

Caecal Volvulus: A Rare Cause of Caecal Gangrene in Children

RAMESH. B. HATTI, SURESH. I. BASARKOD, MARUTHI. B. TALWAR

ABSTRACT

The Caecal volvulus, a serious surgical condition, has a mortality of 10% which is extremely rare in children. We report a case of a 12 year old child, presenting with the acute signs and

symptoms of peritonitis. An exploratory laparotomy revealed caecal volvulus which had resulted in caecal gangrene. This was treated by primary resection and anastomosis.

Key Words: Caecal volvulus; Caecal gangrene; Paediatric

INTRODUCTION

Caecal volvulus is uncommon and accounts for only 1–5% of the bowel obstruction cases in adults; it occurs even less frequently in the paediatric age group [1].

It is an acute surgical condition where the clinical symptoms at presentation, rarely will lead to the diagnosis, because they are often non-specific. The lack of familiarity with this condition is a factor which contributes to diagnostic and treatment delays. We report a paediatric case of caecal volvulus, which led to caecal gangrene.

CASE REPORT

A 12-year-old boy presented with acute pain in the abdomen and bilious vomiting of two days duration. He also complained of fever, abdominal distension and constipation since one day. On examination, the child appeared toxic and had signs of mild dehydration. His abdominal examination revealed signs of peritonitis. His haemogram and serum biochemistry were normal, except for raised counts. His erect x-ray of the abdomen showed a single sharp air fluid level, almost occupying more than 50% of the abdomen, which was reported as sigmoid volvulus [Table/Fig-1]. Free fluid and gas filled bowel loops were seen on doing the ultrasonography of the abdomen. Barium study was not attempted as the child had peritonitis.

The emergency exploration of the abdomen was suggestive of caecal volvulus. A 270° counter-clockwise rotation of the caecum which was massively distended, was found to occupy almost the whole of the abdomen [Table/Fig-2]. Frank gangrenous changes were found to involve the caecum and the proximal ascending colon. Resection of the gangrenous bowel [Table/Fig-3], with an end to end ileo-ascending colon anastomosis was done. The child had an uneventful post-operative recovery and was discharged on the ninth post-operative day.

DISCUSSION

Caecal volvulus is mostly seen in adults over 60 years of age and is rarely reported in the paediatric age group. Caecal volvulus occurs so infrequently in children that the true incidence is unknown and the available literature is scarce, mainly comprising of case reports [2].

The common term 'caecal volvulus' is a misnomer, since the terminal ileum and the ascending colon are also usually involved in the torsion [3].

The anatomical predisposing factor for caecal volvulus is a mobile caecum, as it was in this case. The risk factors and the associations with the caecal volvulus include neurological impairment, bowel distension, constipation and faecal loading with resultant distension, dietary factors, prior abdominal surgery, and abdominal or pelvic masses. [2, 3, 4] It has been reported as a rare association with the Cornelia de Lange syndrome and the CHARGE syndrome



[Table/Fig-1]: Erect x-ray abdomen showing a single sharp air fluid level almost occupying more than 50% of abdomen

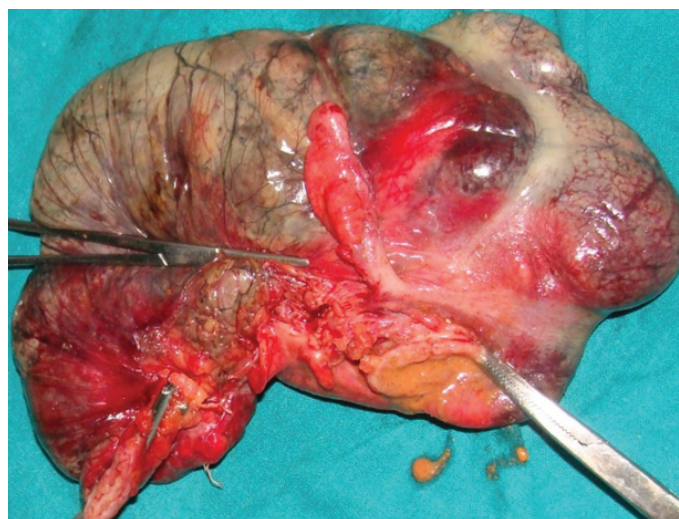


[Table/Fig-2]: Caecal volvulus with frank gangrenous changes

[5, 6]. The clinical symptoms and the presentation of caecal volvulus are often non-specific.

Since the early symptoms and the physical findings of caecal volvulus are nonspecific, radiography plays a critical role in its preoperative diagnosis. The identification of a disproportionately dilated viscus with a single sharp air fluid level provides evidence of this condition [7]. Barium enema has been the imaging modality which has been traditionally applied for the confirmation of caecal volvulus, with a reported diagnostic accuracy of 88% for acute volvulus [8]. CT scan findings have also been described for the diagnosis of caecal volvulus which include “coffee bean”, “bird beak”, and the “whirl” sign.

Barium study and CT scan were not done in our case, as the child had frank signs of severe peritonitis and hence, he was taken for explorative laparotomy.



[Table/Fig-3]: Resected specimen of gangrenous caecum and part of ascending colon

Patients with acute caecal volvulus benefit from surgical intervention and the contemporary surgical options include manual detorsion, caecopexy, caecostomy, and colectomy by the open or laparoscopic approaches. However, the best long term results have been observed with resection and anastomosis. [8] In the present case, we had to proceed with resection and anastomosis due to caecal gangrene.

REFERENCES

- [1] Consorti ET, Liu TH. Diagnosis and treatment of caecal volvulus. *Postgrad Med J* 2005;81:772–6.
- [2] Vo NJ, O'Hara SM, Alonso MH. Caecal volvulus: a rare cause of bowel obstruction in a paediatric patient diagnosed pre-operatively by conventional imaging studies. *Pediatr Radiol* 2005;35:1128–31.
- [3] Kirks DR, Swischuk LE, Merten DF, Filston HC. Caecal volvulus in children. *AJR* 1981;136:419–22.
- [4] Taneja SB, Kakar A. Caecal volvulus in children. *Dis Colon Rectum* 1980;23:418–20.
- [5] Masumoto K, Izaki T, Arima T. Cornelia de Lange syndrome associated with caecal volvulus: report of a case. *Acta Paediatr* 2001;90:701-3.
- [6] Lai HS, Feng CY. Caecal volvulus in a child with CHARGE syndrome. *The Am Surg* 2006;72:356-8.
- [7] Khizer Mansoor, Sa'ad Al Hamidi, Abdul Mannan Khan, Ram Samujh. *Rare case of pediatric caecal volvulus JIAPS* 2009;14:110-2.
- [8] Rabinovici R, Simansky DA, Kaplan O, Mavor E, Manny J. Caecal volvulus. *Dis Colon Rectum* 1990;33:765–9.

AUTHOR(S):

1. Dr. Ramesh. B. Hatti
2. Dr. Suresh. I. Basarkod
3. Dr. Maruthi. B. Talwar

NAME OF DEPARTMENT(S)/INSTITUTION(S) TO WHICH THE WORK IS ATTRIBUTED:

Department of surgery, S.N.M.C and H.S.K Hospital

NAME, ADDRESS, TELEPHONE, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Ramesh.B.Hatti
Mch(paed. surg) Asst. prof. Dept of surgery,
S.N.M.C and H.S.K Hospital,
Navanagar, Bagalkot-587102,Karnataka, India
Mobile: +91 9632730696
E mail: docrbh@yahoo.co.in

DECLARATION ON COMPETING INTERESTS:

No competing Interests.

Date of Submission: **Feb 28, 2011**
Date of Peer Review: **Apr 05, 2011**
Date of Acceptance: **Apr 05, 2011**
Online First: **Apr 16, 2011**
Date of Publishing: **Jun 13, 2011**