A case of typhlitis, with double perforation of the caecum, and peritonitis : in which laparotomy and suture of the gut were followed by recovery / by L.S. McMurtry.

A Case of Typhlitis, with Double Perforation of the Cæcum, and Peritonitis,

In which Laparotomy and Suture of the Gut were Followed by Recovery.

BY
L. S. McMURTRY, A.M., M.D.,
OF DANVILLE, KY.
FORMERLY PROFESSOR OF ANATOMY IN THE [illegible]CKY SCHOOL OF MEDICINE, ETC.

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A CASE OF TYPHLITIS, WITH DOUBLE PERFORATION OF THE CÆCUM, AND PERITONITIS,

IN WHICH LAPAROTOMY AND SUTURE OF THE GUT WERE FOLLOWED BY RECOVERY.

On the evening of Thursday, January 26, 1888, I was summoned by telegraph to Somerset, Ky., to meet Drs. George Perkins and I. S. Warren, of that town, in consultation. Going by a night train, I joined Drs. Perkins, Warren, and Owens, Sr., at the bedside of the patient at 8 o'clock on the morning of the following day, the 27th.

The patient was a well-known young physician, Dr. J. L. Owens, of Somerset, and I reproduce the history of his illness up to the time of my first visit in Dr. Perkins' own words: "For several months prior to the illness of Dr. J. L. Owens he had been subject to occasional attacks of colic. These attacks were not very severe, would occur without warning, were of short duration, and were frequently attended with nausea and vomiting. They were attributed to indigestion. On January 10 I was first called to see him, and found him suffering intensely with pain referred to the right iliac region. He had already taken ½-gr. of morphia hypodermatically without relief, and his wife was, by his direction, administering chloroform when I entered the room. The severity of the pain, with its locality, excited my suspicions of renal colic, which opinion was confirmed by Drs. Warren and Owens, Sr., who joined me soon after my arrival. This opinion was still fur-

ther confirmed later by intense reflex pain in the head of the penis.' By the liberal use of morphia, aided with occasional inhalation of chloroform, relief was secured.

"For three or four days following, an occasional dose of morphia sufficed to keep the patient comfortable. As soon as possible the morphia was discontinued, and laxatives were administered for relief of the constipation which existed. On January 18 there was increased soreness in the iliac region. On January 23 I first detected by the touch a slight induration there. This induration was almond-shaped and in the line of the ureter. Immediately over it could be elicited dulness on percussion, but not flatness. A diagnosis of renal colic having been entertained, this was supposed to be impaction of the ureter. This induration continued with gradual enlargement, until it became an oblong sausage-shaped tumor in the right iliac fossa. Pain required occasional doses of morphia, and there was moderate febrile movement. On the evening of the 26th hæmorrhage from the bowels began, the patient passing about 32 ozs. of blood. Hiccough was added to the other symptoms, which, with increased frequency of the pulse, tympanites and serous vomiting, established the diagnosis of cæcal or pericæcal inflammation. On the morning of the 27th increased frequency of the pulse, cold extremities and perspiration were interpreted as symptoms of perforation and impending collapse. In solving the problem of intra-abdominal disease in this case I think we were greatly aided by the sparing administration of opium, thereby avoiding the obscuration of symptoms."

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[1] Symptoms simulating those of renal colic have been frequently observed in cases of perityphlitis. See article by J. W. Elliott on "Perforative Appendicitis," in Boston Medical and Surgical Journal, Jan. 19, 1888, p. 92.

When I saw the patient on Friday morning, the 27th, the pulse was small, the surface bathed in perspiration, with frequent vomiting of green, serous fluid, characteristic of peritonitis, and bloody stools as described by Dr. Perkins. The tumor already described was distinct in outline, and readily recognized as the caput coli. In our consultation I recommended immediate section of the abdomen, which was readily acceded to by Drs. Perkins, Warren, and Owens, Sr. Our decision was communicated to the patient, who, being a competent physician, cognizant of his danger and appreciative of the advantages offered by prompt surgical interference in abdominal disease, consented without hesitation. Immediate preparations were begun for the operation. We believed we had to deal with a perforation of the appendix and consequent septic peritonitis.

At 2 o'clock Dr. Perkins anæsthetized the patient and, with the assistance of Dr. Warren, I proceeded to operate, observing thorough antiseptic precautions. The incision was 3½ inches in length, made directly over the tumor, beginning on a line about 2 inches to the right of the umbilicus and continued obliquely in the direction of the pubes; It was afterward extended ½-inch toward the pubes. The superficial layers of the parietal tissues were healthy, but the deeper layers were heavily infiltrated. The parietal peritoneum and that covering the caput coli and adjacent coils of small intestine were thickened, highly injected, and exhibited flakes of recent lymph. The peritonitis was limited, but bore evidences of being recent, severe and spreading. The cæcum was brought up through the edges of the incision and surrounded with a towel wrung out of hot carbolized water. The intestines were retained by warm sponges pressed within the wound. The vermi-

form appendix was found to be normal. Upon the anterior and external surfaces of the cæcum were two gangrenous perforations, one being somewhat larger than a twenty-five cent piece, the other a little larger than a ten-cent piece. These perforations were black and of well-defined circular shape. The larger perforation was complete, and allowed free exudation from within the gut. The smaller one was scarcely complete, but the tissues were rotten, and upon slight pressure allowed my little finger to slip into the cavity of the gut. The lesions were typically those of perforative peritonitis. With the scissors I trimmed off the edges of the perforations, removing the gangrenous tissue and converting them from circular to elliptical shape. The openings were then closed with silk sutures applied after Lembert's method, five sutures for the larger and three for the smaller opening. The tissues of the gut were thickened with inflammatory exudation. The sutures passed beneath the muscular coat but did not penetrate the mucous membrane. The toilette was made with scrupulous care. The diseased parts and the entire iliac fossa were carefully cleansed with warm carbolized solution (1 to 40), and a large-sized rubber drainage-tube placed deep in the iliac fossa. The wound was closed with silk sutures, dusted with iodoform, and dressed with antiseptic gauze.

Immediate improvement followed the operation. Neither vomiting nor intestinal hæmorrhage recurred. The after-treatment was conducted in accordance with the methods commended by recent clinical experience in cases of abdominal section. Within a few hours after the operation the pulse and temperature fell to almost the normal standard, and so remained, with the exception of a few hours on the third day when the

pulse and temperature suddenly ran up in consequence of gastric distension. Drs. Perkins and Warren being present, promptly administered a Seidlitz powder, which was followed by a complete evacuation of the bowels with prompt relief of the unfavorable symptoms. With the exception of this interruption of a few hours, the pulse and temperature remained under 100 after the operation. The bowels were moved, as stated, on the third day, and were kept soluble throughout. Opium was used very sparingly, and when absolutely required it was given in small doses hypodermically. The drainage-tube was removed piece by piece, and was entirely withdrawn on the fourteenth day. The drainage was encouraged and facilitated throughout the after-treatment by suction of the tube, made by means of a small glass syringe, to which the tube could be closely fitted. The dietary, of course, was limited to fluids and semi-solid foods. The patient rapidly regained his strength, and is now completely restored to health and his professional work.[1] It is only just to my colleagues, Drs. Perkins and Warren, that due recognition should be made of their skill in the diagnosis of the case, their valued aid during the operation, and their services so faithfully rendered during the after-treatment.

The treatment of non-traumatic perforation of the intestine and consequent peritonitis by abdominal section is of very recent date. The first operation of this kind was reported in 1883 by Miculicz, for perforation of the vermiform appendix, with a fatal result.[2] In June of last year (1887) Weir was able to collect only fifteen cases in which laparotomy had been done for perforation of the intestines not due to traumatic causes. Of this

[1] The patient was here presented to the Section.
[2] Weir. N. Y. Medical Record, June 11, 1887, p. 654.

number nine were cases of disease of the appendix, and all save one resulted fatally. In one no perforation was found, the peritoneum was cleansed and the patient recovered. In another an abscess was found, but no perforation, the patient recovering. To Weir's collected list should be added a successful case of abdominal section for perforation of the appendix done by Dr. Thomas G. Morton, of Philadelphia, reported by Dr. Frank Woodbury to the College of Physicians of Philadelphia, June 1, 1887; another successful case reported by Dr. J. W. Elliott in the *Boston Med. and Surg. Jour.*, of Jan. 26, 1888; and also another successful case of perforation of the appendix treated by abdominal section by Dr. Henry B. Sands, of New York, reported in the *N. Y. Medical Jour.* of February 25, making a total of twelve cases with four recoveries. Only one case of perforation of the cæcum treated by laparotomy has been recorded. This case was reported by Regnier in 1886.[3] The patient was a male, æt. 16, and the symptoms were those of intestinal obstruction and peritonitis. Laparotomy was done on the fifth day, and the patient died seven hours afterward. The perforation of the cæcum was discovered at the autopsy. From this it will be seen that I have the honor to report the first successful case of abdominal section for non-traumatic perforation of the cæcum. Perforations of the cæcum are extremely rare in comparison with those of the appendix.

Under the head of typhlitis and perityphlitis all inflammatory processes in the iliac fossa involving the cæcum or vermiform appendix are included. In classifying these affections several varieties have been described by surgical writers, but for clinical purposes it is only necessary to describe

[3] Treatment Chirurgicale de la Peritonite. Truc. 1886, p. 57.

them as extraperitoneal and intraperitoneal. To differentiate these inflammatory conditions is at times difficult, often impossible. When, however, the local and general symptoms of peritonitis supervene, with the fearful evidences of perforation, as in the case here reported, the differentiation is made without great difficulty. In the extraperitoneal, perityphlitis proper, the inflammatory process has its origin in the cæcum or its appendix. Adhesions are formed between the opposing peritoneal surfaces, thus shutting off the general peritoneal cavity.[1] Pus forms in the retroperitoneal connective tissue and, following the connective tissue plane, dissects up the anterior reflection of the peritoneum to appear with tumefaction and fluctuation above Poupart's ligament. A distinction must be observed between this class of cases and those of general septic peritonitis. In evacuating the extraperitoneal abscess the dissection must be carefully conducted with a view to avoiding peritoneal invasion by pushing aside the anterior reflection of the peritoneum. These cases of perityphlitic abscess are comparatively common. They have their origin in inflammation of the appendix or cæcum (as a rule the former), and are shut off by adhesions from the general peritoneal sac. The intraperitoneal cases, of which the case I have reported is an example, are not really cases of perityphlitis as that term should be employed, but are cases of perforative peritonitis. The essential feature of the pathological state here is fæcal extravasation (gaseous, fluid or solid), and septic peritonitis. In these cases the tumor is less prominent as a symptom than in the other

[1] Treves has shown by the examination of 100 bodies that the cæcum and appendix are wholly intraperitoneal, and free within the abdominal cavity; that the cæcum and its appendix are completely enveloped by peritoneum. (The Anatomy of the Intestinal Canal and Peritoneum in Man. 1885, p. 55.)

variety of pericæcal inflammation, but the illness is more sudden and severe, the symptoms of peritonitis become conspicuous, and the signs of collapse may quickly supervene.

In cases of perityphlitis where a tumor presents and inflammatory action is moderate, expectant methods are admissible with a hope of resolution without suppuration. When pus forms in the retroperitoneal connective tissue and is making its way toward the surface, delay may facilitate its access by allowing the peritoneum to be pushed aside. But this advantage does not counterbalance the benefits of an exploratory incision, which should be resorted to as soon as grave symptoms suggest it. The aspirator is unreliable and unsatisfactory as an exploratory means in these cases, and its use is attended with the danger of peritoneal infection. The exploratory incision is more free from danger and much more satisfactory.

With the other class of cases such discretion cannot be indulged. As soon as the diagnosis of intraperitoneal inflammation is made, abdominal section should at once be performed. Delay here is fatal. To stand in waiting, giving opium freely, is neither conservative nor surgical. The operation should be done before the septic process has spread throughout the peritoneum.

In the case here reported I believe success is due to the early detection of the lesions by the gentlemen in attendance, the prompt acceptance by the patient of the operation when proposed, and its satisfactory accomplishment. The case, I believe, is unique, and marks a further extension of the triumphs of abdominal surgery.