

Case of removal of the entire stomach for carcinoma : successful esophago-duodenostomy recovery / by Charles Brooks Brigham.

Contributors

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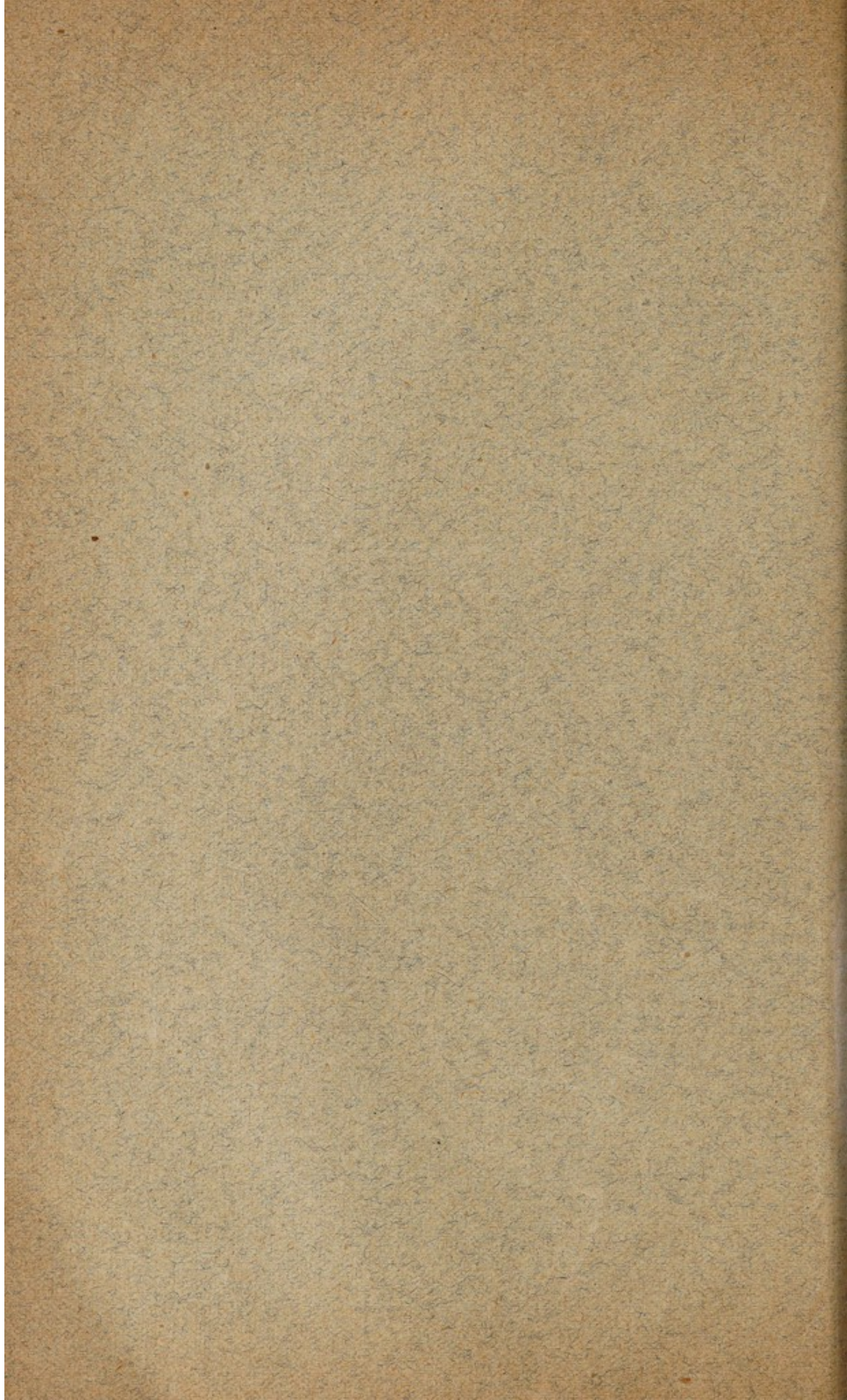
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Case of Removal of the Entire Stomach for Carcinoma
Successful Esophago-duodenostomy; Recovery

BY

CHARLES BROOKS BRIGHAM, M.D. (HARV.)
SAN FRANCISCO

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CASE OF REMOVAL OF THE ENTIRE STOMACH FOR CARCINOMA; SUCCESSFUL ESOPHAGO- DUODENOSTOMY; RECOVERY.

BY CHARLES BROOKS BRIGHAM, M.D. (HARV.), SAN FRANCISCO.

HISTORY.

LORA MAGGINI, widow and housewife, sixty-six years of age, had complained of pain in her stomach for the last year. She was able, however, to digest her food until Christmas time, when she vomited any solid food that she took. Not caring for bread and meat, she confined herself to liquids and to thickened gruels, and so was able to keep her usual weight of 135 pounds. She did not worry about her forced abstinence from solid food, because she was unable to chew properly, having but six teeth in the lower, with no corresponding ones in the upper, jaw.

She is a remarkably healthy woman in other respects, having a strong heart and lungs, a clear complexion with a good deal of color in her cheeks. She is a woman of simple tastes; born in the country, in the north of Italy; active, and a woman of good common-sense. It is a difficult thing to keep her in bed in any ordinary illness, and she does not complain of pain unless it is severe. I saw her first in February, 1898. She came to me for advice on account of the pain which she felt in her stomach. There was a hardness in the pyloric region which was painful on pressure. All solid food was vomited soon after it was taken. My diagnosis was cancer of the pylorus. At a subsequent visit a few weeks later an operation for the removal of the growth was suggested and agreed upon, and the patient entered St. Luke's Hospital in San Francisco.

OPERATION.

On the 24th of February, 1898, Dr. Samuel G. Boyd assisting,¹ strict antisepsis being observed, the patient was etherized. I made an incision three inches in length half-way between the ensiform process and the umbilicus. The omentum was adherent to the parietal peritoneum the entire length of the incision. Once the peritoneum was opened, a hard mass was felt at the pyloric extremity of the stomach, extending over half its surface and involving its walls. The stomach was freely movable. There were no nodules in the omentum; but there were several of varying size, from two inches in diameter and less, upon, and attached to, the surface of the stomach. The tumor could be felt extending into the interior of the stomach, just beyond the middle line. The abdominal fat was over an inch in thickness, and it was necessary to enlarge the incision to seven inches in length, so that it extended from the ensiform process to a point an inch below the umbilicus. Hot gauzes frequently renewed completely surrounded the wound, covering everything but the part operated upon. I then began to tie off the omentum from the greater curvature, using catgut for ligatures; the length tied off at any one time did not exceed half an inch; the omentum was divided between the ligatures. After three or four inches of the greater omentum were tied off, work was begun on the lesser omentum; and so, by working alternately on the twoomenta, rotating the stomach as was necessary, the tying off was accomplished. The most difficult part of the work was on the lesser curvature, it being in the deepest part of the wound. When both curvatures were free from omenta, the duodenum was clamped, and a ligature of silk being placed around the duodenum half an inch above the clamp, the tissue was divided by scissors between the two; the divided extremity was carefully washed in salt solution and wrapped in iodoform gauze. The stomach was then free for any desired manipulation.

¹ Among those present at this operation were Dr. J. V. D. Middleton, Deputy Surgeon-General U. S. Army; Dr. Charles S. Mann; Dr. C. C. H. Carlson; Drs. Robert Porter (who gave the anesthetic), and Samuel Huntington of the staff of St. Luke's Hospital.

As the tumor occupied already more than half the organ, with a hardness extending some two inches beyond along the greater curvature, I decided to remove the entire stomach above the cardiac orifice. The gastro-splenic omentum was tied off, the stomach held with moderate tension, and a clamp was placed just above its cardiac orifice. An intestinal clamp was then placed on the esophagus a little over an inch higher up, and the tissue was divided between the two, nearest the cardiac orifice. The esophageal extremity was then washed and wrapped in iodoform gauze; the esophageal clamp followed each movement of the diaphragm. I then brought up the duodenum, and found it would touch the esophagus without undue tension. It was somewhat a question of time, as the patient's pulse had become weakened by the length of the operation; so that I decided to use the Murphy button for approximation of the parts instead of suturing them. One-half of a No. 3 Murphy button (fifteen-sixteenths of an inch in diameter) was then inserted in the duodenum and fixed in position. Finding that there was not room enough in the divided end of the esophagus to apply the button, I seized the free extremity with a T-forceps and applied the clamp higher up, so that it was placed at the nearest possible point to the diaphragm. I then had an inch and a quarter of free esophagus of equal diameter throughout, measuring an inch and an eighth across — the mucous coat was entirely distinct from the muscular and glided freely upon it. A fine-silk drawing suture was placed an eighth of an inch from the free extremity, and the other half of the Murphy button was applied. New iodoform gauze was packed over the bottom of the wound, and the halves of the button were pressed together. When the clamps which had been but a short time on the duodenum and esophagus were removed, the button was drawn up about half an inch by the muscular contraction of the esophagus. As the parts on either side of the button became distended, they were apparently of equal diameter; the tension on the parts was sufficient to keep them suspended over the iodoform gauze; no Lembert sutures were used, as the

parts were in close apposition. The iodoform gauze was then removed from the bottom of the wound, the omenta arranged somewhat, and the peritoneal cavity closed with a continuous catgut suture; silkworm-gut closed the abdominal incision.

The operation occupied two hours and a quarter. There was practically no loss of blood in removing the stomach; two ounces representing the entire amount, and that came from the abdominal incision and the peritoneal adhesions. The anesthesia was effected by chloroform at first, until unconsciousness was reached, and then ether was administered throughout the operation; eleven ounces of the latter were used. The patient had an exceedingly fat abdomen, so that the incision through its walls was necessarily a long one.

The photograph of the stomach was taken shortly after the operation. The stomach was empty and in the same condition as when it was removed from the abdomen. The measurements were taken from a tracing as it lay on a sheet of paper, and are as follows: lesser curvature five and three-fourths inches; greater curvature (not including the outline of the growth which measures two inches more) ten and a half inches; greatest width between the curvatures three inches; across the pyloric orifice, three-quarters of an inch; across the cardiac orifice, one inch; weight, six ounces and seven drachms Troy. The pins are attached to exactly opposite points of each orifice; the sagging noticed being from the lax tissue and not from any removal of substance. The growth was chiefly on the anterior surface of the stomach; it extended internally beyond the middle line, with a hardness along two-thirds of the greater curvature. It was impossible to introduce anything larger than a sound through the pyloric orifice on account of the growth. The posterior view shows a puckering of the thin walls of the part of the stomach which is yet healthy; the mass of omentum near the cardiac orifice makes the latter appear wider than it really is. It shows also the outline of the growth as it extends along the inside of the stomach and greater curvature. At either end half an



Stomach. — Anterior View.



Stomach. — Posterior View.



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inch of tissue may be added which was enfolded in the Murphy button.²

TREATMENT.

February 24th. At noon, after the operation, pulse 116, temperature 98°, an enema of brandy and water was given, and three hours after an enema of eggs, peptonoids, milk and broth; these nutrient enemata were continued every four hours. The patient was very restless and thirsty. An eighth of a grain of morphine was given subcutaneously, and the mouth was frequently washed out with water. Towards evening she vomited about two ounces of bloody mucus. Evening pulse 110, temperature 100.8°. A quarter of a grain of morphine was given subcutaneously, and the limbs and chest were rubbed with alcohol. At midnight, pulse 108, temperature 100°. The longest sleep at any one time was not over an hour; but there were many short naps, which refreshed the patient.

February 25th. Pulse 96, temperature 99.6°. Excessive thirst, but no pain; no vomiting, but twice belched some gas. Thus far no water was allowed the patient, but the mouth was constantly moistened. Evening pulse 100, temperature 99.6°. Amount of urine passed since the operation 20 ounces. Hot water in three-drachm doses was given every hour, which soon relieved the intense thirst. Midnight pulse 98, temperature 99.6°. Considerable flatus passed.

February 26th. Pulse 100, temperature 99.7°. Claret and water in two-drachm doses, varied occasionally with the same amount of hot black coffee, or chicken broth, were given. Evening pulse 100, temperature 100°. The act of swallowing does not cause any inconvenience, but after two teaspoonsful are taken there is no desire for more. As to pain, it is indefinite both as to situation and amount; generally near the abdominal incision. Midnight pulse 96, temperature 99.8°.

February 27th. Pulse 92, temperature 100°. Up to this time only two-drachm doses of any liquid were given, but now the patient is able to take a little more than double the quantity at each time. Coffee, with milk and chicken broth with an egg beaten up in it. Each day the back and extremities are bathed in alcohol. Evening pulse 94, temperature 100°. The restlessness is still marked, and without the morphine at night there would be little sleep. Complaints of burning in urinating; this was relieved by

² I am indebted to Mr. P. S. Bruguère, of San Francisco, for the photographs, and also for the microscopical examination, which showed the growth to be adeno-carcinoma.

lithia water. The nutritive enemata given every four hours up to this day have been discontinued. The first free movement of the bowels occurred to-day by the aid of a simple enema; it was partly formed and without indigested food. Midnight pulse 94, temperature 100.2°.

February 28th. Pulse 92, temperature 100°. During the day the patient had a free, dark brown, well-formed movement of the bowels. Evening pulse 98, temperature 100.6°. There was some pain in the abdomen, which was relieved by rubbing. A fresh egg slightly boiled was relished by the patient, who said that "it tasted nice and sweet." Midnight pulse 99, temperature 99.6°.

March 1st. Pulse 94, temperature 99.4°. The patient takes six drachms of some liquid nourishment every hour night and day, missing it only when asleep. She complains of a sense of fulness at the seat of the Murphy button if she takes a teaspoonful too quickly after another, and often it needs some persuasion to make her take sufficient nourishment. Midnight pulse 100, temperature 100°.

March 2d. Pulse 96, temperature 99.4°. In the afternoon a well-formed movement. The patient complains of faintness and dizziness, probably due to the small amount of nourishment she receives, as it is impossible to make her take more than six drachms at any one time. Evening pulse 100, temperature 100.7°. The temperature has been taken always by the rectum. Midnight pulse 100, temperature 100.2°.

March 3d. Pulse 96, temperature 100.2°. A seidlitz powder was given in two doses, half an hour apart; and a partly-formed movement of the bowels resulted two hours later. Again the bowels moved in the afternoon. One or two eggs were taken daily, broth, gruels made with germea or barley, prune juice, and coffee with milk. Evening pulse 106, temperature 101°. Midnight same.

March 4th. Pulse 98, temperature 100.2°. In addition to claret and water, drachm doses of whiskey were given every three hours, and, in order to give more nourishment the nutritive enemata were given every four hours, day and night; these consisted of two eggs, an ounce of brandy and half an ounce of peptonoids or bovinine. Evening pulse 106, temperature 101°. Midnight pulse 108, temperature 100.6°.

March 5th. Tongue dry, with a brown coating. The restlessness has somewhat disappeared and the sleep is more quiet and refreshing. Pulse 102, temperature 100.6°. The dressing of the wound was changed; there was primary union throughout the incision except at the uppermost stitch, where there was what appeared to be a stitch

abscess discharging a drachm of pus. The patient feeling remarkably well, sat up in bed and was photographed. The amount of liquid taken by the mouth in the last twenty-four hours was a little more than a pint; this did not include two eggs; there were also five nutritive enemata given. Urine voided, one pint. Evening pulse 104, temperature 101.2°. Midnight pulse 100, temperature 100°.

March 6th. Pulse 102, temperature 100.6°. During the day the patient had four semi-solid movements. All the sutures were removed from the abdominal incision. The tongue is moist and clear. Since the operation there has not been the least fetor of the breath, nor has there been any vomiting except the mucus vomited soon after the operation. To-day the patient took a drachm of sweet oil with a view of facilitating the downward passage of the Murphy button. This was regurgitated soon after, the patient declaring that it was not Italian oil. As there was a burning sensation in the lower abdomen soon after the enemata were given, the brandy was omitted. Evening pulse 110, temperature 100.2°. Midnight pulse 106, temperature 99.6°.

March 8th. Pulse 100, temperature 99.8°. There is to-day a distress after swallowing and a pain in the upper part of the abdomen. Evening pulse 104, temperature 99.6°. Midnight pulse 98, temperature 99.4°.

March 9th. Pulse 100, temperature 99.4°. There is still a burning pain in swallowing, and a disinclination to drink on that account. During the morning about two ounces of pure bile were vomited, the bile having a distinct smell of urine. Two hours later, after a sleep of three-quarters of an hour, the patient awoke, and found she could swallow easily. There was no longer an obstruction to the passage of food, and she said she did not know where the food went to, so easily did it pass along. Evidently the Murphy button had left the position which it had occupied for thirteen days. The amount of nourishment now given each time was three ounces and more. Evening pulse 100, temperature 99.8°. Midnight pulse 98, temperature 99.6°. The nutritive enemata were discontinued.

March 10th. Pulse 102, temperature 99.4°. The amount of liquid taken in the last twenty-four hours was 37 ounces; amount of urine voided, 27 ounces. The supposed stitch-hole abscess had been discharging but slightly; and as the opening was too minute to admit of anything larger than a probe, chloroform was given and the opening dilated. A shred of necrosed tissue was removed with the forceps, the wound washed out with a hot normal salt solu-

tion, and packed with iodoform gauze; it extended about two inches beneath the peritoneum, and was well walled off from the cavity of the abdomen. (The wound became smaller daily and ten days subsequently was closed.) Evening pulse 108, temperature 100° . Two semi-solid movements of the bowels in the afternoon. Midnight pulse 98, temperature 99.6° . Vin Mariani in half-ounce doses was given instead of whiskey.

March 11th. Pulse 104, temperature 99.8° . Vomited two ounces of flaxseed tea as soon as it was given, but after a short nap took two ounces of hot coffee with milk, and retained it. Evening pulse 100, temperature 99.6° . Midnight pulse 102, temperature 99° .

March 12th. Pulse 100, temperature 99.6° . Evening and midnight the same.

March 13th. For breakfast this morning the patient had some minced chicken, a cup of coffee, a soft boiled egg, half a slice of toast and two ounces of water. Pulse 108, temperature 99° . From this time food was given at regular intervals of three hours. The soups given were vegetable purées of green peas, asparagus or artichokes. The patient has never cared for bread in any form even before her illness. She wishes no salt either in gruels or soups. Evening pulse 106, temperature 100° .

March 14th. Pulse 100, temperature 100° . After two tablespoonfuls of castor oil given in hot coffee, the patient had two soft movements rather grayish in color. There is still much restlessness. Evening pulse 100, temperature 100.4° .

March 15th. Pulse 108, temperature 99.7° . Two ounces and a half of castor oil were given this morning; two hours after, a formed bowel movement, followed by two liquid movements in the afternoon. The patient sat up in a chair for an hour and a half without fatigue. Evening pulse 100, temperature 99.8° . Midnight pulse 98, temperature 99° .

March 16th. Pulse 102, temperature 98.8° . The patient took twelve oysters at noon. These were the native Californian oysters, quite small, resembling those of Ostend. Sat up to-day two hours and a half. Evening pulse 104, temperature 100° .

March 17th. Pulse 106, temperature 99.4° . The patient's nourishment to-day consisted of: breakfast—cup of coffee with milk, a soft boiled egg, a third of a baked apple; noon—a cup of green-pea soup and a dozen oysters, an ounce of milk with somatose; afternoon—some orange jelly, one raw egg, half a cup of pea soup, a dozen oysters; evening—half a cup of asparagus soup

in the intervals she took four drachms of whiskey with water, and an ounce and a half of Vin Mariani. Had a natural movement from bowels. Evening pulse 102, temperature 100°. Midnight pulse 98, temperature 99.4°.

March 18th. Pulse 92, temperature 99.2°. The patient is up in a chair daily and walks a little in the room. In addition to two dozen oysters she took a part of a lamb chop and several spoonfuls of iced cream. In the afternoon her pulse was 76, temperature 99.8°. In the evening pulse 104, temperature 100°. Had a formed movement of the bowels. On account of the tendency of the pulse to lag, a twentieth-grain granule of strychnine was given every four hours during the day.

March 19th. Pulse 92, temperature 99.4°. Patient on the hospital piazza in a rolling chair for nearly two hours. In addition to her regular nourishment the patient enjoyed a squab. There were two formed movements of the bowels to-day.

March 20th. Pulse 98, temperature 99.4°. Thus far the patient has not vomited food; sometimes a teaspoonful of sweet oil would be regurgitated; and to-day when some bromo-caffeine was given for restlessness, a part of it came up—there was no sensation of sickness, however, and some nourishment taken almost immediately afterwards was retained. Somatose is added to milk whenever it is taken. The patient was on the piazza for three hours to-day, sleeping at times. Three formed movements of the bowels. Evening pulse 98, temperature 100.4°.

March 21st. Pulse 100, temperature 100.6°. An ounce and a half of castor oil taken at noon gave two free liquid movements in the afternoon. The respiration was rather labored at times, apparently due to nervousness. Evening pulse 96, temperature 101.4°. Seven ounces of mulled wine were given at bedtime. Slept at intervals. Midnight pulse 100, temperature 100.6°.

March 22d. Pulse 100, temperature 101.4°. Has still times when the breathing is difficult. Three hours out of doors. In the afternoon the patient vomited part of some minced chicken she had taken. Pulse 108, temperature 101.6°. Midnight pulse 98, temperature 100.4°.

March 23d. Pulse 102, temperature 100.6°. After a comfortable night's rest, the best perhaps since the operation, the patient walked from her room to the piazza, where she sat for two hours in the sun, and then walked back to the room; two hours again in the afternoon on the piazza. Evening pulse 110, temperature 102.4°. Midnight pulse 106, temperature 101.6°.

March 24th. Pulse 102, temperature 101.8°. A week

ago the patient weighed 116 pounds; to-day she weighed 121 pounds, a gain of five pounds in one week. Evening pulse 108, temperature 101.8° . There is a slight hardness in a line with the middle of the incision extending an inch and a half on either side; there is no redness whatever of the skin, but deep pressure is somewhat painful. The gradually rising temperature suggested an abscess; the position in the line of the transverse colon suggested an impaction of fecal matter with the Murphy button; the free and natural movements of the bowels daily led me rather to regard the swelling as due to a collection of pus.

March 25th. Pulse 104, temperature 101.2° . A high enema of olive oil was given with no effect on the hard swelling. The patient has some difficulty in breathing, entirely due to the pressure of the swelling. The pulsations of the aorta are distinctly felt through it. Evening pulse 108, temperature 102° . I decided to cut down on the mass, and the patient being prepared and etherized, two inches of the primary incision were carefully opened. The union was strong. There were adhesions throughout the line of incision. While exploring at the depth of an inch with the left finger, pus was reached, and some six ounces evacuated; it was quite odorless; it was washed out with a hot solution. Four sutures were taken, and the abscess sac was packed with iodoform gauze. Adjacent tissues were soft and in a healthy condition. No sign of the Murphy button. There were no shreds of tissue evacuated with the pus. After this the patient was fed with nutritive enemata in addition to the nourishment taken by the mouth. When she came out of the ether she vomited some six ounces of mucus. Midnight pulse 110, temperature 101.8° . Two doses of a quarter of a grain of morphine were given at four-hour intervals.

March 26th. Pulse 100, temperature 101° . Evening pulse 104, temperature 100.5° . Patient very restless and troubled with much flatus.

March 27th. Pulse 96, temperature 99° . Two loose bowel movements. The drainage was removed from the wound, which was thoroughly washed with salt solution and packed with fresh gauze. The discharge was moderate and odorless. Evening pulse 96, temperature 99° . No pain whatever.

March 28th. Patient out in the reclining position on the piazza most of the day. For the first time since the operation she said that she felt really hungry, and the way she ate a squab amply proved it. It is still a question with her, how to produce sleep without an opiate: sulfonal,

trional, bromo-caffeine and bromide of potash all excite rather than soothe the restlessness. Morphine alone is sufficient, if given in quarter-grain doses. Of course, the peristaltic action of the bowels is affected by the morphine as well as by the removal of the stomach, and that may delay the passage of the Murphy button, which, by the way, produces no discomfort wherever it may be.

March 30th. Pulse 96, temperature 99.8° . The earthquake at midnight excited the patient somewhat.

March 31st. Pulse 90, temperature 99.4° . It is five weeks to-day since the operation. The patient weighed 116 pounds, losing what she had gained the previous week. Pulse 84, temperature 99° . The abscess sac is free from discharge, but is daily packed and washed out with hot normal salt solution, of which it now holds a drachm. The patient is taking more milk at times, and enjoys it.

April 4th. Pulse 78, temperature 99° . There is much restlessness at night and more natural sleep. The morphine, which had been gradually left off, is now omitted. The patient is on the piazza all day, walks alone, reads the papers and is very active and cheerful.

April 7th. Patient again weighed, with the gain of one pound.

April 10th. The following shows the amount of food taken by the patient to-day: at 6.30, a cup of coffee and a raw egg; at 10, two dozen oysters and a bowl of broth; at 1, half a broiled chicken with toast and stewed strawberries; at 5, half a broiled chicken, two slices of toast and a cup of tea. Pulse 84, temperature 99° .

April 11th. The abscess sac is completely closed. The patient's condition is excellent.

April 14th. Weight, 122 pounds, a gain of six pounds in the last week.

REMARKS.

The operation for removal of the stomach belongs to middle or old age, the disease necessitating it occurring at these periods. Where there are no adhesions the operation is not very difficult; with ordinary care hemorrhage is not likely to occur. The effect of surgical shock upon the patient is most to be feared, and should be guarded against by *heat*, stimulants and quick work in operating. The Murphy button saves much time and has proved of great service in the present case. It is not always possible to do esophago-duodenostomy, and the button would do as well in

esophago-enterostomy, for it could be applied where it would be impossible to make a sound suture, as in cases where the esophageal end is very short. If, however, careful sewing could be done quickly and accurately over some form of tube that could be pulled out through the mouth when the sutures were placed, it would save considerable worry to the patient and surgeon. The cases could be well imagined which would be difficult to nourish for two weeks through the openings of a No. 3 button. Besides the impossibility of taking much nourishment at a time, there is the difficulty of swallowing, which the presence of the button in the esophagus causes by reflex action. This reflex action was very slightly marked in this patient; but with a more sensitive nervous system it might be enough to prevent swallowing sufficient nourishment to sustain life, especially if added to this it became impossible to retain nutritive enemata.

It would seem easy, from what is seen in anatomical plates, to join the duodenum with the esophagus, for apparently they are on the same plane; but in reality the esophageal orifice is on a higher plane and behind the pyloric orifice. If the duodenum is not bound down by adhesions, it can be approximated without much tension to within an inch of the diaphragm allowing the abdominal part of the esophagus to be only two centimetres in length, which is Cruveilhier's estimate.³ There is even then room to place a purse-string suture and apply the Murphy button. It would seem that tension on the elastic tissue of the abdominal esophagus would easily give an increased length; it does stretch to a certain point, but it is disappointing and much more limited than one would suppose.⁴ From the experience which this case gives, I think it would be easier to tear the esophagus than to pull it down from its opening in the diaphragm. It may have been that the esophageal clamp interfered with its elasticity, but it seemed at the time of the operation

³ Anatomie Descriptive, vol. ii, p. 113.

⁴ "In its abdominal portion (if at any time we admit an abdominal portion) the esophagus is *en rapport* with the esophageal opening of the diaphragm, to which it is very solidly adherent." Cruveilhier, vol. ii, p. 113.

as if the stretching could be accomplished much more easily sidewise than lengthwise. A slight gain in the length of the esophagus can be made if the clamp is applied vertically instead of sideways; there is thus less chance of making an oblique cut in the division of the esophagus. Unless there is enlargement of the left lobe of the liver, there is much more room to work in than would be supposed, especially if the abdominal incision is a large one. In fat patients the incision can hardly be less than seven inches in length, and then there is no room to spare.

In the treatment of this case no attempt has been made to predigest the nourishment which was given to the patient. The precaution was taken, however, to supply easily digested food; and when meat was allowed it was cut in very small pieces. The food was taken slowly, whether liquid or solid. It is no hardship for the patient to live on simple food, for she has done so all her life; and especially, as age has advanced, she has been obliged to eat food that required the least chewing. The food was given of medium temperature; water was taken as it came from the pipe and wine as it stood in the room; iced cream, of which the patient was particularly fond, was taken slowly so that it dissolved in the mouth before it was swallowed. At first everything was too salt; as the patient got well, she wished salt on both eggs and oysters. The amount of flatus in the bowels was enough to cause pain only a few times in the early part of her illness. The urine has been normal throughout. Never since the operation has any undigested food been seen in the movements from the bowels, and for the most part these have been wholly or partly formed. The patient has vomited but a few times since the operation; twice after etherizations, twice after some laxative had been given, once after the button left its place, and twice after coughing—not more than six ounces at any one time, generally much less. On three or four occasions a mouthful of food would be regurgitated—an oyster, some shreds of meat or a few teaspoonfuls of coffee. As a usual thing the food was well retained and well digested.

Milk, which would sustain most patients under such circumstances, was not liked, and an important food was thus unavailable. The patient's skin is in a natural condition without any dryness; this may be due to the thorough washing which the entire body has had daily since the operation. The symptom which gave the most anxiety after the operation was the restlessness, which was unusually marked. This was without doubt the result of the surgical shock, which was caused by the removal of so important an organ as the stomach, and the interfering with its vessels and nerves.

The season of the year in California, with mild sunny days, and the careful and constant nursing, are among the factors which made the operation a success. The age of the patient counted for something also; the effects of the change of life had long passed by, and there had been for many years an even condition of good health. Many old people can stand in a surgical point of view much more than is generally supposed. The patient was not worried about herself. All she wished for was to be restored to health; how this was to be accomplished she never asked, and to this day she does not know that her stomach has been removed. She has a fine color; complains of nothing so far as the functions of her body go; eats whatever she wishes; has no pain whatever; is of a very cheerful disposition. She is out of doors most of the day from 10 till 5 o'clock, taking occasional walks around the hospital grounds; her temperature and pulse are normal; she sleeps well without an opiate. Although she has food every three hours, she feels quite hungry at times, and feels that she could eat twice as much as is given to her. She is gaining in weight; and her general condition at the present time, April 14th, seven weeks after the operation, is satisfactory in every respect. She leaves the hospital to-day for her home.

In conclusion, I wish to acknowledge my great indebtedness to Dr. Carl Schlatter, of Zurich, for his description of the operation and subsequent treatment, which has been invaluable to me in making this case successful.



The Patient Seven Weeks after the Operation.

