

Spontaneous Perforation of Rectosigmoid Colon

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Abstract

Spontaneous perforation of the sigmoid colon or rectum is defined as a sudden perforation of the colon in the absence of diseases such as tumors, diverticulosis or external injury. It is a very rare finding, and if neglected, results in severe peritonitis and high mortality. The causes of this rare condition are numerous, and in this case it might be due to the chronic constipation induced by an anticholinergic antipsychotic.

Iran J Med Sci 2010; 35(4): 339-341.

Keywords • Antipsychotic drugs • sigmoid • peritonitis

Introduction

Fewer than 100 cases of spontaneous perforation of the colon have been reported in the literature since its first description in 1894. Mortality and morbidity rates in these cases are not clear, but peritonitis secondary to all causes of colonic perforation treated surgically is close to 50%.¹ Perforation occurs most often in the rectosigmoid and mid-sigmoid regions, and occasionally in the cecum. It results from impacted feces-induced pressure necrosis on the colonic wall. Drug-induced fecal impaction is becoming more prevalent, and is not uncommon in opiate addicts with chronic constipation. Frequent ingestion of substance such as antacids,² codeine, amitriptyline, tranquilizers,³ and corticosteroids,⁴ may lead to spontaneous perforations. However, it must be emphasized that fecalomas may persist in spite of apparently normal bowel function.

A search of PubMed electronic database revealed not a single case of olanzapine-induced colonic perforation. Herein, a case of colonic perforation due to olanzapine-induced constipation will be presented. Moreover, the approach to treatment of such a case including rapid and adequate resuscitation, antibiotic coverage, and early operation will be discussed.

Case Description

A 51-year-old schizophrenic male was admitted to Taleghani Teaching Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran complaining of severe abdominal pain, nausea, and vomiting after a heavy meal. He had a long history of constipation since early adulthood. He was also on medical therapy for his psychiatric condition since 10 years ago. Olanzapine, 5 mg twice daily, had been started one year before, but his constipation has been worsening. Examination of the abdomen revealed generalized rigidity and tenderness.

Upright abdominal X ray showed free air under the both hemidiaphragms. The patient was transferred to the operating room, and an emergency laparotomy was performed. The laparotomy revealed a diffuse peritonitis, but no apparent

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Received: 15 November 2009

Revised: 20 December 2009

Accepted: 10 January 2010

cause could be found after a thorough inspection of abdominal cavity. The abdominal incision was extended down to the pubis, and an oval 30 mm ulcer was found on the antimesenteric border of rectosigmoid junction. Fecal material was slipping from the ulcer into the peritoneal cavity. Sigmoid colostomy, Hartman pouch and irrigation of peritoneal cavity were performed. Since no history of trauma, rectal instrumentation or homosexual activity could be elucidated by surgical team, psychiatric consultation was sought, which revealed that psychotic symptoms were stable on further inquiry, and the patient was practically in remission for the previous two years. Olanzapine was thought to severely intensify the constipation resulting in colonic perforation; it was changed to flupenthixol to reduce the anticholinergic effects. The patient was reoperated for colostomy closure 10 weeks after first operation and on both occasions of surgeries no obvious pathologic causes were found. The patient was subsequently discharged, and used to do well afterwards.

Discussion

Stercoral perforation of colon is considered an extremely rare disease. Since first description in 1894,⁵ only less than 100 cases have been reported. The incidence of stercoral perforation of colon in some referral centers is estimated around 1.2 % of all emergency colorectal surgical procedures and 3.2% of all colonic perforations.⁴ The mortality rate of this disease is as high as 35% to 47%. In the case of perforation, bacteria spread into the abdominal cavity and cause acute diffuse peritonitis. Absorbed bacterial toxins lead to septic shock and multiple organ failure. Therefore, emergency surgery is required as soon as the disease is diagnosed.⁶

The criteria for the diagnosis of Stercoral perforation was proposed by Maurer et al.⁴ in 2000, and consisted of; 1- round or ovoid antimesenteric perforation with more than one cm in diameter, 2- presence of fecalomas within the colon, or protruding through the perforation site or lying within the abdominal cavity, and 3- pressure necrosis or ulcer with microscopic chronic inflammatory reaction around the perforation. In the present case at least 2 criteria were present. The underlying cause of this disorder is thought to be severe constipation either from drug abuse, mostly narcotics, or prescription drugs like anticholinergic drugs, antidepressants, antipsychotics, steroids and codeine. Other causes of colonic perforations such as distal obstruction of the large bowel diverticulitis, inflammatory bowel disease,

mesenteric vasculopathy,⁷ sclerodermatous colon,^{8,9} pneumatosis coli,¹⁰ and Hirschsprung's disease,¹¹ should be excluded. For the diagnosis of this condition the history of severe constipation before symptoms and air under both hemidiaphragms and marked fecal loading or calcified scybala in plain erect abdominal X-ray is most helpful.²

The treatment of Stercoral perforation is prompt surgical intervention, proper antibiotic coverage and removal of offending agents.^{2,8} The type of surgery depends on the time of onset of symptoms, severity of peritonitis, and general condition of patient and lesion of the colon. The common types of surgery include neoplasty, colostomy and Hartmann neoplasty plus proximal colostomy. The latter is the most popular procedure, since it is safe and time-sparing.¹³ Serpell et al.² found that the mortality and complication rates after Hartmann surgery were lower than that of other operations, because Hartmann surgery dissects the affected colon. Maurer et al.⁴ proposed that feculent ulcer had multiple origins and, therefore, whole length of the colon should be explored during the operation. Dilated thinned colonic segments should also be resected. Subtotal colectomy may be essential for some cases, which can spare time consuming coloclisis during the operation and avoid possible later re-perforation of the affected Colon.¹² Due to unsatisfactory communication and usual delay for seeking medical help in psychiatric patients, one should be watchful for the symptoms of constipation, and should avoid the combination of drugs that worsens the problem and should inform the patients and their care givers about the possibility of such a complication.

Conclusion

Due to its high mortality rate, the spontaneous colonic perforations should be correctly and rapidly diagnosed. Physicians should be alert, when administering drugs that inhibit colonic motility to patients with prolonged history of constipation.

Conflict of Interest: None declared

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