
Stercoral Perforation of the Colon in Pregnancy

Authors: Andrew L. Atkinson (1) and Antonio Pepe (2)

Location: (1) Saba University School of Medicine, Netherlands-Antilles & (2) Memorial Regional Hospital, Hollywood, Florida, USA

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ABSTRACT

We report a 37 year old multi-parous lady, who in her third trimester of pregnancy, presented to the emergency room with acute diffuse abdominal pain and involuntary guarding. Findings on physical examination were consistent with peritonitis and a decision was made by the admitting team to perform an urgent laparotomy which surprisingly showed a stercoral perforation of the colon.

INTRODUCTION

Stercoral Perforation in a pregnant patient is an extremely rare surgical emergency seldom mentioned in the literature. Since its first description in 1894, there have been less than 90 documented cases worldwide.

We report a 37 year old multi-parous lady, who in her third trimester of pregnancy, presented to the emergency room with acute diffuse abdominal pain and involuntary guarding. Findings on physical examination were consistent with peritonitis and a decision was made by the admitting team to perform an urgent laparotomy.

CASE REPORT

A 37 year old caucasian female, gravid-4 para-3 at 31 weeks gestation, presented to the obstetrics unit with acute onset of diffuse abdominal pain that had started 4 hours previously. The pain was described as dull, and had been steadily increasing in intensity since onset. The patient denied any uterine contractions, however she was nauseated with intermittent vomiting and admitted to being constipated, not having passed a motion for 72 hrs.

The patient's medical history included bipolar disorder, chronic constipation, unspecified eating disorder, and narcotic abuse. Her history of untreated constipation was present before her pregnancy raising suspicion that the constipation was most likely secondary to narcotic abuse. Her urine toxicology screen on admission was positive for opiates and benzodiazepines.

Obstetric history was unremarkable. Prenatal records for current pregnancy showed that there was adequate fetal growth with no obvious fetal anomalies. Ultrasound done at 30 weeks revealed a single uterine pregnancy with the fetus in vertex presentation and the placenta in

the anterior position. Regular cardiac and fetal activities were also noted with an appropriate amniotic fluid index of 16.9.

Physical examination revealed a distended rigid abdomen, with involuntary guarding and generalized rebound tenderness. Bowel sounds were diminished with no evidence of hepatosplenomegaly. Perineal examination showed no evidence of vaginal bleeding or discharge.

Vital signs were stable on admission. Laboratory tests revealed a white blood cell count of 21.8×10^9 , hemoglobin 11.5 g/dL, and a negative urinalysis. Ultrasound was performed and revealed minimal fluid around the liver, but neither air nor gross fluid was visible in the abdominal cavity.

The patient was taken to the operating room, the abdomen was opened and the uterus revealed no evidence of perforation or disturbance to the uterine serosa. Feco-purulent fluid was found in the abdominal cavity and with further investigation a left sided sigmoid perforation approximately 5x3cm was found. Formed stool was visible through this perforation. After closure of the perforation, resection was then performed from the mid descending colon to the distal sigmoid region, excluding the recto-sigmoid junction. Following this, efforts were made to dis-impact the colon which contained significant amounts of “rock hard” fecal pellets. A Hartmann’s procedure was carried out uneventfully with copious irrigation of the abdominal cavity using 6 liters of warm saline. A stoma site was chosen on the left lateral abdominal wall and an end stoma fashioned.

On the sixth post-operative day, the patient developed a prolapsed colostomy secondary to the gravid uterus increasing in size. The decision was made to perform an emergency caesarean section followed by a revision of the colostomy to prevent the risk of colonic ischemia. The neonate had apgar scores of 7 and 8. Following this the bowel was then re-explored by the surgical team, the colostomy was repaired and once again the abdominal cavity was copiously irrigated before close.

DISCUSSION

Stercoral perforation is defined as, “perforation of the bowel due to pressure necrosis from fecal masses.” The fecal mass being no more than an accumulation of stool that has hardened and has remained stationary in the bowel over a long period of time causing stagnation and colonic deformity. In July 2000, Maure et al proposed a set of diagnostic criteria to differentiate stercoral perforation from other causes of bowel perforation. (1) According to the criteria outlined, a true stercoral perforation can be defined as:

- Perforations must be round or ovoid, >1cm in diameter, and be anti-mesenteric in location (furthest away from the mesenteric blood supply).
- Fecal masses must be present either within the colon or abdominal cavity.
- Pressure necrosis or ulcer and chronic inflammatory reaction around the perforation site must be present microscopically. Any additional colon pathology leads to exclusion from

the diagnosis of stercoral perforation of the colon.

- All of the above must be featured in the absence of any other active colonic pathology.

The primary aetiological factor linked to stercoral perforation is chronic constipation with greater than 61% of patients having a positive history and 100% of patients showing evidence of fecal impaction on abdominal films. (2)

The colon consists of certain intrinsic factors which predispose it to perforation. 77% of stercoral perforations occur in the sigmoid and the recto-sigmoid regions.(3) As stool passes through the colon, water is absorbed at a high rate in the large colon, thus making water content in the stool lowest in the distal colon. The narrow lumen of the distal colon leads to an increased intra-luminal pressure which can become higher than the intestinal capillary perfusion pressure causing necrosis on the anti-mesenteric border in the event of fecal impaction. (4)

In a study of 33 patients with stercoral perforations, resection of the affected colon, end colostomy, and Hartmann's closure had the lowest operative mortality of 23%. (5) Furthermore, the entire length of the colon should be inspected for hard fecal masses or other stercoral ulcers. The operation is only complete once the peritoneal cavity has been generously lavaged to reduce the risk of sepsis, which is the most common cause of subsequent mortality. This approach to the patient with stercoral perforation is the treatment of choice in both pregnant and non-pregnant patients.

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