Case Report

Spontaneous Colonic Perforation- Rare Presentation

Kumar A (✉), Griwan MS, Pal N

Department of Surgery, Pandit B.D. Sharma PGIMS 718-1/35, NR Devi Vihar, Janta Colony, Rohtak-124001, Haryana, India.

Abstract

Spontaneous perforation of the sigmoid colon or rectum is defined as a sudden colonic perforation in the absence of any known diseases like tumors, diverticulosis or external injury. It is a very uncommon finding, and if neglected, results in severe peritonitis, sepsis and high mortality. Colonic perforation treatment is also under review due to morbidity of colostomy and its closure later on for the patient. Spontaneous colonic perforation is more common in extremes of ages but no age is exempted from it.

Keywords: Colon perforation, peritonitis, idiopathic.

Correspondence:

Dr. Ashok Kumar, Department of Surgery, Pandit B. D. Sharma PGIMS 718-1/35, NR Devi Vihar, Janta Colony, Rohtak-124001, Haryana, India. Tel no: +91-9466676681 Fax: 01262-211308 Email: drashok@fastmail.fm

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Introduction

Spontaneous colonic perforation is a diagnosis of surprise and sometimes of exclusion. It is defined as a sudden perforation of normal colon in the absence of diseases such as tumours, diverticulosis or external injury (1). It is rare and not diagnosed preoperatively and carry high mortality rate if not treated promptly. Only a few 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 very clear, but peritonitis secondary to all causes of colonic perforation treated surgically is close to 50 % (2). Spontaneous perforation occurs most often in the rectosigmoid and mid-sigmoid regions. It results from impacted feces-induced pressure necrosis on the colonic wall. Drug-induced fecal impaction is increasing in prevalence, and is not uncommon in opiate addicts. Frequent ingestion of substance such as antacids, (3) codeine, amitriptyline, tranquilizers, (1) and corticosteroids, (4) may lead to spontaneous perforations. However, it must be emphasized that fecalomas may persist in spite of apparently normal bowel function.

Apart from fecalomas, spontaneous colonic perforations due to some other reason are very rare. Other causes include increased colonic pressure due to other reason leading to perforation of colon with clear surgical margins.

A search of literature has not revealed a single case of spontaneous sigmoid colon perforation not associated with constipation, fecolith, chronic drug intake. No case report of spontaneous colonic perforation in such young adult, has been reported.

Case Report

A 27-year-old male, vegetarian, labourer by occupation presented with chief complains of abdominal pain starting from lower abdomen for one day to accident & emergency department. There was no prior history of pain, constipation, diarrhea or fever. There was no previous history of trauma. He was tachycardic (102/min), tachypnic (22/min) with normal blood pressure. The abdomen was tender with guarding and rigidity. Erect abdominal skiagram shows air under diaphragm. White blood cell counts were raised to 15000/cu cm with raised polymorphs of 80%. Patient was diagnosed as case of bacterial peritonitis due to bowel perforation. Informed high risk consent taken and patient was operated in emergency operation theatre (OT). Intraoperatively, there was faecal matter present in abdominal cavity and a single colonic perforation measuring 0.5 × 0.5 was present in sigmoid colon with clear margins. There were no faecoliths present in colon. Rest of the colon and small bowel was normal. Margins of perforation were trimmed and excised. This perforation was primarily closed in

two layers. Abdominal lavage was performed with saline. Abdomen closed in layers. Post operative course was uneventful. Biopsy showed inflammatory changes only. Stool examination for ova cyst post operatively was negative. Post operatively colonoscopy with random biopsies was done and showed no evidence of any other disease process in patient.

Discussion

Spontaneous colonic perforation has been considered very rare disease. Earliest description comes from Brodie in 1827 (5). Only about 70 cases have been reported in literature, to date. (6). Out of all these cases, only few have been found to have definitive cause. One of very important feature attached to colonic perforation is the morbidity and mortality implicated with them. It is found to be very high. Reasons for the high morbidity and mortality are high bacterial load, old age of patient, late presentation, late diagnosis and faulty treatment.

Out of various causes stercoral perforation is found to be most common (7). Maurer et al. (4) was first to put forward their criterion to this mechanism. They proposed that once other causes of stercoral perforation has been ruled out than colonic perforation having round shape with more than 1 cm diameter and having colon full of stool point towards stercoral perforation. Microsopic examination of the margins revealed ischaemia and necrosis.

Not all conditions fit to these criterion and other mechanism must be their to explain those cases. In the case presented here has size less than 1 cm with no faecolith present in colon. Another mechanism proposed by Kasahara et al does not need faecolith to be present for the diagnosis (8). They proposed perforation to occur due to increased pressure in colon leading to rupture at point of maximum pressure due to asymmetric distribution. This leads to hyperdilatation, thinning and perforation of colon.

Out of all diagnostic investigations, CT scan has been proposed to be best investigation and finding on CT has been defined by Heffernan et al. (9). Post operatively colonoscopy with random biopsies was done and shows no evidence of any other disease process in patient.

Treatment

Colonic perforation is treated as per any other case of colonic perforation. The thing which should be taken into account is to be sure of absence of bowel disease. Another important thing to note is margin status whether thinned out or normal.

Figure 1: Colonic perforation

Options could be primary repair, Hartmann's procedure, colostomy or primary repair with covering ileostomy (11). No procedure is better than other. Mortality rate for this disease is very high at 35% to 47% (3).

In the present case, patient was young with no signs of long term diseases, debility and no signs of multi organ failure. His bowel was healthy otherwise and on table lavage of colon was done after doing appendectomy. So, we decided to primary close the perforation which proved to be beneficial for the patient. We do not recommend this to be standard but should be kept as an option in a suitable patient.

The possibility of this disease should be taken into consideration in all patients. Use of routine enemas in case of peritonitis may be dangerous in such colonic perforation patients. Also performance of routine colostomy in all patients may not be necessary.

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