STERCORAL PERFORATION OF THE SIGMOID COLON

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SUMMARY

Constipation is prevalent among geriatrics living in nursing homes. This is a problem particularly among those with limited mobility and under multiple medications for various illnesses. We report a patient who suffered a stercoral perforation of the rectosigmoid colon as a direct complication of constipation. It is our hope that this report will make readers, especially those whose primary duty is the care of geriatrics, aware of such a disease entity. [International Journal of Gerontology 2008; 2(4): 233–235]

Key Words: constipation, rupture, rectum

Introduction

While there are less than 100 cases of stercoral perforation of the colon reported in the literature in English to date, we believe that the actual incidence would be higher than reported if accurate diagnostic criteria were employed. Maurer et al.¹, in their study, defined the diagnostic criteria for stercoral perforation of the colon as follows: (1) a round or ovoid colonic perforation exceeding 1 cm in diameter and lying antimesenteric; (2) fecalomas present within the colon, protruding through the perforation site or lying within the abdominal cavity; and (3) pressure necrosis or ulcer and a chronic inflammatory reaction around the perforation site microscopically. We report a patient fulfilling these criteria.

Case Report

A patient, aged 81 years, wheelchair-dependent because of cerebrovascular bleeding 3 months previously and under the care of a nursing home, was brought in for medical consultation at the outpatient department because of 1-day fever. Past history revealed constipation as a chronic problem, with aggravation after the patient had the cerebrovascular bleeding, for which he had been confined for 2 weeks in another hospital. Physical examination found the patient with a nasogastric tube and Foley catheter in place, and apparently not in any distress. Abdominal examination revealed a soft abdomen with no muscle guarding, with only some direct tenderness in the infraumbilical and hypogastric areas. Blood examination showed an elevated C-reactive protein of 20.76 mg/dL. Chest radiography indicated bilateral subpleural free air (Figure 1), which prompted immediate

Figure 1. Chest radiography showing obvious bilateral subpleural free air.
surgical consultation. Under the impression of hollow organ perforation, the patient underwent emergency laparotomy after the necessary preoperative preparation. At laparotomy, a $3 \times 2$ cm perforation of the rectosigmoid colon junction at its antimesenteric border was discovered, with some fibrin coating and exudates, mainly in the lower peritoneal cavity. There were no other findings (e.g., diverticulitis, ischemic bowel, or distal obstruction by tumor), suggesting the etiology of perforation. Of note, however, was the complete filling of the distal segment with fecalomas (Figure 2). Segmental resection of the rectosigmoid colon, with distal construction of a Hartmann’s pouch, and proximal end sigmoid colostomy was carried out. Immediately postoperative in the operating room and also for the first few days in the intensive care unit, manual digital extraction of stool was repeatedly carried out in an attempt to rid the Hartmann’s pouch of fecalomas. Pathology of the resected rectosigmoid showed no abnormal findings other than inflammatory infiltrates at the perforation. The patient experienced a disturbed postoperative course, complicated by two episodes of wound dehiscence, one each on postoperative days 3 and 6, despite adequate precautions at initial surgery to prevent such a complication. These preparations included the placement of three tension sutures. The patient also had a generalized convulsive seizure on postoperative day 21. The two episodes of wound dehiscence necessitated repair of the wound in the operating room, and the seizure was successfully controlled with phenytoin (Dilantin; Pfizer Inc., New York, NY, USA). A computed tomography scan of the brain showed only brain atrophy. Nutritional support was provided using nasogastric feeding, which the patient tolerated very well. The patient was discharged from hospital on postoperative day 29. Outpatient clinic follow-up at 1 week and 3 weeks post-discharge showed a stable patient with a normal functioning colostomy, good surgical wound healing, and no recurrence of seizure.

Discussion

A person of any age can suffer stercoral perforation of the colon, but generally this is a disease of the elderly (> 70 years) with severe chronic constipation\(^2,3\). Severe chronic constipation is considered in most reports to be the main causative factor in development of stercoral perforation of the colon\(^2\). Long-standing constipation may enhance the formation of stone-hard fecalomas, which maintain a persistent pressure over the bowel wall leading to pressure necrosis of the mucosa\(^4\). Stercoral perforation usually occurs at the sigmoid and rectosigmoid colon because of its narrow diameter. Having the narrowest diameter in the entire colon, it must also bear the brunt of any injury resulting from any increased intraluminal pressure. Therefore, when pressure from fecalomas results in perforation, this is the most frequent site of occurrence. This is also likely to occur at a site with the least blood supply, which is at its antimesenteric border.

This patient fulfilled the diagnostic criteria set by Maurer et al.\(^1\) for the diagnosis of stercoral perforation of colon. The perforation was ovoid, $3 \times 2$ cm in size at the antimesenteric border of rectosigmoid colon, fecaloma impaction was noted in the colon, and there were no other pathologic findings suggestive of other causative diseases, with only inflammatory exudates at the site of perforation. This diagnosis was not made intraoperatively but rather retrospectively, after careful consideration of what factors could have caused the perforation following a review of the literature.

There are various implications of this disease especially for those whose primary job is the care of geriatrics in nursing homes. First, chronic constipation is rampant among nursing home patients because of their immobility, and many of the multiple medications for...
comorbidities common in the elderly, including opioids, antidepressants, aluminum-based antacids and nonsteroidal anti-inflammatory drugs (NSAIDs), induce constipation. There is also a possible association between NSAIDs and stercoral perforation, so that greater awareness and caution need to be exercised in prescribing NSAIDs to these patients. Second, there is a high likelihood of missing the diagnosis because of unresponsiveness due to impaired consciousness and pain sensation among many nursing home patients. Our case is a clear example. Despite severe peritonitis from colon perforation, we saw a patient not at all in distress and with a soft abdomen, which is quite unexpected in such a clinical entity. Doubtless, the severity of the problem could have been missed if the chest radiography had not shown evidence of free subphrenic air, which is diagnostic of hollow organ perforation. To discharge such a patient with some oral medications would have been disastrous. Finally, because most of these patients are elderly with various premorbid illnesses, these are likely to complicate the clinical course. The stress consequent to the perforated peritonitis or the surgery itself would likely exacerbate other attendant systemic illnesses, necessitating their treatment as well. This is clearly illustrated in our case when a generalized convulsion occurred during the hospital course, which we believe was a late complication of his cerebrovascular bleeding 3 weeks earlier.

This patient illustrates how a geriatric can present with mild symptoms of a life-threatening scenario. This is generally the case in most geriatric patients because of their diminished sensory perception. It is, therefore, a sound principle in the care of geriatrics to investigate beyond the evident clinical manifestation, avoiding the pitfall of missing an occult but often more serious condition. It is our hope that this case report will make readers more aware of the possibility of such a disease entity among the chronically constipated who present with abdominal pain. It needs to be taken into account that stercoral perforation is most probably an under-reported problem among the elderly. Misdiagnosis and delayed treatment may lead to increased morbidity and mortality.

References