and on aspiration, pus will be found.

Benign tumors may be most difficult of differentiation, as they never cause enlargement of the axillary lymph glands. The Wassermann reaction, however, is negative.

Carcinoma of the breast, as a rule, occurs later in life than does gumma. The process of ulceration is slower, the involvement of axillary glands more frequent and occurs earlier, while carcinoma is usually more painful than gumma.

Sarcoma of the breast is very rare; but the differentiation from gumma may be most difficult, and recourse to laboratory aid may be necessary.

In tuberculosis of the breast, the axillary glands are virtually always enlarged. Sinuses and fistulas are usually formed by the gradual extension of the process to the surface, while an examination of the discharge, as a rule, will show tubercle bacilli.

Actinomycosis of the breast is rare, and is to be differentiated from gumma by the finding of ray-fungus in the pus of the discharge.

Sporotrichosis of the breast is more rare, and its differentiation can be accomplished by the finding of the causative organisms.

Finally, in the diagnosis of gumma of the breast, it may be necessary to apply the therapeutic test. This is particularly true in the presence of a positive history or other clinical evidence of syphilis, or a positive Wassermann test.

PROGNOSIS

The prognosis of gumma of the breast in the main may be said to be good, though the prognosis for complete disappearance of the lesions depends on the recognition of the condition before ulceration has taken place. If the latter has occurred, while the lesions may, and usually do, heal under medication for syphilis there may be more or less scarring and, if the destruction of tissue has been great, considerable deformity.

TREATMENT

The treatment of gumma of the breast is the treatment of syphilis. It includes arsphenamin, mercury and iodids in some form or other. Sodium iodid intravenously in doses from 1 to 2 gm. and larger is to be highly recommended when large doses of potassium iodid by mouth are not well borne. In ulcerating lesions, local application of some powder, such as calomel and bismuth, equal parts, boric acid, acetanilid and calomel, equal parts, or aristol (thymol iodid) is highly beneficial.

It goes without saying that general hygienic measures should be instituted in gumma of the breast as in other types of syphilis.

Thompson Building.

LARYNGEAL CRISIS WITH AN UNUSUAL COMPLICATION

REPORT OF CASE

LEWIS T. GREGORY, M.D.

EVANSTON, ILL.

History.—Mrs. G. (27804), American, white, aged 39, widow, laundress, admitted as a suspicious case of tuberculous laryngitis to the Isolation Department of the Evanston Hospital, on the service of Dr. S. V. Balderston, complained of sudden attacks of difficulty in breathing; "tightness" in chest; hacking cough and hoarseness. She had not been well since an attack of influenza in the preceding fall. The present trouble dated back only about one month, when the patient developed a "cold" in the head, but paid little attention to it, as she was bothered with chronic catarrh. Four days before admission, the patient had a sudden attack of difficulty in breathing, which passed off in a few minutes. These paroxysms became more frequent and of greater severity. She had eight attacks during the first forty-eight hours after admission to the hospital, and about an equal number at home before coming to the hospital. She was unable to describe the "tightness" in her chest, but stated that the sensation was noticed only during the paroxysm. The cough was a more or less continuous hacking cough, and the hoarseness had become progressively worse until the patient was scarcely able to speak above a whisper. The patient had had the illnesses of childhood; "chronic rheumatism," chiefly in the legs, and worse at night; an abdominal disturbance leading to the removal of an ovarian cyst and the appendix four years before; sore throat several years before, which resisted treatment for a long time, and influenza last fall. The family and menstrual histories were negative. The patient had never been pregnant, and denied venereal infection. Her appetite was good, she slept fairly well, and there was no gastro-intestinal, pulmonary, cardiovascular or genito-urinary trouble not already mentioned.

Physical Examination.—The patient was well developed; she was somewhat hoarse, and occasionally gave a dry hacking cough. The temperature was 98 F., the pulse rate 88, and respiration 24. There was a large perforation of the nasal septum. The patient stated that she had had several operations on the nose for catarrh. Very slight symmetrical

16. Gromo: Contribution à l'étude des gommès du sein, Paris, 1878.

17. Neumann: Ueber die syphilitische Erkrankung der Brustdrüse, Allg. Wien. med. Ztg. 34: 593, 1889.