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—Enterorrhaphy—Recovery

BY

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A CASE OF CHRONIC PERITONITIS, WITH INTESTINAL AND ABDOMINAL FISTULÆ—ENTERORRHAPHY—RECOVERY.¹

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THE three great dangers the surgeon has to encounter in dealing with the abdomen and its viscera are sepsis, hemorrhage, and intestinal adhesions. Of these the last is by no means of the least importance. When not causing immediate death by intestinal obstruction, it frequently defeats the object of surgical interference—the complete restoration of the patient to health; and in many cases, while removing the danger of sepsis, it substitutes that of intestinal obstruction; while the pain is relieved for a short time only, if at all.

The attention of the writer was forcibly drawn to this subject, some years since, by the inspection of an abdominal cavity and its contents in a patient who had died of intestinal obstruction twelve months after an apparently successful operation for pyosalpinx. This examination revealed such extensive adhesion of the intestines that the question arose whether the patient would not have been better off if the original operation had not been performed. The conditions found would have made an operation for the relief of the obstruction, which was by a band low down in the pelvis, impossible. The operation was performed in strict accordance with the technique of the day, and was not followed by any signs of sepsis. The wound healed primarily, the patient's bowels moved early, and in fact she made a rapid recovery. But although her sepsis was relieved, her pain soon re-

¹ Read before the Fifth District Branch of the New York State Medical Association, at its Tenth Annual Meeting, held in Brooklyn, May 22, 1894.



turned, and she had at short intervals recurring attacks of intestinal obstruction which were easily overcome by mild measures. Finally, being away from her home when an attack of intestinal obstruction came on, her physician, ignoring her previous history, gave croton-oil and other cathartics; the violent peristalsis induced forced such an amount of gut under a band that it became strangulated, and after some days' delay it became gangrenous and perforated, with a fatal result. A similar history has followed successful operations of this nature so often that the question is frequently asked, Does surgery do what it claims—cure the patient?

The gynecological service at the City Hospital receives, for one reason or another, many cases that have had coeliotomies performed at other New York hospitals, which have eventuated in adhesions, sinuses, and ventral herniæ. They are sent here for secondary operations, having been probably reported in good faith by the operators as "successful" cases. It is for the purpose of calling attention to this subject of intra-peritoneal adhesions, and to offer a suggestion for their prevention, as well as to provoke discussion, that the report of the following case, which has given the title to this paper, is of interest.

A. W——, a female, about twenty-three years of age, was admitted to the Penitentiary Hospital on Blackwell's Island, April 27, 1892. Her history previous to coming under my care in February, 1894, is as follows: She said that after her first menstruation, which took place at the age of thirteen years, she had had an attack of spinal meningitis, and had not menstruated again for two years. Then menstruation had gone on regularly, and had been of the tri-weekly type. It had been profuse, lasting seven days, and being accompanied by much pain. She had had no children. One miscarriage at five months had occurred during the summer of 1891. Soon after this she had had a syphilitic eruption, with pains in her bones and an iritis. During the winter of 1890-91 she

had had a localized pain in the left inguinal region, which had been more severe at the menstrual periods. There had also begun to be difficulty and pain on defecation. In the autumn of 1891, she had received a kick over the seat of pain, and after this the pain had become worse, and had been accompanied by constant headache and nausea. She had then become addicted to the use of morphia and cocaine. Her bowels had moved regularly. It is noted in the hospital records that a vaginal examination, made in May, 1892, showed her uterus to be slightly anteflexed, enlarged, and tender, with a pin-hole os, and the left ovary to be somewhat enlarged. Again, on November 30th, a vaginal examination revealed the left ovary enlarged to the size of a hen's egg, and also a salpingitis of the right tube. Rectal examination disclosed a stricture at two inches from the anus.

On December 14, 1892, the rectal stricture was incised and divulsed, and on January 6, 1893, a cœliotomy was performed, and both tubes and ovaries removed. In breaking up the adhesions about the right tube, it was ruptured, and some yellowish pus escaped into the peritoneal cavity. It was removed by sponges wrung out in a 1 to 20 carbolic-acid solution. No further particulars are given except that the wound was closed by silkworm-gut sutures passing through all the layers. Primary union occurred except at one point, near the lower angle of the incision. A week after the operation a probe was introduced at this point, and pus welled up from the wound. On the fourth day after the operation there was a free escape of pus from her rectum. Notwithstanding her sepsis her bodily temperature did not rise above 100°, and no antipyretics were used. On August 14, 1893, it is recorded that the sinus still persisted, and that the patient was suffering much pain. A secondary cœliotomy was performed by the surgeon on duty. After the incision had been made, so many and firm adhesions were found that the wound was closed without any further interference. After the wound had healed, the

sinus remained patent, and the former symptoms continued unabated. A vaginal examination made in December, 1893, revealed a large tumor on the patient's right side, which was very painful. The propriety of an operation was considered, but before it was done there was a free discharge of pus per rectum, and the tumor subsided.

On taking charge of this service, February 1st of this year, I found this patient in a deplorable condition, suffering from continuous pelvic pain. Examining her with one hand on the abdomen and the other in the vagina, a decided resistance and fulness were encountered, and there was marked tenderness in the right iliac fossa. The uterus was fixed. The sinus at the lower angle of the old cicatrix was patent, and discharged pus. A rectal examination revealed a stricture of large calibre, and an ulceration at two inches from the anus. The patient earnestly requested that something be done for her relief. After careful consideration of the case, operation was decided upon, and performed on February 14th.

The incision was made in the line of the old cicatrix, splitting the sinus, which was found to pass into a cavity formed by adhesions of the intestines to the anterior abdominal wall, to themselves, and to the uterus, and bounded in front by the bladder. Into this cavity was poured a fifteen-volume solution of hydrogen dioxide, and after this had been allowed to remain for a few minutes, it was sponged away and the adhesions broken up. As the intestine was freed from the right side of the uterus, a fistulous opening was discovered, which was closed as soon as the intestine had been sufficiently freed to allow of its being brought outside of the abdomen. This closure was effected by scarifying the peritoneal coat of the upper side, the lower side being already denuded, and by introducing a single row of Lembert suture. The appendix was adherent low down in the right iliac fossa, and was freed, but not removed. After the adhesions which formed this abscess cavity had been broken up the intestines were found to be very much tangled

and matted together. These adhesions were broken up partly by the finger, and partly by dissection. The omentum, which was adherent, was ligated and removed. At one point the peritoneal coat of the intestine was ruptured over an area measuring $\frac{1}{4} \times \frac{1}{2}$ of an inch. It was repaired by Lembert sutures. The hydrogen dioxide was freely poured into the peritoneal cavity, and after a little delay, the cavity was flushed with normal salt solution (0.6 per cent.), and the cavity left full of the same. The temperature of the solution was 115° F. The edges of the old sinus were scraped with the sharp spoon, and the wound closed with silkworm-gut sutures passing through all the layers. No drainage was employed. The time occupied by the operation was two hours. Only eight ounces of ether were used, but the patient took the ether badly, and this much prolonged the operation. Although suffering from shock, she rallied well on the introduction of hot saline solution into the abdominal cavity, aided by the hypodermic injections of glonoin and strychnia. Her bowels moved shortly after the conclusion of the operation, and again on the third day, although morphia was employed more or less freely. No cathartics were given after this, her bowels moved regularly several times a day. The patient had very little nausea. Beef peptonoids were given within twelve hours after the operation, and were followed by peptonized milk and semi-liquid food on the fourth day. Her temperature, pulse, and respiration became normal on the sixth day. Her pain was relieved. The wound healed primarily throughout. Following the operation, there was a decided improvement in her general appearance. On March 20th, it was noted that she was in better health than she had been for two years previously. A vaginal examination at this time showed the uterus to be freely movable. There was no evidence of adhesions or of tenderness in the pelvis. Six weeks after the operation the patient was in sufficiently good condition to submit to the removal of three inches of her rectum, and

she is now in good health, with the exception of some nervous disorder.

As the technique has been alluded to, it may be well to state that in this, as well as in all other abdominal operations performed within the past eighteen months by the writer, all chemicals except hydrogen dioxide have been avoided, reliance being placed entirely on sterilization of instruments by boiling, and on the use of sterilized salt solution, with the avoidance of the use of sponges. The main point of interest in this case, aside from the number of cœliotomies submitted to by this patient, and the severity of the last one, is the free use of the hydrogen dioxide for the purpose of destroying the old abscess cavity before breaking up the adhesions, and the closing of the abdominal cavity after filling it with the saline solution, for the definite purpose of preventing the formation of new adhesions. Further experience gathered during the past winter has confirmed the claim made in a former paper, that closing the abdominal cavity after filling it with hot sterilized salt solution, lessens shock, prevents the formation of adhesions, aids in the readjustment of the intestine and omentum to their proper position, and lessens the danger of septic peritonitis. To this I may add that after operations where it is so used there is little nausea, and an absence of the insatiable thirst which formerly tormented these patients, and that the bowels act more freely, often of their own accord, in spite of the fact that morphia is used whenever indicated on account of restlessness. My opinion is confirmed in the belief that hydrogen dioxide is a safe and sure disinfectant for the peritoneal cavity. I have used it with satisfactory results in more than twenty cases.

In conclusion, I would like to call attention to the fact that, although the duration of the operation was two hours, only eight ounces of ether were used. The shock following an operation is, in my experience, more dependent on the amount of ether employed than on the duration of the operation, although this is of importance.

Had not experience given me faith that by the use of salt solution adhesions once broken up could be prevented from reforming, that in hydrogen dioxide there is a safe and certain weapon for preventing and overcoming sepsis in the peritoneal cavity, and that with the closed ether inhaler a long operation could be performed with the minimum amount of ether, and therefore with little shock, the above-described operation would not have been justifiable, and would not have been undertaken.

55 WEST THIRTY-SIXTH STREET.

