

Original Articles.

A SUCCESSFUL GASTRECTOMY FOR CANCER OF THE STOMACH.

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THE following case seems of interest in connection with the subject of gastric surgery. With the cases of Schlatter and Brigham, it shows that nutrition can be carried on without a stomach. It helps to prove, moreover, that no case of gastric cancer is too extensive for successful removal so long as the tumor is limited to the stomach itself.

It is doubtless true that cancer in the stomach, like cancer elsewhere, varies in malignancy, and that some of the operations that are apparently unfavorable are followed by a longer immunity than others that seem encouraging. In cancer of the uterus, for instance, I recall two cases in which the operation seemed hopeless, and was in fact so pronounced by others; yet in both a vaginal hysterectomy has given perfect general and local health, now lasting three years. The fact is that cancer itself is little understood, — the possibilities of cure even less. The last thing to be done is to leave the patient to certain death, and that should be done only when the disease is so situated that some of it must be left. In the surgery of cancer of the stomach — and for that matter in the surgery of cancer of all organs — no attempt should be made at permanent cure unless the tumor can be removed by a margin of sound tissue. In securing a suitably broad margin the dissection may and should invade any structures not essential to life. If practically the whole stomach can be successfully removed in those cases in which the tumor invades the greater part of it, what may we not expect after extensive dissections of recent and limited disease?

Schlatter's successful extirpation of the stomach excited an interest justly extraordinary. Brigham's brilliant case — the second successful one — was less remarkable only in that it was not the first. But for the success which attended these two operations, I should never have undertaken in the following case so formidable a procedure as gastrectomy. In reporting this case I would therefore make full acknowledgment of my indebtedness to Schlatter and to Brigham. Not that a total extirpation of the stomach is so very much more difficult than a partial excision, — I had frequently demonstrated upon the cadaver the feasibility of an esophago-duodenostomy. It was our ignorance as to the immediate and the remote effects of a complete removal of the stomach, rather than the anatomical and surgical difficulties that made the operation formidable. To have faced successfully this uncertainty, to have solved the question of possible health after gastrectomy, is an achievement by Schlatter which cannot be shared by any one else.

It is important that every operation by which the whole stomach or the greater part of it is removed should be carefully recorded, in order that the dangers, the fatalities, and especially the ultimate results, good or bad, may be known.

Gastrectomy, like pylorotomy, enterectomy, and other operations of the first magnitude, should not be lightly undertaken by any one, — it should not be undertaken at all by the inexperienced.

The indications for gastrectomy are limited. Only those cases are suitable in which the disease can be removed by a broad margin. Such a limitation makes the cases in which gastrectomy can be performed extremely rare; for few gastric carcinomata so extensive as to require total extirpation are unattended by hopeless local infiltrations, or liver or other remote metastases. In fact, as I have remarked elsewhere (*Boston Medical and Surgical Journal*, August 4, 1898), when a tumor is perceptible in suspected gastric cancer, the case is usually hopeless. The indications for gastrectomy are, in a word, an extensive malignant tumor limited to the stomach in a patient of suitable general strength; the contra-indications, a local infiltration, a remote metastasis, or a patient of unsuitable general condition. Uncertainty still exists as to the ultimate results, — an uncertainty which may yet limit still more narrowly the already narrow confines of operative indications. How long will the intestine carry on its vicarious functions of stomach digestion? Will the patient continue to improve, or shall we look forward to a progressive marasmus?

Mrs. —, age fifty-three, a patient of Dr. W. P. Defriez, of Brookline, consulted me on May 20, 1898. She had always been well till the present trouble, except that ten years ago she was ordered West for lung trouble, from which she made a perfect recovery. During the past year she has been losing appetite and strength, and has been troubled much by indigestion. There has been neither pain nor vomiting; the only thing that she noticed was weakness and discomfort.

She has had six children. She passed the menopause about a year ago. Her former weight was 163; her present weight is 128. The only thing that she noticed was that her "food did not digest." It seemed a sort of knotting up of the bowels." She has had to be very careful about her diet. She could eat steak, mutton, asparagus, cracked wheat, etc. She would take very little food of any kind, her appetite not being good. The bowels have been irregular for the last year. She has sometimes gone five or six days without a movement. Dr. Defriez discovered a tumor in the abdomen just above the umbilicus, in the middle of April, 1898.

The father is living at eighty-three. The mother died at sixty-three. One sister died of consumption; one sister is living and well; two brothers are living and well; one brother died of brain trouble; one brother went West for his lungs.

On questioning, I found that there had been no vomiting of blood; in fact, there had been no vomiting of any kind. There had been no blood in the stools. Continued loss of weight and strength, with indigestion and discomfort, were the chief symptoms.

The general appearance was good: there was no cachexia. In the abdomen about the region of the umbilicus, a smooth, somewhat flattened, hard, tympanitic tumor could be felt, about which, and apparently through which, there was much gurgling. The tumor was about the size of the fist, movable to a certain extent in all directions, but restricted by deep attachments. The outer border of the tumor was irregular and nodulated. The mass suggested an enlarged right kidney, but it could not be depressed into the right renal region. The possibility of a gall-bladder tumor was considered, but from the history and

the situation of the tumor was rejected. Cancer of the stomach was thought possible, but improbable. The diagnosis of malignant tumor of the transverse colon seemed most likely to be correct, because of the situation, mobility, resonance of the mass, and especially because of the gurgling and squeaking of gas through it — symptoms which I had come to regard as indicative of malignant stricture of the intestine. The diagnosis was that of malignant tumor of the transverse colon or of the omentum, encroaching upon the calibre of the intestine. Though the prognosis seemed grave, an exploration was advised.

The patient was sent to the Eliot Hospital, 38 Commonwealth Avenue, where the operation was performed on May 31, 1898. There were present at the operation the attending physician, Dr. Defriez, and Drs. Brewster and Jones and Miss Durling, who assisted. The ether was given by Miss West. Several nurses of the hospital were present.

Under ether a hard, movable tumor could be felt at and above the umbilicus. Though deeply attached, it could be moved about in the pyloric region. It was perfectly evident that this tumor was connected with the stomach. A median incision showed the mass to be, in fact, a tumor of the stomach involving the greater part of its walls, — practically the whole organ except a small portion next the esophagus. The liver was normal. No nodules outside the stomach were found, even after prolonged and careful examination. There was no ascites. The mobility of the tumor was such that it could be drawn far out of the wound; its duodenal and its esophageal attachments could be clearly seen and examined. Between the esophagus and the tumor there was a circular margin of healthy stomach about one inch wide. Towards the duodenum the disease had extended as far as the pylorus. The stomach, as a whole, was contracted to half its usual size. By traction on the tumor outwards and to the left, the unaffected extremities of it could be brought near enough together to warrant the belief that they could be successfully sutured after the removal of the intervening stomach. This belief was only partially justified by the event, for it was with some difficulty that the cut ends were brought into apposition, and then only after freeing the duodenum. I should have given up further procedure in this case but for the brilliant success of Schlatter and Brigham, for it was clear that to do any good the entire stomach must be sacrificed. Moreover, if a gastrectomy was ever justifiable it was in this case, for the disease was limited to the stomach, the duodenum could be brought to the esophagus, and the patient was in excellent condition. I believed that cancer should be removed, even by the most formidable and dangerous procedure, provided that it could be removed by a sufficiently broad margin.

Extirpation of the tumor was immediately begun. The first step was separation of the omentum and exposure of the posterior gastric wall. The omentum was tied with silk in one-inch sections. About five inches of the transverse mesocolon were unintentionally included in the sections. This gap was later closed by suturing the V-shaped edges together. I was a little anxious about the vitality of the segment supplied by the ligated mesocolon, but it kept a good color throughout the operation, and the success of the operation was not jeopardized. The suturing along the greater curvature was continued until healthy tissue

was reached, — an inch or more beyond the upper limits of the disease. As fast as the ligatures were tied the stomach attachments were cut. Abundant masses of gauze were then placed above, below, and behind the pylorus, duodenum, and main body of the stomach. The escape of gastric contents was prevented by tying the pylorus with a narrow piece of gauze. The duodenum was divided transversely by means of scissors. The slight escape of gastric and duodenal contents at the plane of excision was caught in the gauze, which was then removed and replaced by fresh. The bleeding points of the cut surface were caught with hemostatics. The attachments of the lesser curvature were next transfixed, tied in small sections, and divided. At this stage the stomach was free everywhere except at the cardia. It could be drawn downward and outward until the esophageal attachment was plainly visible. It was surprising to see how easily, by traction of the freed stomach, the upper extremity could be examined and manipulated. The stomach was removed by an incision at the cardia, well above the upper limits of the disease. A bell-shaped upper opening was left, somewhat too large to fit the opening in the duodenum. This bell-shaped opening was therefore lessened by a few interrupted silk sutures. Approximation of duodenum to esophagus proved much more difficult than was anticipated, because the duodenum was held back by its blood-vessels and other attachments. Traction on the duodenum developed tense retro-duodenal bands, which evidently were preventing the desired elongation. By tying and cutting these restraining attachments, an inch or more was gained, — enough to permit approximation without dangerous tension. The joint was made by interrupted Lembert sutures of silk. Enough gauze was placed about the line of suture to provide against the escape of gastric contents. The loss of blood was inconsiderable, the shock slight, the time of operation one hour.

AFTER-TREATMENT — (BY DR. G. W. W. BREWSTER).

The operation was attended by little if any shock. On being put to bed the patient was given a hypodermic injection of one-thirtieth of a grain of strychnia, one-eighth of morphia, and one one-hundredth of atropia, and an enema of a pint of salt solution with two ounces of brandy and three ounces of coffee. Two hours later, with the pulse at 68, she was given another enema of a pint of salt solution and an ounce of brandy. In the evening, five hours after the operation she was well out of ether, the pulse was 64; she was somewhat restless. There was no vomiting, but considerable belching of gas from the mouth, preceded by a good deal of pain in the epigastrium. At five o'clock she was given another eighth of morphia. At that time the pulse was 72; the temperature 97.8°. During the night nutritive enemata were given every four hours — four ounces of peptonized milk, the white of an egg, half an ounce of brandy, and five drops of laudanum. During the night she was fairly comfortable; there was slight restlessness. She passed voluntarily eight ounces of urine during the evening. Gas was belched at times during the night, and caused the same distress as in the afternoon. The dressing was stained with serum, and had to be reinforced. Morphia was given, one-eighth grain, subcutaneously, at 3 A. M. She had slept in all during the night from three to four hours, in short naps.

June 1st. Pulse 86; temperature 100.6°. She was thirsty this morning and was given a pint of salt solution by rectum. The nutritive enemata were continued during the day. As she complained of the taste of the brandy in her mouth after enemata, the amount was reduced to two drachms. During the day she slept in short naps, in all about two hours during the morning. The pain in the epigastrium continued in paroxysms which were relieved after the belching of gas. In the afternoon the pulse was 94; temperature 100.3°. Her greatest discomfort was from thirst and dryness of the mouth which were relieved by constant moistening. During the evening an enema was given of saturated solution of salts, two ounces, and glycerine, one ounce. This was followed by the passage of a large amount of gas, with great relief. During the night one-eighth grain of morphia was given subcutaneously, the nutritive enemata being continued every four hours. She was very thirsty all night, and had the same dryness of the mouth. This was somewhat helped by the constant moistening of the lips and mouth. She slept about five hours in short naps during the night. The amount of urine passed in twenty-four hours was thirty-two ounces.

June 2d. Pulse 88; temperature 100.2°. This morning the patient coughed up a good deal of thick, brown mucus, which relieved her very much. There is a constant desire to cough, but the cough is simply a dry hack. This morning she was given two teaspoonfuls of cold water to swallow, which was repeated again in an hour. The nutritive enemata were continued to-day. She was slightly nauseated during the morning. In the evening, pulse 84; temperature 101.8°. The patient is still troubled with gas, although she passed large amounts by rectum. Quite restless and thirsty during the night, but slept in short naps from four to five hours. The amount of urine, thirty ounces in the last twenty-four hours.

June 3d. Pulse 72; temperature 100.4°. To-day she is beginning to take cold water by mouth again,—one teaspoonful every hour. The nutritive enemata are still continued. Evening, pulse 70; temperature 101.4°. During the day has slept in short naps and been fairly comfortable. In the evening the dressing was changed. The gauze was fairly saturated with serous oozing. The packing was not disturbed. It was apparently perfectly sweet. This evening we began to give her by mouth teaspoonfuls of milk and lime-water every hour. The nutritive enemata cannot be given so often now, as they are not well retained. During the night she thought that the milk and lime-water caused some distress. There was no nausea. The gas has passed freely from the rectum during the night, and most of the nutritive enemata have not been retained. During the night she had by mouth an ounce and a half of milk and lime-water; cold water, two ounces. She slept in short naps from five to six hours. On the whole, she had a rather good night. Twenty-five ounces of urine in the last twenty-four hours.

June 4th. Pulse 60; temperature 99.2°. With the cleansing enema this morning there was a small amount of fecal matter. To-day she is taking milk, with equal parts of lime-water, one-half an ounce every hour. The nutritive enemata have been entirely omitted, owing to the irritability of the rectum. The dressing was done this morning; the outside gauze changed. It was thoroughly saturated with a serous

ooze, and had a peculiar yeast-like odor. During the day she took six ounces of milk and lime-water and five ounces of cold water; no stimulants at all. In the evening the pulse was 66; temperature 100.8°. Milk and lime-water were now given, an ounce at a time every hour. There was one movement containing some solid feces. The dressing was changed again during the night. She was very restless during the night and complained of pain in the wound. Slept in short naps, of fifteen minutes, about five hours. Twenty-four ounces of urine in the last twenty-four hours. The dressing has a peculiar yeasty odor.

June 5th. Pulse 60; temperature 99°. She had a good movement of the bowels this morning, formed, but of a light gray color. The packing of the wound started out a little to-day. It is getting rather foul. The outer dressing is changed twice daily. She is given now the milk and lime-water once every hour, and on the half-hour an ounce of water. The evening temperature 101.2°; pulse 70. The hacking cough troubles her a good deal, and at times she brings up a little mucus. During the day she took twelve ounces of milk and lime-water. During the night she took eight ounces of milk and lime-water, making twenty ounces of milk and lime-water during the twenty-four hours. Twenty ounces of urine in the last twenty-four hours. She had a better night than usual; was less restless, requiring no opiate.

June 6th. Pulse 64; temperature 98.8°. The bowels moved this morning—still of a light brown color. To-day the white of an egg is added to the milk and lime-water, but the amount is not increased above an ounce. During the morning she was given one soft-boiled egg, parts of which appeared in a movement of the bowels an hour and a half later. The white of an egg was given each time with the milk and lime-water; no more boiled eggs were tried. During the day she had twelve ounces of milk and lime-water and the whites of three eggs. Afternoon pulse 72; temperature 100.6°. The irritation of the throat seemed to cause a good deal of distress, and a half-grain of codeia was given during the evening. She slept from five to six hours during the night, in short naps. The nourishment during the night was twelve ounces of milk and lime-water with the white of one egg. The nourishment for the past twenty-four hours has been twenty ounces of milk and lime-water, the whites of four eggs, and one soft-boiled egg.

June 7th. Pulse 76; temperature 98.4°. This morning she was given liquid nourishment to the amount of two ounces,—beef-juice alternated with milk and lime-water, with the white of egg. The dressing was done this morning, and the gauze packing entirely removed. It was thoroughly saturated with a yellow-colored fluid, of an offensive yeasty odor. On removing the gauze packing there was a large opening left down to the region of the suture. This was washed out with boiled water and lightly repacked with strands of gauze. The nourishment during the day has been four ounces of beef-juice, four ounces of milk and lime-water, with the white of one egg, four ounces of gruel. Pulse at 5 p. m. 104; temperature 101.8°. The cough still bothers her, but is somewhat relieved by codeia, one-half grain. She had a fair night—slept about six hours. The twenty-four-hour amount of nourishment was as follows: gruel thirteen ounces (plain oatmeal gruel), milk and lime-

water thirteen ounces, white of three eggs, beef-juice four and a half ounces.

June 8th. Pulse 78; temperature 99°. The dressing is now done twice a day, and the sinus irrigated with boiled water and repacked with gauze each time. There is still a large amount of discharge which has the characteristic yeasty odor. During this day there seemed to be a little constipation, and the patient was given half a grain of calomel and later a sedlitz powder. She had a good night. The amount of nourishment during the twenty-four hours was: beef-juice seven ounces and a half, gruel twenty ounces, beef-steak to chew, white of egg, milk and lime-water seven ounces.

June 9th. The nourishment is now given in two-ounce amounts. There seems to be a tendency toward diarrhea, the patient having had several loose movements during the day. The afternoon temperature was 99°; pulse 88. Nourishment now given four ounces at a time every two hours. Twenty-four hours' amount of nourishment: gruel twelve ounces, milk and lime-water twenty-eight ounces, whites of four eggs, beef-juice seven ounces.

June 10th. Pulse 88; temperature 99.8°. Two soft-boiled eggs were given during the morning, and apparently were digested. The patient now has a fairly comfortable time, though she is rather restless at night and complains still of the cough. The amount of urine in twenty-four hours to-day is thirty-six ounces. Amount of nourishment: four ounces of beef-juice, two soft-boiled eggs, the whites of four eggs, sixteen ounces of gruel and sixteen ounces of milk and lime-water. She apparently is gaining a little strength each day. The dressing contains less discharge, and the wound is beginning to granulate.

June 11th. It has been impossible to persuade the patient to take any form of stimulant; in fact, she has improved so steadily that it has not seemed necessary. To-day she was given some claret and water; but would take it only once. Liquid Dover's powder was given during the night to see if it would benefit the cough, and she had a better night than usual. The amount of nourishment for this twenty-four hours was twenty ounces of gruel, twelve ounces of milk and lime-water, whites of four eggs, two soft-boiled eggs. The bowels moved twice during the twenty-four hours.

From this time until the 18th of June there was nothing especial in the history of the case. She took practically the same amount of liquid nourishment and gained a little strength each day. Nothing unusual occurred. The discharge became daily less offensive and the patient grew stronger.

On June 13th with her liquid nourishment, she tried a small piece of bread and butter, which apparently was not digested and caused some diarrhea. She can now take with comfort four ounces of liquid nourishment every two hours, and apparently it causes no distress and is properly absorbed.

On June 18th the pulse rose to 106; the temperature to 102.5° in the morning. She was much weaker on this day and apparently something was going wrong. The temperature on the previous day had been practically normal in the morning, but 102° in the evening, and this morning it was still up. The amount and character of the discharge from the sinus did not account for her temperature, — there was still a peculiar yeasty smell, but no evidence of suppuration. There was a troublesome diarrhea. The food

was peptonized to-day without apparent effect. In the evening the temperature fell, but still she seemed restless and as if something was going wrong. During these twenty-four hours she took three soft-boiled eggs, the whites of three eggs, twenty ounces of peptonized milk and seven ounces of beef-juice. Owing to her poor condition, we thought that some of her trouble might be due to malnutrition from not properly digesting her food. Dr. Pfaff was called to see her in consultation. He thought that the rise of temperature and her poor condition were owing partly to digestive disturbance, possibly from too much feeding by mouth, and also to absorption from the wound.

June 19th. The pulse was 110 and the temperature 102.2° in the morning. The digestive tract was entirely put at rest during this day by giving no food by mouth. Enemata were given three times during the day and the sinus washed out with peroxide of hydrogen and very dilute solution of corrosive sublimate. Several sloughy stitches and pieces of necrosed tissue were fished from the depths of the wound by means of a crochet needle. In the evening the pulse was 102, and the temperature 101.4°. To-night the face has begun to swell, and the patient has evidently an alveolar abscess, which may possibly account for some of her disturbance.

June 20th. Pulse 106; temperature 102°. The face is swollen and there is a great deal of pain. The abscess was opened and considerable pus removed. In other respects the patient is in good condition.

June 21st. To-day champagne, half an ounce at a time, is added to the liquid nourishment, and is much appreciated by the patient. Codeia, one-third of a grain three times a day, seems to control the troublesome cough. She is taking nourishment well and seems to be gaining. The temperature is gradually coming down. There is more pus from the sinus, and silk sutures have been discharged at various times.

June 24th. This morning, temperature 100°; pulse 106. The evening temperature was 99.5°. This is the first day for almost a week that it has approached normal. The rise of temperature seems to be explained by suppuration at the bottom of the sinus, with absorption of putrefactive products, for the ligatures and pieces of tissue which come out from the sinus at times have been very offensive. The sinus is now discharging less and the patient has assumed a better aspect. The champagne which she has had for the last three or four days seems to have materially assisted her. The amount of nourishment in twenty-four hours has been beef-juice six ounces, chicken broth eight ounces, milk and lime-water sixteen ounces, and the whites of eggs eight ounces.

June 26th. Small amounts of bismuth given three times a day have helped restrain frequent movements of the bowels. To-day the temperature and pulse are practically normal. The patient has sat up out of bed for half an hour. Some nights it is necessary to give a small dose of codeia for restlessness. The amount of nourishment to-day has been six ounces of chicken broth, sixteen ounces of milk and lime-water, three ounces of beef-juice, twelve ounces of chicken broth, whites of ten eggs, roast beef and ice cream. The beef was chewed and only the juice swallowed.

June 27th. The patient has sat up again out of bed to-day and has gained remarkably in strength. The nourishment for this twenty-four hours has been as follows: beef-juice six ounces, chicken broth twelve

ounces, barley broth six ounces, milk and lime-water eight ounces, whites of ten eggs, some white meat of chicken and boiled rice.

From this time until July 5th there was nothing of special interest in the history. She has made a steady improvement. The nourishment has been practically the same. There is distress if more than four or five ounces are given at a time, and a solid food, like bread, apparently does not agree with her yet.

On July 5th the patient went home, driving five miles in an open carriage without fatigue. Since arriving at home she has been out of doors all day long, and has improved in general condition. At present she is enjoying life, her food satisfies her hunger, is digested perfectly well, the bowels move normally, and she is free from the distress that she used to have after taking food.

On August 24th the patient was examined by Dr. Richardson. The wound was entirely healed. Her general appearance was good. There was no evidence of recurrence. She looked much improved, and reported herself as feeling very well. There had been a "drawing sensation" in the epigastrium as if something was on the stretch. This feeling had caused a slight stooping, which was, however, rapidly disappearing.

In connection with this and similar cases of malignant disease the question of surgical interference may well receive a few words of discussion. The patient left to palliative treatment, though he avoids the dangers and sufferings of a surgical operation, has before him:

- (1) The suffering incident to the disease. (This may vary between discomfort and unendurable pain.)
- (2) A hopelessness and mental depression to which death is in many instances preferable.
- (3) Certain death.

If subjected to a radical operation the patient has before him:

- (1) The dangers and sufferings of a surgical operation. (But, though the danger is great, the suffering may be no greater—it may even be less—than the suffering incident to the disease.)
- (2) Hope and elevation of spirits instead of mental depression and despair.
- (3) A fair chance of a recovery that may be permanent, though recurrence may be the rule.

A careful consideration of this question in favorable cases leads to but one conclusion, namely, that the greatest good will follow reasonable surgical interference. The chief arguments against radical measures seem to be in the necessarily great dangers of the operation, and the uselessness of deliberately incurring them. Certainly no method of treatment is justifiable which is useless. But the operation in suitable cases is by no means useless, as shown (1) by the lessening of suffering and the prolongation of life, — facts observed by physician and friends, and (2) by the satisfaction expressed by the patient himself. The arguments for and against operation in cancer of the breast apply to operation upon cancer of the stomach or of the intestines. It is certainly not justifiable in cases of breast cancer to deny the patient the twenty-five or more chances in a hundred which the modern operation surely gives. Is it justifiable to deny the patient with cancer of the stomach a chance for recovery, — small though it may be? It seems to me that but one answer is reasonable, namely, that with the facts before the patient, and with his consent, the most

radical surgical measures are demanded if upon exploration the disease is so localized in the stomach that it can be removed by a broad margin.

The argument in favor of surgical interference that without operation the patient must die — an argument responsible for much unnecessary and unjustifiable surgery — should carry no weight unless the disease is clearly within the margins of a possible dissection. Operations undertaken in malignant cases anatomically inoperable bring upon surgery nothing but discredit. Operations, no matter how severe and dangerous, undertaken with a distinct possibility of benefit or of complete cure, cannot but elevate the art of surgery, even if they are but rarely successful. Not to give the willing patient a chance of recovery in cancer of the stomach, of the intestine, of the rectum, of any operable region, is to give up the fight without a blow.

Dr. Whitney's report is as follows:

The stomach is contracted, measuring 16 by 20 cm., and is very much hypertrophied, especially in the region of the pylorus. This increase in thickness is general, and diminishes gradually to the cardiac end. The inner surface is reddened and irregularly elevated, but without any distinct tumor. The mucosa is not movable, and to the eye the thickening appears chiefly in the submucous layer, which is dense and fibrous.

The microscopic examination made from different places along the line (greater curvature) in which it had been opened shows the fibrous submucous tissue increased in density, with large numbers of lymphoid and plasma cells scattered through it. This can be followed between the bands of the muscular fibres, which seem also to be hypertrophied.

The mucous membrane is in places of normal thickness and in others diminished. In one section in a small area the glands are atypical, solid, and appear to be extending into the submucosa. Close to this is a lymphatic, which is filled with relatively large round cells, suggesting a new growth.

As far as this examination goes, the diagnosis would be cancer with a diffuse submucous hypertrophy, — a condition which is commonly recognized as scirrhus cancer of the stomach.

NOTE. — October 16, 1898: examination by Dr. Brewster. About two weeks after the last examination the sinus re-opened and discharged a bile-colored fluid. About two weeks ago the sinus closed again. During this time several sutures came away with some pus. The sinus has now been healed for two weeks and the patient has begun to regain the strength that she lost some four weeks ago. The most troublesome symptom is distress after eating. At times she finds it hard to swallow food. Her diet consists of broth, eggs, milk, bread and butter, black bean soup, small pieces of meat, string beans and shelled beans. She has five meals a day. She has gained a great deal in strength, and though she has not gained in weight, she looks well. The bowels move without laxatives and the movements are formed.

THE RESTORATION OF A LOWER EYELID BY A NEW METHOD.

BY GEORGE H. MONKS, M.D., BOSTON.

I RECENTLY had a case at the Boston City Hospital where as a result of operation for malignant disease it was necessary to supply a new lower eyelid. I employed a method quite new, so far as I know, in many of its details, although the main principle upon which it rests was originally suggested to me by an article by Dr. Theodore Dunham, of New York, recommending the use of flaps from the scalp for covering certain