

GASTRO-GASTROSTOMY FOR HOUR-GLASS STOMACH.*

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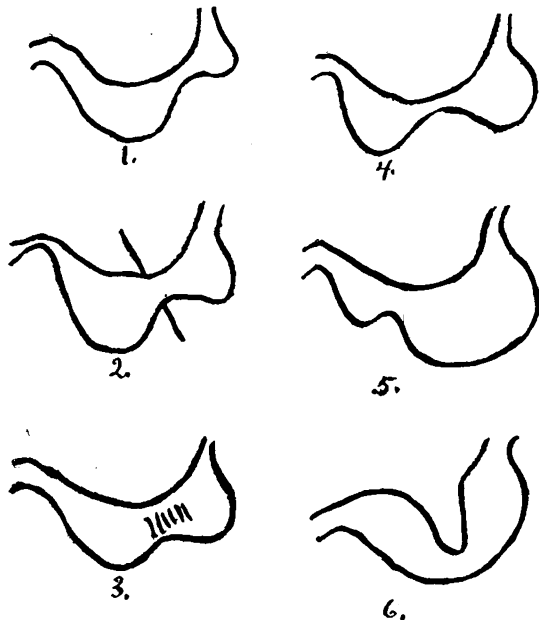
THE condition known as hour-glass stomach is one where there is a constriction between the cardiac and pyloric orifices. It may be either congenital or acquired. The former is said to be extremely rare, while the latter is much more common than we believe.

Etiology.

An acquired hour-glass stomach may be due to four causes. First, contraction of a chronic ulcer situated in the body of the stomach. Second, adhesions as a result of a perforating ulcer which holds the stomach fast, either to the anterior abdominal wall or to the pancreas in behind. Third, to carcinomatous degeneration. Fourth, to perigastric adhesions which compress the stomach at or near its center.

Emil Beckman, in an article written in the *Lancet-Clinic* in 1916, stated that many of the contracted hour-glass stomachs were due to partially healed lesions of syphilitic nature. These patients gave an indefinite gastric history covering a long period of years, and the diagnosis is made largely from the x-ray findings. At this stage the patient can be relieved only by surgical measures.

The types of hour-glass stomachs are many, depending entirely upon where the obstruction is situated. According to Moynihan, there are six distinct types, as shown in the accompanying illustrations:



- (1) Obstruction near cardiac end; (2) cardiac pouch concealed by adhesions; (3) growth in body of stomach; (4) two pouches connected by a narrow tube; (5) cardiac pouch largely dilated; (6) lesser curvature pulled down toward the greater.

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It sometimes happens that there is an obstruction at the pylorus as well as in the body of the stomach, and food after passing through the cardiac into the pyloric pouch again meets with an obstruction and thus finds great difficulty in passing into the duodenum through the narrow opening. The pyloric pouch becomes greatly dilated and hypertrophied, and thus you will readily see that any operation in the form of a gastroenterostomy between it and the jejunum will bring an unfavorable result, for the reason that the obstruction which is situated between the cardiac and pyloric portions, is unrelieved.

Then again, the operation of gastroenterostomy, whereby an opening is made in the cardiac pouch and another in the pyloric pouch, and these two openings sutured together to relieve the hour-glass constriction will fail absolutely in giving relief to a patient who has had a constriction at the pylorus.

Symptoms.

These patients always give a history of chronic ulcer of long duration, varying from many months to several years. They complain of pain in the region of the stomach immediately after taking food, and with it there is nausea and vomiting. The inability of the stomach to empty itself interferes greatly with the nutrition of the patient and causes marked nervous symptoms as well as gastric, and the patients become anemic, lose flesh and strength and are more or less chronic invalids. Unless surgical interference is resorted to these symptoms grow gradually worse and those patients are very apt to die. Either from exhaustion due to the lack of nutrition, or to some intercurrent disease that may set in.

Diagnosis.

This has been greatly simplified by means of the x-ray and bismuth meals taken in conjunction with the importance of the clinical symptoms.

Operation.

Whatever operation is performed for hour-glass stomach, one should always bear in mind that in most cases there is always a history of chronic ulcer. Charles H. Mayo, in an article written in the *Annals of Surgery* of August, 1919, stated that well over 40% of the cases of chronic ulcer, where the duration varied from many months to several years, produced carcinomatous condition. That means that practically every other case of chronic ulcer sooner or later terminates in cancer. The ideal operation is whereby the lesion in the stomach is entirely removed, at the same time leaving the alimentary canal a one-way passage. But unfortunately every case is different and each operation that is performed is done for that particular case.

Surgical Treatment.

First of all, a very careful study of the clinical and laboratory findings of the case. After this evidence has been carefully considered, the next step in the operation after opening the abdomen is to establish the diagnosis by direct examination of the stomach, intestines, gall-bladder and appendix. Then and there the operation for that particular patient is resorted to, for each case is different, and what applies to one case is unsuitable for another.

Different Operations.

First—Digital dilatation. This is one of the earliest operations, and has now been practically abandoned for the reason that a single stretch of scar tissue is almost certain to be followed by a return of the condition, and then in an exaggerated form.

Second—Gastroenterostomy. This operation is suitable in cases where the ulcer is near the pyloric end of the stomach. The operation has to be performed on the cardiac side of the hour-glass constriction, and whether an anterior or posterior operation is performed, will depend greatly upon the condition of the posterior wall of the stomach, that is to say, whether it is markedly adherent or not.

Third—Double gastroenterostomy. This operation was first suggested by Weir and Foot. A loop of the jejunum is taken and a junction made between it and the cardiac end as close to the duodeno jejunal flexure as possible, and a second anastomosis made further along the loop with the pyloric pouch. There are certain drawbacks to this operation. It may be very different to draw the cardiac pouch of the stomach and double anastomosis may have to be performed on the anterior surface of the stomach.

Fourth—Gastroplasty. In this operation a horizontal incision is made in the stenosed portion of the stomach and the opening sutured in a vertical direction. The operation advised by Kammerer is an inverted V-shaped incision through the constricted portion, and resutured so that a large opening is left between the cardiac and pyloric portions.

Fifth—Gastrogastrostomy. This operation was first advocated by Wolfier and can be performed with or without the use of clamps, and the openings are made in the normal portions of the cardiac and pyloric pouches and are sutured together by four layers of catgut sutures. This operation is performed where the constriction is single and is situated near or about the midportion of the stomach and where the ulcer is of such size that excision is impossible, and also where operations of greater magnitude would be disastrous on account of the extremely poor condition of these patients.

Sixth—Partial Gastrectomy. In performing this operation the pyloric stenosis, the

whole of the pyloric pouch and the hour-glass constriction are excised in one piece, and thus the whole of the diseased area will be removed. This step is then followed by the Polya method of lateral implantation of the end of the cardiac pouch into jejunum. This operation is always performed when it is possible, in cases of cancer.

Seventh—Operation advised by Walton, whereby the ulcer is excised. The pylorus is occluded and then a posterior gastroenterostomy is performed. The details of this operation were published by Walton in *Surg. Gyn. & Obstetrics*, in September, 1919, and are as follows: In every case of an ulcer remote from the pylorus, whether situated on the posterior surface or the lesser curvature, which from its size is capable of excision, a clamp is placed obliquely across the stomach proximal to the ulcer and a second clamp distal to the ulcer. The posterior blade of each clamp is passed in turn through the gastric colic omentum beneath the stomach and out through the gastro-hepatic omentum. The ulcer, if adherent, is then freed from the pancreas, no notice being taken of the fact that in many cases a perforation into the stomach is thereby caused. A V-shaped portion of the stomach containing the ulcer is now excised between the clamps.

The diseased area has now been excised and the opening in the stomach is closed in the following manner: The posterior edges are first united by two rows of continuous catgut sutures. The first row commences at the apex of the V, and passing through the muscular and peritoneal coats, terminates at the lesser curvature. The second row begins and ends at the same two points, but transfixes all three coats. The two anterior are now united in a similar manner, the through and through layers being, in this case, inserted first. The incision must be so planned that the sides of the V are as long as the diameter of the stomach. The pylorus is occluded by a through and through mattress suture of silk, which is sufficient. A posterior gastroenterostomy is then performed in the usual manner. He reports nine successful cases.

The objections to this operation are: first, it can be performed only in cases where the ulcerated area is of such size that it can be excised; second, the mattress suture of silk placed in the pyloric opening with the idea of occluding the same, temporarily, is dangerous, for it leaves a chance for the silk to act as an irritant and produce an ulcer.

REPORT OF TWO CASES.*

CASE 1. Jessie M., aged 39 years, entered Memorial Hospital July 10, 1919. Her chief complaints were pain in epigastrium, with vomiting. She had had from childhood occa-

* In both these cases a Wassermann was negative.

sional attacks of indigestion, due at the time, she thought, to indiscretion in eating.

Previous History.—On January 2, 1918, she was operated upon in one of the neighboring hospitals for retroflexed uterus and appendicitis. Further examination at that time revealed a gastric tumor, and the pyloric end of the stomach appeared to be very hard and gristly. A few weeks later a second operation was performed. The surgical findings at that time are as follows: Perforated ulcer of the stomach with probable malignancy of lesser curvature. The lesion was at the junction of the proximal and the middle third of the lesser curvature of the stomach. There is a definite hour-glass construction here and the lumen of the stomach is reduced to at least one-half its normal size. A large area surrounding the ulcer was indurated and a number of glands were felt in the lesser omentum. A cleave resection of the stomach was performed and as much as possible of the lesser omentum containing the glands removed.

Pathological Report.—A portion of the gastric wall with thickened mucosa submucosa. Ulcer about 2 cm. in diameter.

Microscopic Findings.—Old, indurated chronically inflamed submucosa. Lymphadenitis of a chronic nature. No signs of malignancy.

After this operation she was free from symptoms for about four weeks, then the pain and vomiting recurred. This continued until June, 1918. She became pregnant and her symptoms diminished in severity until two months after the baby was born, when they recurred. This was in March, 1919. On July 17, 1919, x-ray examination showed a marked hour-glass stomach and a gastrogastrostomy operation was performed by Dr. Homer Gage. The stomach was found adherent along the lesser curvature to the abdominal wall and to the liver. The pylorus was drawn to the left. Some induration at the site of the old operation. No glands felt. Hour-glass contraction at the junction of the upper and middle thirds, with the apex in the ulcer scar.

A gastrogastrostomy was performed between the proximal and distal portions of the stomach anteriorly. A large opening was made. The convalescence was uneventful, gradual improvement taking place. Since that time, which is seventeen months ago, the patient's condition has markedly improved. No recurrence of her gastric symptoms. Her general condition is very good and she has gained thirty pounds in weight.

CASE 2. Louise C., aged 39 years. Entered Memorial Hospital November 18, 1919. Chief Complaints—Pain in region of stomach, with vomiting of food. Feels very hungry, especially at night.

Previous History.—Has had stomach trouble for many years. Four years ago was in a hospital where she was treated for ulcer.

Examination reveals a frail, delicate woman, whose general nutrition has been greatly impoverished. X-ray examination shows an hour-glass stomach. Examination of stomach contents shows total acidity 50%; Hcl. acid 10%.

On December 13, an exploratory laparotomy was performed and a marked area of induration was noted along the lesser curvature of the stomach which was adherent. This extended nearly to the cardiac orifice, and the stomach was contracted near its middle portion. There was a distinct band of adhesions from the lesser to the greater curvature of the stomach across the anterior portion. The adhesions were freed, but on account of the patient's general condition, which was extremely poor, nothing further was attempted.

She was discharged from the hospital on January 3, 1920, only to return with a recurrence of her symptoms on April 27. On May 7, a second operation was performed, namely, gastrogastrostomy, uniting the cardiac and pyloric portions of the stomach in the usual manner. The patient stood the operation very well and was discharged from the hospital on May 24, much improved. Since that time she has steadily improved in health and strength and has gained twenty-five pounds in weight, and has had no recurrence of her gastric symptoms.

CONCLUSIONS.

Although I realize that two cases are not sufficient proof to base any accurate judgment for the operation for gastrogastrostomy for hour-glass stomachs, and that only a short time has elapsed since the operation, nevertheless, the comfort and relief given these two people have been so pronounced that I thought them worthy of your consideration.

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NASAL HEMORRHAGE.

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WHEN we look over the blood supply of the nasal septum, we mustn't overlook the fact that the blood vessels that come into its formation anastomose with each other. The anterior and posterior ethmoidals, posterior septal, and naso palatine, are practically parallel to each other and send off branches from one to another.

When there is a rupture of any vessel along the septum which is usually the cause of the