MYOMA OF THE STOMACH.

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TUMORS of the stomach, other than carcinoma, have been somewhat infrequently reported. Sarcoma is the most common: there are now over two hundred cases in the literature (Zeische and Davidsohn [1] and Briggs [2]). There are many specimens of papilloma and adenoma of the stomach in collections; they have largely been secured at autopsy and seldom have clinical significance. Lipoma [3] and fibroma [4] have been recorded. Leiomyoma of the stomach is much rarer. We have recently had a case of myoma of the stomach the record of which follows:

ABSTRACT OF HISTORY.—*Male patient, nine years old. Complaint, vomiting and general abdominal pain. A tumor in the epigastrium. Gastro-enterostomy June, 1912. Gastrectomy February, 1913. Tumor at the pylorus and involving a third of the stomach, microscopically a leiomyoma. Patient made a good recovery. X-ray study of the stomach with a bismuth meal after the operation.*

C. P., male, nine years old, the second child of his mother, was first seen on May 31, 1912. His father and mother were healthy; they are third cousins. They have one other child who is perfectly healthy.

The patient had an attack of erysipelas at the age of one and one-half years; and at the age of six a small right inguinal hernia was noticed which subsequently disappeared.

Otherwise he had always been healthy until two years ago, when he began to vomit at frequent intervals for days at a time. The vomiting was accompanied by general abdominal pain. During an attack of vomiting he was confined to his bed; between attacks he was up and about, leading the ordinary active life of

a boy of his age. Hæmatemesis occurred once or twice at the end of an attack of excessive vomiting; he at no time vomited more than a half spoonful of blood. He did not lose much weight, but he was quite weakened. The bowels had been kept regular with cathartics.

Physical Examination.—On entering the hospital, May 31, 1912, he had a temperature of 97.4° and a pulse of 90. He was a pale, undersized boy. His hæmoglobin was 70. His heart and lungs showed no evidence of disease. His urine contained no albumin or sugar. A visible palpable tumor apparently the size of an orange presented in the upper portion of the abdomen above the umbilicus and in the midline. It was not tender.

June 1, 1912. Laparotomy was performed. The tumor was a smooth soft mass extending from the pylorus 8 cm. over the anterior and posterior walls and projecting into the lumen of the stomach. No enlarged lymphatics were felt. On account of the age and condition of the patient a two-stage operation was considered advisable. Gastro-enterostomy was done at this time and the patient's physician was told to return with him in from three to six months for excision of the mass.

The patient made an uneventful recovery from the first operation and seemed perfectly well for two months. He then had several attacks of vomiting at intervals of about a month which weakened him considerably, but at the time of his second entrance to the hospital on February 1, 1913, he appeared in fair physical condition. There was a small chain of palpable inguinal lymphatics on both sides not noticed in the previous history. On February 4, 1913, the abdomen was again opened. The tumor had apparently not increased in size. No glands were felt in the region of the lesser or greater curvature. Gastrectomy was performed; it was necessary to remove about one-third of the stomach in order to encompass the mass, which was excised. The patient again made an excellent recovery. He was discharged from the hospital two and a half weeks later in good condition. His temperature and pulse were normal. He was eating six small meals a day. Since then his progress has been very good. Two months after the operation he had gained twelve pounds in weight.

Macroscopic Appearance of the Tumor.—The tumor was 8 cm. in length by 6 cm. in thickness. It weighed 341 gms. It exactly occupied the site of the pylorus, extending for half its length along the greater

curvature and front and back walls of the stomach. Fig. 1 is a side view of it with the pylorus cut open, the surface of the gastric mucosa above. Fig. 2 shows the mass bisected and the cut surfaces of the two halves. The dark spot at the lower pole is a cyst with smooth walls which was filled with brownish fluid. The white surface above this was firm and dense. The gastric mucosa was everywhere intact and freely movable over the surface of the tumor. The serosa also was intact and movable so that the neoplasm occupied the middle coats of the stomach.

Microscopic Appearance.—Sections made through the firm white part of the tumor showed everywhere parallel bundles of smooth muscle fibres interlacing in all directions. In many parts there was some round-celled infiltration between the individual fibres. Although all relations here were lost it must have sprung from the muscular coat. With the Van Gieson stain it was seen that although there were many fibrous elements the muscle cells were in great preponderance (Figs. 3 and 4).

On February 21, 1913, he was given a bismuth meal and its progress watched with the X-ray. The bismuth entered the stomach very slowly and remained for some time above the cardia, trickling into the stomach slowly. After its entrance it settled in six to seven minutes in the lower pole of the stomach in a small mass and then began to leave the stomach by the gastro-enterostomy opening. Respiration facilitated the passage of the food into the intestine. The stomach was nearly completely empty in twenty minutes. Fig. 5 is a plate taken at the time the bismuth was beginning to leave the stomach after a second glass of butter-milk containing bismuth oxychlorid.

The literature upon myoma of the stomach is not large. The earliest collective report we have found is Steiner's,[5] who reported twenty-one cases of myoma and myofibroma of the stomach. Thompson[6] was able to collect forty-three cases which had only pathologic interest, and twenty cases of clinical interest. Of these, two (Moser's[7] and Capello's[8]) are reported as myosarcomata. Thompson then had eighteen clinical cases of leiomyomata or fibromyomata. To these he added one operated case.

Kosinski's[9] case is the earliest reported—a male aged fifty-seven who had a tumor in the abdomen with symptoms extending over three years. Three days after aspiration of fluid from the abdomen he collapsed and died. At autopsy a tumor weighing twelve pounds was found attached to the greater curvature.

FIG. 1.

Appearance of the tumor, with pylorus cut across; the mucosa is above.

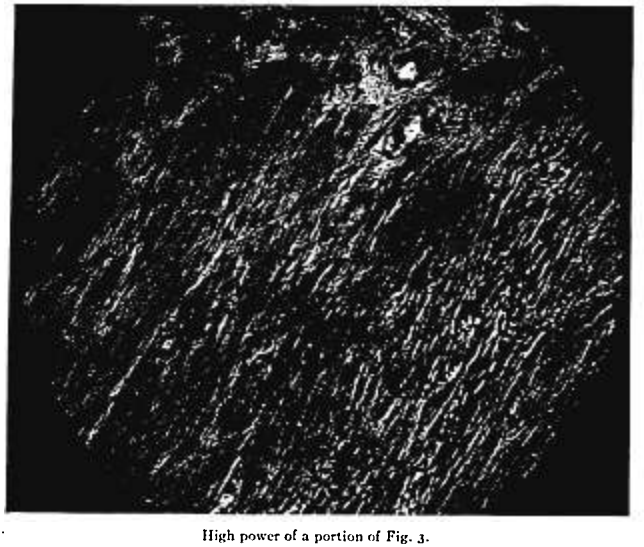
FIG. 2.

Section of the mass.

FIG. 3.

Microphotograph of a section made in the dense part of the tumor. (Low power.)

FIG. 4.



High power of a portion of Fig. 3.

FIG. 5.

Study of the stomach with bismuth meal.

Rupprecht[10] performed gastrectomy on a male aged fifty-two for a myoma weighing 251 grammes. Von Erlach[11] removed a stomach in a woman, thirty-four, with a leiomyoma weighing 5400 gms. The patient recovered.

Von Eiselberg[12] excised a fibromyoma of the stomach in a woman aged thirty who recovered. Nicoladoni[13] reported a fibromyoma in a man aged sixty.

Herhold[14] had a patient, female aged thirty-seven, who was operated on for persistent vomiting. She had a myoma at the pylorus the size of a hazel-nut. Bland-Sutton[15] reports a pure myoma found on the posterior wall of the stomach during an operation for gall-stones. Poirier[16] reports a cherry-sized myoma at the pylorus in a woman fifty-eight. Sainter[17] had a female patient forty-nine years of age who complained of nausea and emaciation. She had no palpable tumor but at operation a myoma was found at the pylorus: gastro-enterostomy resulted in recovery. Delore's[18] patient had a palpable tumor, a leiomyoma; he died two years after a gastro-enterostomy. Gouillioud's[19] patient was a male aged forty-four who had a tumor in the right hypochondrium. It proved to be at the pylorus. Pylorectomy and gastro-enterostomy were done. The patient was well six months later. Histologically the tumor was a leiomyoma. Ochsner's case reported by Yates[20] was a male aged seventy-three who was operated on for distress in the epigastrium. There was no palpable tumor. A tumor the size of a walnut was removed from the posterior stomach wall. It proved to be a myoma. Cholecystectomy was also done. The patient was well one year later.

Goebel's[21] case was a woman sixty-nine years old who suffered from an abdominal tumor and emaciation; a leiomyoma of the anterior wall of the stomach was removed. The patient died.

Thompson's[6] case was a woman aged forty-two. Four years after operation she vomited blood and passed tarry stools. She fainted many times during the four years and always passed tarry stools for days after a fainting spell. Later she suffered from pain in the epigastrium and emaciation. There was no palpable tumor. Operation revealed a large tumor growing from the posterior wall of the stomach. Partial gastrectomy and gastro-enterostomy were done. The patient was well six months later and had gained thirty-five pounds.

Hake[22] added three cases found in autopsy material; all small annular myomata at the cardia. Ferguson[23] catalogues a myoma of unusual size at the cardia. Shuyeninoff[24] reports two cases of malignant leiomyoma of the stomach. Battey[25] reports one case in a woman sixty-five years old; a diagnostic puzzle which proved at autopsy to be a suppurative leiomyoma of the cardia. Foulerton[26] describes a specimen removed by Bland-Sutton[15] evidently the same as described by him in a separate article. Spencer[27] reports a case in a woman aged forty-six who had a large submucous tumor which proved to be a fibromyoma. He mentions in his paper another case operated upon by another surgeon:

the tumor was the size and shape of a small sausage and sprung from the greater curvature; at operation it was supposed to be an intussusception and removed with a part of the stomach; the surgeon discovered his mistake and reopened the abdomen but the patient died.

Peugniez and Jullien[28] report two cases: one in a woman aged thirty-seven who for five years had attacks resembling acute appendicitis; at operation a small hard myoma was found at the pylorus, which was excised with recovery. The other was of a woman aged fifty-seven who had had symptoms of pyloric obstruction at the age of twenty-two and at the time of presenting herself for operation had vomiting, epigastric rigidity and retention of food. A diagnosis of gastric cancer was made and a laparotomy revealed a hard tumor encircling the pylorus; a pylorectomy was done and resulted in a recovery.

Mouriquand and Gardere[29] had a patient aged sixty-seven who entered the hospital for œdema and cardiac irregularity and died in a uræmic convulsion; at autopsy a large myoma was found on the posterior wall of the stomach.

Lowit[30] operated upon a woman forty-eight years old who suffered with diffuse abdominal pain. An elastic tumor presenting in the hypogastrium had been noticed for a year gradually growing until at the time of examination it was the size of a man's head. On opening the abdomen a cystic tumor containing 1.5 litres of fluid was found attached to the greater curvature near the pylorus. Microscopically it was a lymphangiectatic myoma. The patient left the hospital in two weeks.

Bullock[32] reports two cases in females aged sixty-three and fifty-six.

Anitschaff[33] reports three museum specimens all located at the junction of the stomach and œsophagus.

Farr and Glenn[34] report a case in a woman aged forty-nine who had profuse hæmatemesis and died shortly after. At autopsy a myoma was found in the fundus of the stomach. Farr and Glenn collect 84 cases but they include many cases of adenomyoma and myomata in association with carcinoma; all the reports of this sort that we have investigated have been of doubtful value.

There are then seventy-nine cases now on record including the one here reported. Of these twenty-eight have come to operation, or have been of clinical interest. The condition is usually considered to be carcinoma before operation and sarcoma at operation, until the microscopic examination is made. Sherren,[31] in collecting eighteen cases of polypoid tumor arising from the greater curvature of the stomach, states that often they are myoma malignum, and present as cystic tumors in the midline. These cases are similar to the cases of Kasinski, Lowit, Battey and Spencer.

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