Clinical Notes, Suggestions, and New Instruments

PENETRATING WOUND OF PERINEUM WITH PUNCTURE OF THE INTESTINE

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This case of unusually severe intra-abdominal injury presents the value of prompt operative interference and reiterates the value of thorough drainage in such types of intra-abdominal trauma.

REPORT OF CASE

History.—G. T., a farmer boy, aged 16, admitted to the hospital at 7 o'clock one evening in June, 1922, had slid down the side of a hay stack at noon that day and landed on the broken handle of a pitchfork that was standing alongside the stack. The handle penetrated the perineum on the right side about an inch from the rectum. He pulled out the handle, lay down on the ground for about an hour, and then walked to the farm house. There was no severe hemorrhage. The boy stated that the handle penetrated a distance of 6 or 7 inches. A physician saw him about five hours later. The boy was complaining of severe abdominal pain. Morphine and codeine were given to control the pain. He was conveyed to the hospital, a distance of 24 miles, and was seen at 7:30, approximately eight hours after the injury. He had not vomited. The previous history was unimportant.

Examination.—The boy was well nourished and healthy. He was evidently suffering considerable pain, and was restless. The temperature was 101.4; pulse, 118; respirations, 18. The color was good. There were no signs of hemorrhage or shock. The abdomen was hard retracted, with spastic recti. The boy complained of pain and cramps in the lower abdomen. On general percussion there was dullness. A catheterized specimen of urine was clear, with no blood. To the right of the rectum there was a ragged, penetrating, stellate wound, which did not bleed. No trauma or laceration of the rectum was detected on proctoscopic examination. A diagnosis was made of penetrating wound of the perineum, and intra-abdominal trauma. The diagnosis was based on the nature of the injury, acute abdominal pain and muscular rigidity, rising pulse, and absence of a puncture wound of the rectum. Immediate operation was advised and accepted.

Operation.—At 9 o'clock, under ether anesthesia, a median incision was made. There poured out fluid and intestinal contents. Food and fecal material were widely disseminated among the intestinal coils. Exploration revealed a lacerated wound of the ilium, about 16 inches from the cecum, through which the intestinal contents were escaping. The wound of the intestine was closed with two layers of inverting suture. There was no other injury to the bowels, though they were covered with lymph exudate and were deeply injected. The penetration of the peritoneal cavity was at the right of the pelvic peritoneum and did not involve the ureter or the prostate gland. The abdomen was freely flushed with saline solution. Two tube drains to the pelvis were inserted. The abdominal wound was closed. On exploration of the perineal wound, the examining finger came in contact with the abdominal drainage tubes. A tube was inserted through this wound into the lower abdominal cavity, thereby attaining through and through abdominal drainage. The tube was retained by a silkworm suture. The time of operation was thirty-five minutes. The pulse at the close was 110.

Postoperative Course and Treatment.—At no time did nausea or vomiting occur. There was good recovery from the anesthetic. Antitetanic serum, 1,500 units, was given. Continuous proctoclysis was given. The patient was kept in Fowler's position. Morphine was given in sufficiently frequent doses to keep the respirations between ten and twelve. Frequently changed, moist, hot pads were applied to the upper abdomen and both sides. Water was given freely

by mouth. At the end of twenty-four hours, the pulse was 136, temperature, 102.4. There was slight epigastric distention. At the end of second day the pulse was 112, the temperature, 101.2. Morphine and local moist heat were continued. The color was good. There was free water intake. The patient retained rectal saline solution well. At the end of the third day the pulse was from 90 to 100, the temperature, 100. The treatment was unchanged. Albumin water and buttermilk were given at intervals of three hours. Morphine was discontinued. The abdomen was soft. On the fourth day the pulse was from 68 to 82, the temperature, 99.6. There was a spontaneous, normal bowel movement. The subsequent course was uneventful. There was considerable serous, cloudy drainage the first thirty-six hours from the perineal and abdominal tubes. This gradually subsided, and at no time was it purulent. The tubes were removed on the fifth and sixth days. The wounds were packed lightly and gradual closure ensued. The bowels were normal, a voluntary bowel movement continuing daily during the patient's hospital residence. Nourishment was gradually increased after the fourth day. The urine was voided, and no need for catheterization ever presented itself. The patient was dismissed from the hospital on the sixteenth day, in good condition. There were no indications of suppuration in the healed incision or the penetrating wound.

COMMENT

Pain is usually one of the first and most constant signs of injury to the abdominal contents, its character depending on the amount of fluid escaping into the peritoneal cavity. Associated with the pain is the spasm of the abdominal muscles, especially the recti. In this instance the severe pain and abdominal muscle rigidity gave ample evidence of visceral trauma, demanding prompt operative interference, irrespective of the location and lack of local evidence at the site of the original injury.

Mortality increases in direct and rapid proportion to the hours intervening between the time of injury and the operation. Mortality will be reduced, the more prompt the operation. When doubt exists, operation should be resorted to rather than to wait for definite symptoms. If prompt, early operation reveals no visceral injury, no harm has been done. On the contrary, early, prompt operation when visceral injury exists enhances intensively the patient's recovery.

Drainage properly placed and of ample size is extremely essential. The tubes may be removed on the fifth day, as a rule. Soiling of viscera, by intestinal contents, is best removed by free saline flushing and by vacuum aspiration, though opinions are frequently expressed to the contrary.

These classes of intra-abdominal visceral trauma should receive active treatment as potential acute peritonitis. Our experience has been that morphine should be given in sufficient dosage to reduce the respirations to between ten and twelve, and to maintain that respiratory rate for three or four days. To envelop the whole abdomen with frequently changed, hot, moist applications, and to flood the system, so to speak, with water by means of continuous proctoclysis, supplemented by intravenous and subcutaneous saline solution at from eight to twelve hours, and water by mouth freely as soon as may be, are important, material measures that limit and prevent active, spreading peritonitis. When nausea or vomiting exists or continues, frequent gastric lavage is employed. The intensity of employment of these measures depends on the condition that confronts the surgeon. In all soiling or contamination of the abdomen in emergency or planned operative procedures, a potential peritonitis should be regarded as existing, and active treatment must be directed to counteract so dire a complication. Blood transfusion, early, is another valued addition to this treatment.

Through and through drainage, more readily possible in female than in male patients, is recognized as effective and desirable. In the male it would be a difficult procedure, with careful dissection, to avoid injury to vessels, prostate, bladder, ureter and rectum. In this case the avenue provided by the penetrating object enabled us to attain this desired drainage, thereby assisting the patient's recovery.