Volvulus of giant sigmoid colon : recurrent attacks of acute obstructions, relief by new method / by William B. Coley and I.S. Chaffee.

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...ed by LEWIS STEPHEN PILCHER, M.D., LL.D., of New York.
With the Collaboration of
...M WHITE, Ph.D., M.D., SIR WILLIAM MACEWEN, M.D., LL.D.,
of Philadelphia. of Glasgow.
W. H. A. JACOBSON, M.Ch.,
of London.

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VOLVULUS OF GIANT SIGMOID COLON.

RECURRENT ATTACKS OF ACUTE OBSTRUCTION; RELIEF BY NEW METHOD.*

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CASE HISTORY.—W. P., male, 55 years of age; had always been in good general health, with the exception of chronic constipation since childhood. In 1906 had an attack of complete obstipation, without any passage of gas or fecal matter, accompanied with great distention that resisted all efforts at relief by means of catharsis and rectal injection. On the eighth day, after repeated high enemas by the attending physician, Dr. Chaffee, the obstruction was relieved. The first movement contained large quantities of gas and liquid fecal matter.

The condition soon became normal and, aside from a marked tendency to constipation, which was relieved by cathartics, the patient had no trouble until June 28, 1908. His bowels did not move on that day, nor the succeeding days, and Dr. Chaffee was called in on the third day. The ordinary cathartics were given without result. Enemas high and low and of various kinds did not even bring away gas. Distention began to appear on the fourth day and gradually increased in severity. Temperature and pulse were normal. There was no pain, aside from the discomfort of the distention.

On July 6, the eighth day, I was called in consultation to see the patient. Physical examination at that time showed enormous distention of the abdomen, which seemed to be generally distributed throughout the entire abdomen; no asymmetry could be detected on inspection or palpation. No tenderness at any point. Temperature and pulse normal. I suggested a high injection of 8 ounces of glycerin with a pint of warm water, which was given without result. I saw the patient again on the following day.

* Patient presented before the New York Surgical Society, April 14, 1909.

The condition remained unchanged, except that the distention had slightly increased and, with it, the discomfort. At no time had there been any nausea or vomiting. Pulse was below 90.

The fact that the patient had had a similar attack, lasting quite as long, two years before with final relief by means of medical measures, caused me to hesitate a little longer before advising operation. I stated that if no movement of the bowels were obtained the following day, I would advise immediate operation. The next day, July 8th, the temperature went up to 99.5° in the morning and pulse a little over 100; the distention had steadily increased and the discomfort had become very great, but there was as yet no nausea or vomiting. Learning his condition by telephone, I advised operation as soon as possible, and in the afternoon of July 8, accompanied by Dr. A. B. Ball, his old family physician and Dr. W. A. Downes, of New York, I took the first train to the place where he was living, ninety miles distant. We saw him at about six o'clock in the evening, and Dr. Chaffee stated that he had been getting steadily worse since morning. Temperature 100½°; pulse 120; respiration difficult, and the distention was the greatest that I have ever seen.

It was the opinion that the condition was probably one of obstruction from a malignant growth. It was evident that in his condition any general anæsthetic would be exceedingly dangerous, and immediate operation was decided on under cocaine anæsthesia. Under infiltration anæsthesia (one-fifth of one per cent. solution of cocaine), I made the ordinary colostomy incision in the left iliac region. On cutting through the peritoneum, an enormously distended sigmoid was found pressing up against the abdominal wall. Its exact size could not be ascertained, as no attempt was made to force the hand into the abdominal cavity. There were apparently no adhesions whatever. I sutured the sigmoid to the parietal peritoneum very carefully and then introduced a trocar of moderate size, through which escaped a very large quantity of gas which relieved the abdomen of at least three-fourths of its distention. This I believed sufficient to enable him to go through twenty-four hours with comparative comfort, allowing time for adhesions to form before making a permanent opening into the bowel. I therefore closed the trocar wound.

At the end of twenty-four hours I made a half-inch incision into the gut, through which escaped a good deal of gas and two

or three quarts of liquid fecal matter, brown in color; no evidences of blood. After this the abdomen had become quite flat and palpation failed to reveal the presence of any tumor. Temperature on the following morning 98°; pulse, 80. In the afternoon it rose to 100.2°; pulse, 96.

On the following morning, July 10, the temperature was 98°, pulse 80; the patient had passed a very good night. During the next three days the temperature ranged between 98.5 and 101°. The dressing had to be frequently changed and was filled with profuse liquid fecal discharge.

After July 14 the temperature remained perfectly normal. On July 19 he for the first time passed thick, dark-brown stool from the rectum, about two ounces in quantity along with considerable gas. In the afternoon of the same day he had a second movement of black, thick, unformed stool, with considerable flatus. During the succeeding days he continued to have two or three movements of the character just described, and the fecal matter coming through the colostomy wound gradually diminished in amount. July 22 and 23 he had three movements each day; the stools continued black in color, fluid or semi-fluid in consistence, rather small in quantity. July 24, he had three stools. July 25 he sat up in a chair for one-half hour, without fatigue; had three stools that day. By this time the wound had ceased to discharge fecal matter and was rapidly closing. July 26 he had six small stools. July 27, eight stools, all small, consisting of thickish brown material. A saline enema was given, and brought away little more than some fecal matter and a moderate amount of gas. July 28, five stools. July 29, six stools; patient sat up for two hours. July 30, had nine stools unchanged in character. The patient did not seem to get relief after these evacuations. The distention began to return and seemed to gradually increase; it never disappeared. August 2, eight stools. August 3, six stools. August 4, four stools. August 5, two stools; he was beginning to have some pain and discomfort in the abdomen. August 6, had five stools. August 7, seven stools, varying in consistence and in quantity; considerable flatus was discharged; the distention was gradually increasing in amount and becoming troublesome. Temperature remained 98.6°; pulse 56.

It was evident that his condition was gradually getting worse and that the obstruction was becoming more and more complete. Therefore, on August 8, I decided to again open the bowel at

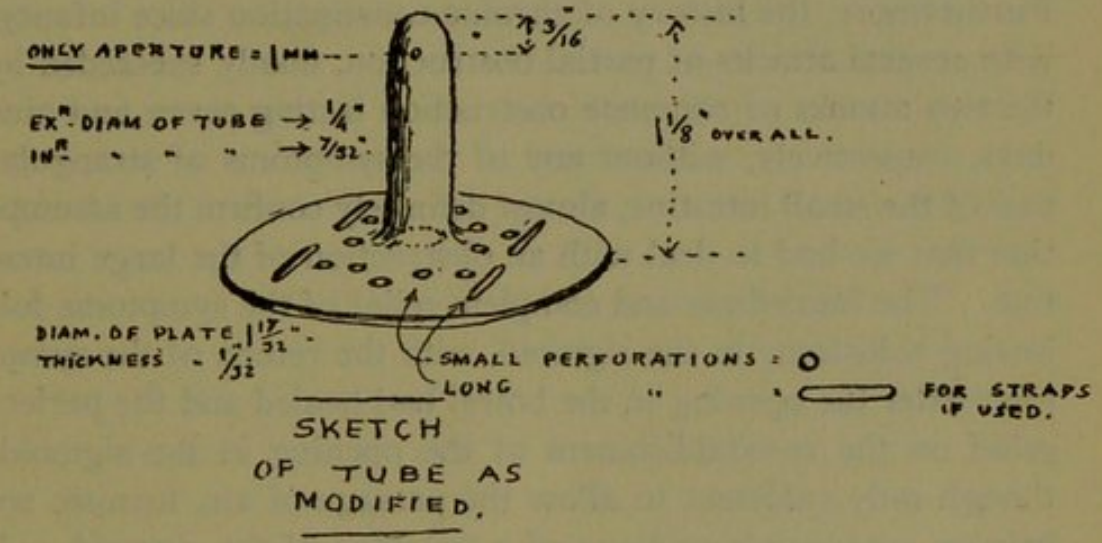
the site of the former incision, which was done without anæsthesia. On opening the sigmoid a very large amount of flatus was expelled and some fecal matter. The absence of any tumor—the abdomen being flat—and his good general condition led us to believe that our probable diagnosis of malignant disease was incorrect and that we had, instead, a greatly enlarged sigmoid which, when it became distended with gas, produced the condition of volvulus resulting in partial or complete obstruction. If this diagnosis were correct, it occurred to me that keeping a small tube in the opening of the abdomen would make it impossible for the gaseous distention to recur, and thus a recurrence of the condition of volvulus might be prevented. Therefore, after the first few days I removed the larger tube from the wound and inserted three-quarters of an inch of the tip of a No. 14 French rubber catheter, the end of which was attached by a safety pin.

The distention never recurred, and the following day, August 9, he had six movements. On August 10, he had none. The pain and discomfort left him; the abdomen was flat and apparently normal. On August 11 he had four stools of good size and semi-solid in consistence, no fecal matter coming through the wound. From that time on, his movements ranged between one and two a day, and were practically normal in character. There was no further discharge from the colostomy wound, except a small amount of liquid fecal matter which found its way through the small opening in the catheter.

If our theory as to the causation of the volvulus was correct, it seemed necessary to continue the wearing of a tube in the old wound, but an opening in the tube that would permit the passage of air without fecal matter should be sufficient. After various modifications the tube shown in Figure 1 has been adopted as the most satisfactory. It consists of a silver tube, resembling the end of a No. 14 French catheter, connected with a circular silver flange about two inches in diameter, which rests upon the abdominal wall. Three-eights of an inch from the tip is a lateral opening only 1 mm. in diameter, which allows the escape of gas but does not permit the discharge of fecal matter. The tube has been worn up to the present time without any inconvenience to the patient. His general health has been perfect and there has been no recur-

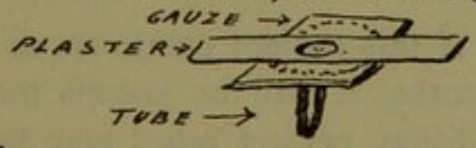
rence or suspicion of a recurrence of the old trouble. I do not think, at the present time, that there can be any doubt that the condition we had to deal with was one of intestinal obstruction due to volvulus of a greatly enlarged sigmoid colon with an abnormally long mesentery, a condition which has been so well and so carefully described by Bloodgood in the ANNALS OF SURGERY for February, 1909.

FIG. 1.



- PLATE WAS MADE ROUND TO ENSURE A MORE EVEN BEARING.

- STRAPS NOT USED - ADHESIVE PLASTER STRIP WITH HOLE IN CENTRE, PLACED OVER TUBE OPENING, USED INSTEAD THUS



A SMALL PERFORATED PIECE OF GAUZE WAS SLIPPED ALSO OVER TUBE TO INTERVENE BETWEEN PLATE AND WOUND.

At first there was strong reason to believe that the condition was one of malignant disease of the sigmoid.

Bloodgood states: "It is so unusual for a patient with acute intestinal obstruction to recover without operation, that such a history can be looked upon as evidence of a malignant tumor, but this more recent study of the rarer lesion—volvulus of the sigmoid colon—demonstrates that the same may occur here."

Our inability to find any tumor after the abdomen had become perectly flat and soft, together with the fact that the patient has remained in perfect health up to the present time, nearly ten months after the operation, makes it practically certain that the trouble was not cancer. There is, I believe, no condition other than volvulus of the sigmoid that could account for the two severe and several lighter attacks of intestinal obstruction that had been observed in the present case. Furthermore, the history of chronic constipation since infancy, with several attacks of partial obstruction, finally succeeded by the two attacks of complete obstruction lasting seven and nine days, respectively, without any of the symptoms of strangulation of the small intestine, almost definitely confirm the assumption that we had to deal with an obstruction of the large intestine. The immediate and complete relief of the symptoms following colostomy in the sigmoid, with the return of the symptoms after the opening in the bowel had healed and the perfect relief on the re-establishment of the opening in the sigmoid, though only sufficient to allow the passage of air, furnish, we believe, convincing evidence of a volvulus of the sigmoid. A giant sigmoid caused by long distention with an abnormally long mesentery gives us the necessary conditions for the formation of a volvulus. The symptoms are almost identical with those observed by Bloodgood, in whose case the condition was proved by laparotomy.

As regards the treatment, if this patient continues as well as during the last eleven months, it will be shown that in certain cases of this rare condition, perfect relief may be obtained by a less severe procedure than resection of the sigmoid.

That the condition is comparatively rare is shown by Bloodgood's statistics. Of 103 cases of intestinal obstruction observed at Johns Hopkins Hospital only 2 were due to volvulus of the sigmoid, and of 121 cases collected by Scudder at the Massachusetts General Hospital 9 were due to volvulus, yet only 2 of the sigmoid. Of these 9 cases all died.

For a more complete study of the condition, with reference to the literature, the reader is referred to Bloodgood's paper.