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Reprinted from the

New York Medical Journal
and Philadelphia Medical Journal

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The medical treatment of mucomembranous colitis seems to be in most cases so unsatisfactory that any method which offers better results should be worthy of being noted. Therefore I desire to report the following case, which is interesting by reason of its long duration, notwithstanding careful medical treatment, and the apparently complete cure obtained as the result of surgical interference:

CASE.—M. S., male, Syrian, aet. twenty-two years, came to Canada at the age of fifteen years, and has lived here or in the United States ever since. He gives a history of malaria at the age of nine years, and afterwards he had some urinary trouble for three years, with frequent micturition and some urethral discharge. He also gives a history of frequent attacks of amygdalitis. In 1897 he went to Louisiana, and diarrhœa began while working on a cotton plantation near New Orleans. He had frequent, painless stools, watery, sometimes containing blood, but not mucus. About four months later stools became more frequent, were accompanied by pain, tenesmus, mucus, and more blood. He was under medical treatment for some time, was recommended to

leave the South, went to New York, and was in a hospital there in July, 1901, from which he was discharged "improved." He lost considerable weight, and was not free from symptoms, except when at rest and on a strict milk diet. At various times diarrhœa has been very bad, alternating with constipation for a few days in the intervals, after which he always passed more "slime" and blood than usual. He came to Montreal about four months before his admission to the Montreal General Hospital, on December 31, 1901, where he remained in one of the medical wards till March 5, 1902, and was discharged "improved." While in the hospital frequent careful examinations failed to reveal any *Amœbæ coli*, and a careful search for tubercle bacilli was also negative. He had a slight attack of pleurisy, but examination of the sputum showed no tubercle bacilli, and an x ray examination of the chest revealed nothing abnormal. During this period he frequently passed large mucous casts of the bowel, notably one three inches and a half long and several inches wide. No evidence of liver abscess was found, and a diagnosis of mucomembranous colitis was made. On March 20, 1902, he was readmitted to the medical side, suffering from the same symptoms, and my confrère, Dr. F. G. Finley, under whose care he was in the medical ward, suggested to me to try colostomy in his case, and, with that end in view, he transferred him to my ward on April 26, 1902. At that time he was having between three and eight stools daily, containing mucus, blood, and undigested food, watery and brown in color. He was markedly neurasthenic.

On May 3, 1902, under ether anæsthesia, a right sided inguinal colostomy was done. The cæcum was brought up and sutured to the parietal opening, after I had first removed the appen-

dix, as I feared it might slough. On the eleventh day after operation the intestine was opened, and by the fæcal fistula thus formed the colon was kept at rest till June 28, 1902, and during this time the patient was allowed up and about, and was kept on a full and varied diet. Dating from two weeks after operation there was a steady improvement. At the end of six weeks the colostomy wound was closed in the usual manner of closing a fæcal fistula. The last time blood appeared in the stools was July 11th, and from that time on there was an absence of mucus and blood. On July 3rd he had five liquid stools, four on July 9th, and not more than two daily at any time thereafter. He regained his normal weight and was discharged well on July 23, 1902, and entered on his duties as operating room orderly at the hospital, which post he filled until he left, the following winter, to go south, as he found the cold of our winter too severe. He had no recurrence of symptoms or loss of weight at any time during this period of five months, which was the first time he had had such freedom from his trouble since it began in 1897.

In this case I operated with the intention of giving the colon physiological rest, and did not carry out irrigation of the bowel, believing that the pathological condition would disappear on the removal of the irritation due to the passage of the fæces, and deeming that no matter what form of irrigation was used, it would defeat my aim of rest to the inflamed bowel.

For the following retrospect of the literature of this subject I am much indebted to my clinical assistant, Dr. C. K. P. Henry, of Westmount. We find that, as far back as March, 1895, Hale

White (1) recommended inguinal colostomy for the treatment of mucous colitis, asserting that this was the only rational way of putting the colon at rest and of furnishing a better means for local applications than could be done by rectal irrigations. The publication of this article in the *Lancet* induced Keith (2) to write a letter in which he records a case of colitis in which this procedure was accompanied by complete success. He operated in June, 1894 (the earliest case we can find mentioned), and the fistula was closed in the following February. In May, 1896, Hale White and C. H. Golding-Bird (3) did a right sided inguinal colostomy, following this by hot water irrigations, and effected a cure, closing the bowel in six weeks. The same authors, in a later article, report four cases of colostomy on the right side, done for mucomembranous colitis, and mention two others by other operators. The original paper I have not had access to, but a synopsis is given in the *Retrospect of Medicine* (4).

Somewhat earlier, in January, 1897, Macpherson Lawrie (5), following the advice of Mr. Grieg Smith, did his first case of colostomy on the right side for mucomembranous colitis, closing the bowel seven months later, and obtained thus a complete cure. In his article a similar case done by Mr. Turney is mentioned, in which a fatal issue occurred from hypostatic pneumonia. In the same year, a case of Sklefasowski's is mentioned by Schwab (6), in which a right sided colostomy was done for a condition of multiple polypi of the colon and rectum, with a very marked improve-

ment in two months. The condition had been present for seven years, and was characterized by diarrhœa, pain, emaciation, and weakness. Franke (7) reports a cure of a case of colitis by the same method.

About the same time a case of chronic dysentery is reported from India as having been operated upon, but resulting fatally on the third day, though I cannot obtain the original article. A colostomy was done here by Powell (8).

Ballance and Godlee, quoted in Macpherson Lawrie's article, have reported cases of colitis treated surgically. A case of the latter, in which a left sided colostomy was done, showed marked improvement, but the patient died from a recurring phlebitis, which had been present previously, and was not incident to the operation. Ballance severed the ileum from the cæcum and brought both ends up to the surface, thus establishing complete rest for the lower segment. The patient died of hypostatic pneumonia one week later, without peritonitis.

Coming to the literature of the American surgeons, we find cases of inguinal colostomy reported by several. William A. Sullivan (9) notes a case of amœbic dysentery, in which J. Henry Barbat, in April, 1900, did a right inguinal colostomy, with the result that in a few days after operation amœbæ disappeared from the stools, and he was able to close the bowel in four months.

A very interesting case of hyperplastic colitis is one in which Howard Lilienthal (10) first did a left sided colostomy, and the mucous membrane

of the bowel was seen to be covered with polypi. The hæmorrhages and other symptoms disappeared and the bowel was closed. There was a relapse and colostomy on the right side was done, and with irrigation the trouble again appeared to be cured. A second relapse led to a resection of the whole colon as far as the sigmoid flexure, into which the ileum was sutured, with eventual recovery, after several unique and inexplicable complications had developed. In Germany Boas (11) reported a case in which the patient, for five years before he first saw her, had chronic dysentery, or, to use his nomenclature—colitis ulcerosa. She had four or five stools daily, and passed blood, mucus, and pus. There was tenderness over the colon and rectal examination was negative. No amœbæ or tubercle bacilli were found in the fæces. He saw her three years before Steiner operated on her—eight years' duration in all—in March, 1901, when a right sided inguinal colostomy was performed. Subsequently he used irrigations of silver nitrate solution, and iodine solutions, both by rectum and by the fistula, the iodine solutions being especially efficacious. Not till the following year was it possible to close the fistula, as blood and Charcot-Leyden crystals only then disappeared. Eventually this was done in March, 1902, and the patient was apparently cured, had gained in weight, and was free from symptoms, save for slight constipation, probably the result of the long period of rest the colon had had.

The next method of surgical treatment for

mucomembranous colitis is one brought forward by C. L. Gibson (12), and described by him in the *Medical Record* of September 12, 1903. He applies the Kader method of gastrostomy to the cæcum, and through the funnel-shaped opening obtained by infolding the anterior wall of the cæcum about a catheter, applies daily irrigations to the whole colon, using silver nitrate solutions. He alleges simplicity, ease of operation, no leakage, and a spontaneous closure of the opening on cessation of the introduction of the tube when the condition has healed. Of course, absolute rest is not here aimed at, and the author of this method depends entirely on the efficacy of the local applications to the mucous membrane. We find this method of operation adopted, and cases reported, by P. R. Bolton (13) and F. H. Markoe, the latter's case in an article by Gibson (14) himself, in which he reports a case of his own, in which death occurred on the eighth day, though no leakage occurred, notwithstanding the fact that irrigation was carried out during the first twenty-four hours following operation. Markoe's case was successful, a gain in weight of thirty-three pounds from December to February being reported, with complete recovery from symptoms, and closure of the opening within a few days of discontinuance of use of tube.

While operating in a case of colitis in which the appendix vermiformis presented at the abdominal opening, R. F. Weir (15) conceived the idea of using this otherwise useless organ, and orig-

inated the operation of appendicostomy, by bringing the appendix up out of the wound, suturing it there, cutting off the distal end, and introducing a catheter through it to the cæcum, and irrigating daily. The author mentions previous cases done by the Kader-Gibson method and with success. The first appendicostomy was reported in August, 1902, and in October of the same year, Willy Meyer (16), in a female patient who had had colitis for two years and had lost sixty pounds, carried out the same procedure with a resulting cure. The opening in the appendix he states will close spontaneously as a rule, and where it fails to do so can be sealed by the actual cautery (17).

Many other cases have gone on record, but these will serve to indicate the marked advance in this special line of abdominal surgery. From left sided inguinal colostomy a step was made when the whole colon was put at rest by an operation done on the right side, and this seems to be the better operation. The colon is at rest, and at the same time an opportunity is afforded to carry out irrigation from fistula to anus if so desired. The Kader-Gibson and Weir methods are ingenious ways of affording means to irrigate without inconvenience to the patient, permitting him to continue his occupation and, judging by cases reported, promising a cure of the disease. As yet we have not enough cases on record to determine whether this will answer in all, and whether an open colostomy will not often be needed, even in cases so treated. The Weir

method can readily be seen to be applicable only to those cases in which the appendix is freely movable and is long enough to be brought to the surface and utilized as a drainage tube, which an abdominal surgeon knows is not likely to be found in a very large percentage of cases. The older and oft tried method of right inguinal colostomy seems to suit well in the majority of cases, and when we consider that nearly all the patients presenting themselves are chronic invalids, the six weeks or so necessarily spent in hospitals while the fistula is open is by no means too long a period in which to obtain relief from a condition which has often existed for nearly as many years. The inconvenience of the frequent changing of dressings seems to be the only serious drawback, as the mortality from the operation itself seems to be very small. The subsequent closure of the fæcal fistula I found very simple and easy.

If I have succeeded in arousing more interest in the surgical treatment of chronic colitis by this paper, I shall feel that a point more has been scored in the advance of surgical therapeutics.

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