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CASE REPORT

Sigmoid Volvulus: A Rare Cause of Acute Colonic Obstruction in Children

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ABSTRACT

Sigmoid volvulus is a rare cause of ileus among children. Chronic constipation, long colonic mesentery, Hirschsprung disease are predisposing factors. We present a case of 14-year-old boy with acute colonic obstruction suffering from constipation for the last year. Abdominal computed tomography was used for the differential diagnosis of the obstruction. Conservative treatment with colonoscopic detorsion was successful in the first attack but after 2 weeks, another volvulus attack occurred and also managed with colonoscopic detorsion in the acute setting and later elective sigmoidectomy was performed. Patient had an uneventful postoperative period and no complications occurred in the following year. Sigmoid volvulus, although rare, should be kept in mind as a differential diagnosis in patients with ileus.

Key words: Sigmoid volvulus, adolescent, ileus, colonic obstruction

INTRODUCTION

Sigmoid volvulus, although common among adults, is a rare cause of bowel obstruction in pediatric age group. It may present with recurrent self-limiting volvulus and spontaneous detorsion attacks or it may lead to colonic ischemia, perforation. [1] Herein, we report a case of adolescent boy with sigmoid volvulus treated both with emergency colonoscopy and elective sigmoidectomy.

CASE PRESENTATION

A 14-year-old boy admitted to pediatric surgery clinic with the complaint of crampy abdominal pain, distention and watery diarrhea for a week. He stayed at another hospital for the last 3 days and was given intravenous fluid support with the diagnosis of gastroenteritis. He was suffering from constipation for the last one year. His physical examination showed a distended abdomen and a dilated bowel loop extending from left lower quadrant to epigastric area. A fullness narrowing the lumen anteriorly was palpated during rectal examination. Laboratory results were normal except leucocytosis (17.000 x10^3 /µl) with neutrophil predominancy (80%). Abdominal X-ray showed colonic air-fluid levels (Figure 1). Diagnosis

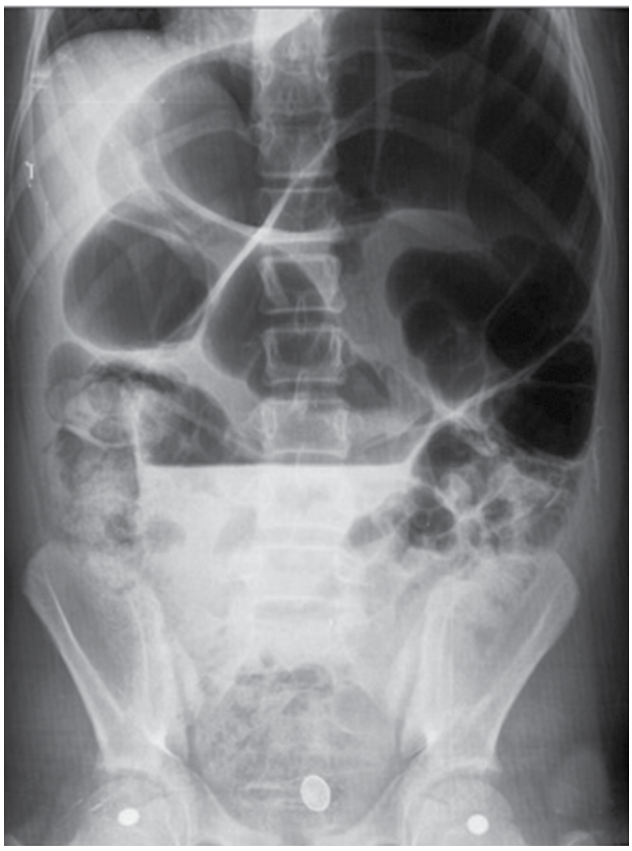

Figure 1. Abdominal plain x-ray with colonic air-fluid levels.

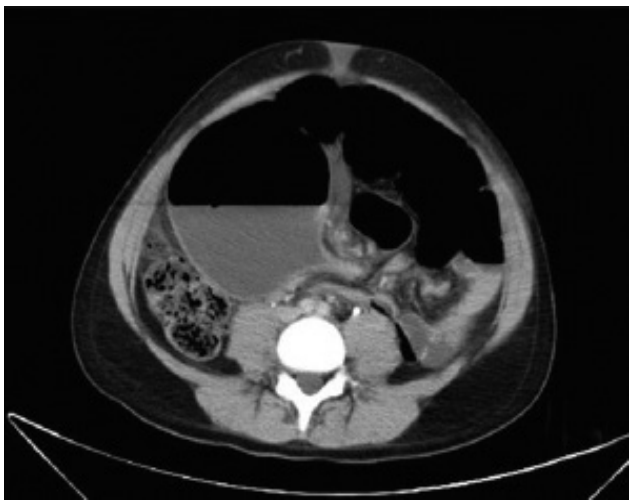

Figure 2. Abdominal computed tomography showing dilated colonic loops and beak-shaped transition point diagnostic for volvulus.

of volvulus was confirmed with abdominal computed tomography that showed beak-shaped transition point and afterwards colonoscopic reduction was performed (Figure 2). His past medical history was not consistent with Hirschsprung's disease. Barium series detected a redundant sigmoid colon. Conservative management was planned until another attack of volvulus occurs as it might be a one-time incidence. But it recurred after 2 weeks and a second colonoscopic reduction performed successfully. Then, the patient was prepared for surgery with bowel cleaning. During laparotomy, 50 cm length of sigmoid colon was resected and left colon was anastomosed to rectum above peritoneal reflection. He had an uneventful postoperative period and discharged on day 5. Pathologic examination revealed congestive edematous colon with normal ganglion cells. He remained asymptomatic up to day in the following 1 year.

DISCUSSION

Sigmoid volvulus is a rare cause of ileus in pediatric age group. The common causes are long and narrow mesentery and chronic constipation leading to redundant sigmoid colon [2]. It is also a rare manifestation of Hirschsprung's disease [3]. For this reason, underlying history of chronic constipation should be questioned in these patients before further intervention.Sigmoid volvulus may present with different clinical pictures. Patients may be acutely ill and have acute abdomen necessitating emergent surgery or the presentation may be indolent with self-limiting volvulus attacks which makes the diagnosis difficult [1,4,5]. Our patient came to our clinic with the complaint of diarrhea and distended abdomen for the last week. He was not septic or had not acute abdomen. His physical examination findings and X-ray revealed a colonic obstruction but the cause was not obvious. Since sigmoid volvulus is an uncommon entity in this age group, the diagnosis was delayed in this patient. Delayed diagnosis may lead to ischemia or perforation and morbidities like colostomy, wound infection, sepsis and hence mortality [2]. For this reason, a high index of suspicion is required in cases with acute colonic obstruction.Abdominal X-ray, rectal enema and computed tomography are used in the diagnosis of sigmoid volvulus [1]. In our case, computed tomography was ordered to rule out a pelvic mass as the cause of colonic obstruction. Barium enema and colonoscopy are both used for diagnosis and treatment. There are reports referring greater success of barium enema in terms of reduction but in our opinion colonoscopic reduction is safer and advantageous. In case of perforation, barium is a very irritant agent for peritoneum and if the reduction is not successful, it would retain in colon during surgery [6]. Colonoscopy eliminates these disadvantages of barium and also gives time to hydrate patient and prepare bowel for elective surgery.Experience gathered from adult series showed that sigmoid volvulus tends to recur so the common approach is to proceed with surgery in an elective base even nonoperative reduction is successful [7]. Literature is lack from large pediatric series or randomized controlled studies investigating the recurrence rate in childhood cases. Usual surgical procedure is resection of long sigmoid colon. Other techniques are mesosigmoidoplasty, sigmoidopexy, tube sigmoid colostomy and extraperitonealization of sigmoid colon are also identified [1,5]. These operations can be done also laparoscopically [8].Sigmoid volvulus should be kept in mind in differential diagnosis of patients presenting with acute colonic obstruction. Early diagnosis and preoperative colonoscopic detorsion can prevent the well-known complications of acute colonic surgery without bowel preparation subsequent morbidity and mortality.

REFERENCES

[1] Salas S, Angel CA, Salas N, et al. Sigmoid volvulus in children and adolescents. J Am Coll Surg. 2000;190(6):717-723.

[2] Atamanalp SS, Yıldırgan MI, Başoğlu M, et al. Sigmoid colon volvulus in children: review of 19 cases. Pediatr Surg Int. 2004;20:492-495.

[3] Zeng M, Amodio J, Schwarz S, et al. Hirschsprung disease presenting as sigmoid volvulus: a case report and review of the literature. J Pediatr Surg. 2013;48:243-246.

[4] Ton MN, Shapiro CR, Stolar C, et al. Recurrent sigmoid volvulus in a sixteen year old boy: Case report and review of the literature. J Pediatr Surg. 2004;39(9);1434-1436.

[5] Puneet, Khanna PR, Gangopadhyay AN, et al. Sigmoid volvulus in childhood: Report of six cases. Pediatr Surg Int. 2000;16:132-133.

[6] Colinet S, Rebeuh J, Gottrand F, et al. Presentation and endoscopic management of sigmoid volvulus in children. Eur J Pediatr. 2015;174:965-969.

[7] Gingold D, Murrell Z. Management of colonic volvulus. Clin Colon Rectal Surg. 2012;25:236-244.

[8] Liu KKW, Leung MWY, Wong BPY, et al. Minimal access surgery for sigmoid volvulus in children. Pediatr Surg Int. 2006;22:1007-1008.