## GASTRIC POLYPOSIS.[1]

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Gastric polyposis is a sufficiently rare disease to be of considerable interest. During the past year 2 cases of this affection and an unusual specimen have come under our observation which we wish to report briefly.

Case I.—G.C.D., male, aged fifty-five years, admitted to the Union Protestant Infirmary November 1, 1915, complaining of weakness, anemia, and loss of flesh. Three months before admission the patient was suddenly taken with a severe chill followed by fever. A blood examination revealed malarial parasites, for which quinin was administered. The patient had lost twelve pounds in weight during the last three months. He had no pain, no digestive disturbance, but occasionally felt some discomfort in the lower abdomen. The bowels were regular but the stools were continuously tar-colored.

Physical examination revealed a well-developed, well-nourished man. The skin and mucous membranes are decidedly pale. There is no jaundice. The lungs and heart are normal. The abdomen is soft; there is no tenderness anywhere; no rigidity; no masses; no free fluid in the abdomen. The edge of the liver is palpable; there are no enlarged glands. The contents of the stomach obtained after a test meal contained considerable mucus, and there was an entire absence of free HCl, with a total acidity of 4, and an absence of lactic acid. A retention meal failed to reveal any evidence of the rice taken the evening before. The stools are dark in color and contain large quantities of occult blood. The blood examination reveals a marked secondary anemia, presenting 2,200,000 red cells; the hemoglobin varies between 37 and 55 per cent.

The roentgen-ray examination with a bismuth meal presents a cow-horn stomach of normal size with a very large, persistent filling defect at the junction of the greater curvature and pylorus; there is no obstruction.

On account of the constant bleeding, which was at all times revealed in the stools, the absence of free HCl in the gastric contents, together with a very large and constant filling defect as revealed by the roentgen-ray, the diagnosis of carcinoma of the stomach was

[1] Presented at the meeting of the Association of American Physicians, Atlantic City, May 2, 1917.

made, notwithstanding the fact that the patient had lost but little flesh and had no pain or gastric disturbance.

Operation was advised and was performed November 18, 1915. Upon opening the abdomen a soft tumor, the size of a hen's egg, was palpated on the greater curvature of the stomach near the pylorus. An incision was made on the anterior wall of the stomach and a papillomatous mass with a broad base was observed springing from the posterior wall near the greater curvature. The surface was rough, ulcerated, and hemorrhagic, with numerous papillæ; it was about 7 cm. long, 4 cm. wide, and 5 cm. high. No other tumors were observed in the stomach. The tumor was excised with the electric cautery by making an oval incision around the base, including a good margin of normal tissue.

The patient made a rather uneventful recovery from the operation, but the stools continued to present occult blood. The hemoglobin was constantly low.

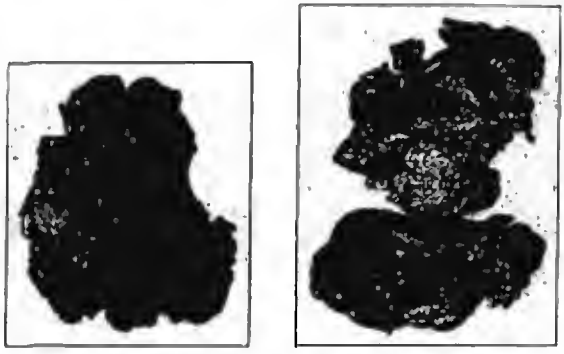

FIG. 1.—Case I.

The pathological report of the growth indicated that it was an adenopapilloma. Cancerous changes were revealed in the base of the growth.

Inasmuch as the patient's general condition did not improve and his anemia continued to increase, as well as on account of the constant appearance of blood in the stools even after numerous transfusions, further exploration was decided upon.

The operation was performed April 6, 1916. The stomach was found in good condition. The duodenum was found adherent to a mass posteriorly, which had apparently eroded into the duodenum. The mass was about the size of a hen's egg and densely

adherent to the abdominal aorta and vena cava. Numerous palpable glands were felt throughout this region. The mass was definitely malignant and its removal impossible. The patient recovered from the operation, but the anemia became more progressive and the stools continued to reveal blood.

Notwithstanding numerous treatments with radium the patient continued to loose flesh and strength, and died of exhaustion October 2, 1916.

Case II.—G. T. T., aged fifty years, was admitted to the Union Protestant Infirmary March 23, 1916, with a history of indigestion, with which he was first affected nine months ago. There was present pain, fulness, nausea, and vomiting. He had lost twenty-five pounds in weight. There was no history of hematemesis or melena.

On examination the patient is found poorly developed and undernourished. The liver is somewhat enlarged. In the epigastrium there is a sausage-shaped mass moving with the respiration and not tender to pressure. A radiographic examination reveals a large filling defect of a crater-like appearance at the pylorus, indicating an annular carcinoma of the pyloric ring; there is also marked retention (twelve hours). The gastric contents is brownish in character, containing mucus and blood presenting an absence of free HCl, but with a marked lactic acid reaction. The retention meal is positive; the stools contain blood.

A diagnosis of pyloric carcinoma with stenosis was made and operation advised. This was performed by Dr. Chaffee, resident surgeon of the Union Protestant Infirmary, March 26, 1916. On opening the abdomen a large mass presented itself at the pylorus. The tissue was hard and did not give the impression of being carcinomatous, but one enlarged gland was observed. A resection of the stomach containing the mass was made and a posterior gastroenterostomy performed. The patient made a satisfactory recovery.

On incising the resected mass a papilloma revealed itself just within the pylorus, projecting into the lumen so as to nearly occlude the orifice. The base of the growth is hard, indurated, and 3 cm. in diameter; that portion of the papilloma projecting into the pylorus is much softer and is 3 cm. in length. The sections made from the polyp present the typical appearances of malignancy. The carcinoma is of the medullary type in the papilloma and the scirrhus type in the stomach wall.

Of interest in this connection is a specimen found in the museum of the College of Physicians and Surgeons of Baltimore, presenting a typical example of multiple papilloma involving almost the entire stomach. It is interesting to note that that portion involving the pylorus has undergone a malignant degeneration.

A most exhaustive study of gastric adenopapillomata was published by Epstein in 1864, in which he collected 14 cases in 600

autopsies; he also collected 8 other cases from literature. Of these 22 cases 12 are solitary and the other 10 consisted of 9 small and 1 large polyp.

As regards etiology, most authorities point to a chronic gastritis as an underlying factor in the production of gastric adenopapillomata. The disease is more apt to occur in males than females, and in most instances after the fortieth year of life.

FIG. 2.—Case II.

There are great variations as to the number of polypi that may be present, varying in individual cases from 100 to 200. They may also vary as to size from that of a pea to a hazel-nut, and may be as much as 2 or 3 cm. in length. They usually present a reddish or grayish aspect and are rather soft in consistency.

They are frequently pedunculated or attached by broad bases, or often club-shaped or cylindrical and frequently pigmented, the color depending upon the degree of vascularity. These growths may take their origin from any part of the gastric mucous membrane, the membrane covering them being smooth or villous.

The usual location of the growths is at the pylorus, although any portion of the stomach may be involved.

According to Menetrier there are two distinct types of gastric polyps depending upon whether the hypertrophy and hyperplasia involve the excretory or the deeper portions of the tubular glands. In the first type lobulation is more apparent and cystic forms are more common, the orifices of the excretory ducts being obliterated by the growth of the interglandular connective tissue. In the second type, those in which the deeper portions of the glands are

FIG. 3.—Case II. Specimen in museum of College of Physicians and Surgeons, Baltimore.

involved, the polyps are uniform and tubulation is less pronounced. Between the two forms of polyadenomata there are a number of intermediate types; these mixed types are most common.

The mucous membrane not involved in the disease may present the appearance of a chronic gastritis. It may be congested, presenting hemorrhagic erosions with pigmentation. The polyadenoma "en nappe" of Menetrier is much less common. In this variety the hypertrophy and hyperplasia involve the entire mucous membrane in a certain area, thus developing into large plaques, and not as simple polypoid vegetations.

Microscopically polyps consist, according to Meyer, of hypertrophied mucous membrane muscularis mucosa and a connective-tissue core containing fairly large bloodvessels. The polyp presents on section three lobules, each of which contains a part of the core, here consisting of connective tissue and muscularis mucosa. The hypertrophied mucous membrane contains enlarged glands with dilated lumens. The glands are surrounded with columnar cells with basal nuclei; a large number of goblet cells are present, secreting mucus into the lumen of the gland. The interstitial tissue between the glands contains lymphoid cells, plasma cells, eosinophiles, and polynuclear leukocytes.

Inasmuch as polypi of the stomach are usually benign in character they may be present for a long period of time without producing symptoms. In fact, this affection is most frequently so obscure that a correct diagnosis is only revealed at operation or at autopsy. In some instances the symptoms are extremely severe; there may be present intense anorexia, edema, and ascites, producing a symptom-complex much like that of cirrhosis of the liver. Occasionally a diagnosis is made possible by the finding of a fragment of a polyp in the wash-water during lavage, such as was observed in Meyer's case, and at times by the presence of a large polyp in the stools. In the extensive forms of gastric polyadenoma, roentgen-ray examination is often very conclusive. There is, according to Meyer, a "mottled appearance of the entire right half of the stomach as if the bismuth were trickling through and around numerous masses together with the irregular and indefinite outline of the stomach." The condition may be mistaken for an achylia gastrica, inasmuch as polyps of the stomach are usually associated with absence of gastric secretion; the great excess of mucus, however, together with the unusual character of the mucus, of the peculiar egg-white appearance, distinguish this condition from an achylia gastrica. A most important and constant finding, too, is the presence of fresh blood appearing constantly in the gastric contents, especially, as Meyer points out, when observed in cases of achylia gastrica with normal or increased gastric motility, inasmuch as in those cases of hemorrhage due to ulcer there is usually hyperacidity with diminished motility.

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## ETIOLOGY AND TREATMENT OF HEMORRHAGIC DISEASES.

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The group of hemorrhagic diseases is a heterogeneous one comprising a number of conditions of very diverse pathogenesis. For practical purposes it has been the custom of clinicians to include in this group not only those diseases, such as hemophilia and the purpuras, in which a tendency to uncontrollable hemorrhage is the essential clinical manifestation of the disease, but also many dissimilar conditions in which a hemorrhagic tendency may be observed at some stage in the course of the disease. To this secondary group belong aplastic anemias, the leukemias, hepatic disease, and some of the infections and intoxications.