Scholars Journal of Medical Case Reports **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2015; 3(1):49-51 **ISSN 2347-9507 (Print)**
©Scholars Academic and Scientific Publishers (SAS Publishers)
(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com DOI: 10.36347/sjmcr.2015.v03i01.016

A Case Report of Rare Cause of Intestinal Obstruction with Mobile Caecum with Caecal Volvulus and Meckel's Diverticulum

Umeshchandra DG[1], Suresh Patil[2], Rammohan S*[3], Ankur Bhatia[4]
[1]Professor of Surgery, Mahadevappa Rampure Medical College, Gulbarga – 585105
[2]Associate Professor of Surgery, Mahadevappa Rampure Medical College, Gulbarga – 585105
[3,4]Junior Resident, Department of General Surgery, Mahadevappa Rampure Medical College, Gulbarga – 585105

***Corresponding Author:**
Name: Dr. Umeshchandra DG
Email: drram510@gmail.com

Abstract: Abnormal mobility of the caecum and ascending colon occurs in 10-20% of population. Despite it abnormal caecal mobility and ascending colon is an uncommon cause of an acute clinical entity. A Meckel's diverticulum, is a true congenital diverticulum present at birth and a vestigial remnant of the omphalomesenteric duct. We report a 12year old boy in this case report who presented with acute features of intestinal obstruction with abdominal radiogram showing dilated bowel loops and ultrasonogram showing midgut volvulus and emergency laparotomy was performed and mobile caecum with meckel's diverticulum with caecal volvulus was ascertained; meckel's diverticulectomy was done and caecal volvulus was corrected and mobile caecum was fixed to peritoneum on right side. On account of high morbidity and mortality associated with caecal volvulus and difficult preoperative diagnosis, emergency laparotomy is essential in these conditions for favourable outcome. Moreover in this case Meckel's diverticulum was also present which commonly presents as intestinal obstruction in younger age group and therby adding to risk of complications associated with mobile caecum.
Keywords: Intestinal Obstruction, Mobile Caecum, Caecal Volvulus, Meckel's Diverticulum

INTRODUCTION

Abnormal mobility of the caecum and ascending occurs in 10-20% of population. Despite the high incidence of anatomic variant, abnormal caecal mobility and ascending colon is an uncommon cause of an acute clinical entity [1, 2]. Caecal volvulus is a rare cause of intestinal obstruction [3] and its preoperative diagnosis through radiological investigations is difficult. Hence surgical exploration is essential to correct these disorders.

A Meckel's diverticulum, is a true congenital diverticulum, present at birth and a vestigial remnant of the omphalomesenteric duct (also called the vitelline duct or yolk stalk). It is present in approximately 2% of the population [4, 5]. Males more frequently experience symptoms [5]. In this case report mobile caecum was rotated clockwise around a band attaching the meckel's diverticulum to anterior abdominal wall which was diagnosed as a result of prompt emergency surgical intervention by performing an emergency laparotomy which provided a favourable outcome for the patient. In this case caecum was viable without any gangrenous changes.

CASE REPORT

A 12 year old boy presented to the emergency department with abdominal pain for 5 days duration which was diffuse and colicky in nature with 2 days of vomiting and abdominal distension and was not able to pass stools.

Physical examination revealed a moderately built 12years old boy with mild fever and tachycardia. Abdominal examination revealed distended abdomen with tympanic note on percussion with minimal guarding and absent bowel sounds. Diffuse abdominal tenderness was present more on upper two third. Abdominal x-ray revealed distended ceacal gas shadow (Fig. 1). Ultrasonogram showed twisted bowel loops with whirling of mesenteric vessels in mid and lower abdomen with minimal free fluid in peritoneal cavity. Clinical diagnosis of large bowel obstruction was made. Appropriate antibiotics, intravenous fluids, continuous gastric aspirations were started. Patient was taken for emergency exploratory laparotomy.

Abdomen was opened through midline incision, a band was seen attached to anterior abdominal wall around which the caecum with a part of

ascending colon was rotated 180 degrees clockwise direction, since the dilated bowel loops which was rotated around the band was viable derotation of mobile caecum with appendix (Fig. 2), followed by appendicectomy was performed. On tracing the ileum meckel's diverticulum (Fig. 3) was seen 2 feet away feom the ileo caecal junction with a wide base and no induration at its base. Meckel's diverticulectomy followed by enterotomy closure was done with absorbable sutures and then the derotated mobile caecum was fixed on right side of the peritoneum with nonabsorbable sutures. Abdomen was closed after thorough surgical toileting and by placing peritoneal drains.

Patient was stable postoperatively and oral sips were started on postoperative day3 and the drains were removed on postoperative day5 after starting solid diet. Postoperatively patient was uneventful and improved satisfactorily without any surgical site infections. On follow up patient was asymptomatic and was maintaining good health.

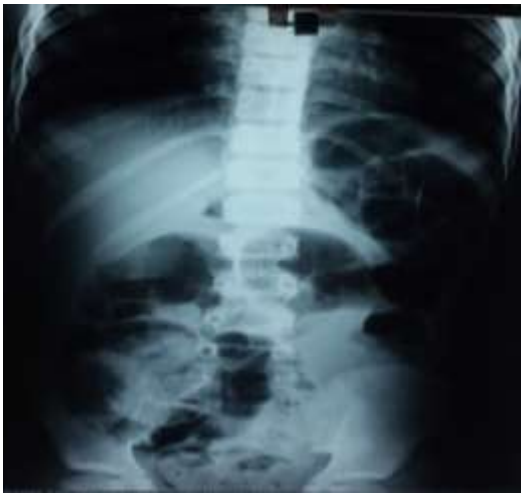

Fig. 1: Radiogram showing dilated large bowel loops in left upper quadrant

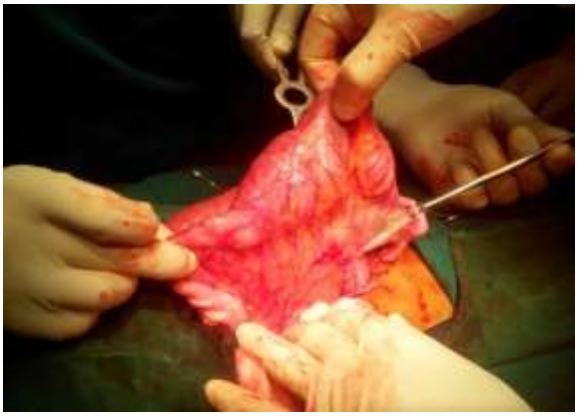

Fig. 2: Mobile caecum with appendix

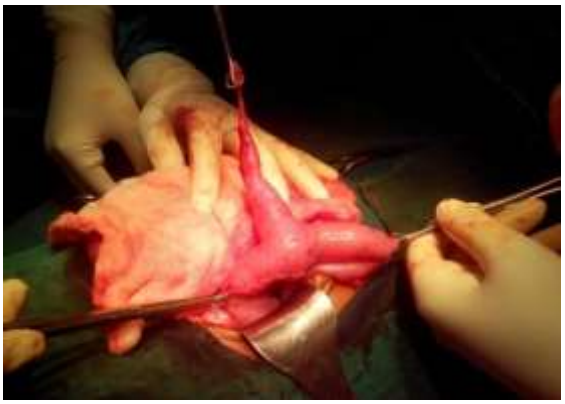

Fig. 3: Meckel's diverticulum with its wide base and band

DISCUSSION

Caecal volvulus represents 1-3% of cases of intestinal obstruction in adults accounting for 10- 15% of all cases of colonic volvulus. It is not common in children. Caecal volvulus is less common than sigmoid volvulus ($1/7^{th}$- $1/10^{th}$ less common [6-8].

Caecal volvulus may be organo-axial (true volvulus) or mesenterico-axial (Caecal bascule). The organo–axial type involves the distal ileum and ascending colon twisting around each other, like the same way as sigmoid volvulus. Mesenterico-axial volvulus (Caecal bascule) involves the caecum folding in an axis at right angle to the mesentery [9].

Embryologically, it occurs as a result of failure of the right colonic mesentery to fuse with the lateral peritoneum resulting in unattachment and free rotation of the caecum and ascending colon; although, they usually reside in a normal anatomic position. Thus, abdominal ultrasound and barium studies appear normal in the patient [10, 11].

As there is no specific pre-operative investigation to diagnose caecal volvulus, emergency laparotomy is often essential to diagnose and correct the caecal volvulus [12]. If this caecal volvulus is not corrected by performing emergency surgery there are high chances of gangrene of the bowel which may require hemicolectomies with ileostomy leading to increased postoperative morbidity and mortality.

The prognosis of the disease is poor with 0-40% mortality depending on the viability of bowel [3, 12].

Radiographical characteristic findings include a dilated and displaced haustral bowel loop, with a paucity of gas in the distal colon (differentiating cecal from sigmoid volvulus) [13], although findings on radiography are often not diagnostic. Computed tomography is definitive that confirms the distended

cecum and associated "whirl sign" of twisted mesenteric vessels and fat specific to the diagnosis [14].

Dixon and Meyers [15] in 1948 described caecopexy, using lateral peritoneal flap, hat is reported to be the surgical technique of choice. This technique best achieves fixation of the caecum. Other techniques, that simply suture the caecum and ascending colon to the lateral peritoneum and interposition with a sponge, have higher rate of recurrence [16].

The majority of people with Meckel's diverticulum are asymptomatic. If symptoms do occur, they typically appear before the age of two. The most common symptom is painless rectal bleeding such as melaena-like black offensive stools, followed by intestinal obstruction, volvulus and intussusception. Occasionally it may all the features of acute appendicitis. During laparoscopy or laparotomy Meckel's diverticulum is often diagnosed as an incidental finding [5].

Treatment is done surgically, preferably with laparoscopic resection. Surgical resection of Meckel's diverticulum along with the adjacent small bowel segment is done in patients with complications such as bleeding, strangulation of bowel, bowel perforation or bowel obstruction. In asymptomatic conditions, treatment involves surgical resection of the Meckel's diverticulum only, called as simple diverticulectomy which is sufficient [5, 17].

CONCLUSION

Mobile caecum with caecal volvulus in children is a rare cause of intestinal obstruction with acute features, in addition in our case it was associated with Meckel's diverticulum with a band which will add further complications to the mobile caecum making it more susceptible for obstruction and gangrene but prompt surgical intervention with Meckel's diverticulectomy and fixation of mobile caecum helped in better survival of the patient.

REFERENCES

1. Rogers RL, Harford FJ; Mobile caecum syndrome. Dis Colon Rectum, 1984; 27: 399-402.
2. Lee YJ, Lee YA, Liu TJ, Chang TH; Mobile caecum syndrome: A report of two cases. Zhonghua Yi Xue Za Zhi (Taipei), 1996; 57: 380-383.
3. Bandurski R1, Zaręba K, Kędra B; Cecal volvulus as a rare cause of intestinal obstruction. Pol Przegl Chir., 2011; 83(9): 515-517.
4. Elsayes KM, Menias CO, Harvin HJ, Francis IR ; Imaging manifestations of Meckel's diverticulum. AJR Am J Roentgenol., 2007; 189 (1): 81–88.
5. Meckel's diverticulum. Available from http://en.wikipedia.org/wiki/Meckel's_diverticulum
6. Ballantyne GH, Brander MD, Beart RW Jr.; Volvulus of the colon. Incidence and mortality. Ann Surg., 1985; 202(1): 83-92.
7. Jone IT, Fazio VW; Colonic volvulus. Etiology and Management. Dig Dis., 1989; 7(4): 203-209.
8. Takada K, Hamada Y, Sato M, Fujii Y, Teraguchi M, Kaneko K; Cecal volvulus in children with mental disability. Pediatr Surg Int., 2007; 23(10): 1011-1014.
9. Ballantyne GH, Leahy PF, Modlin IM; Laparoscopic treatment of volvulus of the colon. Laparoscopic Surgery, W.B. Saunders Co., Phildelphia, 1994. Available from http://www.lapsurgery.com/volvulus.htm
10. Makama JG, Ahmed A, Ukwenya Y, Mohammed I; Mobile caecum and ascending colon syndrome in a Nigerian adult. Annals of African Medicine, 2009; 8(2):133-135.
11. Pirro N, Corroller LE, Solari C, Merad A, Sielezneff I, Sastre B *et al.*; Caecal volvulus: Anatomical bases and physiopathology. Morphologie, 2006; 90(291):197-202.
12. Pulvirenti E, Palmieri L, Toro A, Di Carlo I; Is laparotomy unavoidable step to diagnose caecal volvulus? Ann R Coll Surg Engl., 2010; 92(5): W27-29.
13. Peterson CM, Anderson JS, Hara AK, Carenza JW, Menias CO; Volvulus of the gastrointestinal tract: appearances at multimodality imaging. Radiographics, 2009; 29(5):1281–1293.
14. Rosenblat JM, Rozenblit AM, Wolf EL, DuBrow RA, Den EI, Levsky JM; Findings of cecal volvulus at CT. Radiology, 2010; 256(1): 169-175.
15. Dixon CF, Meyer AC; Volvulus of the Cecum. Surg Clin North Am., 1948; 28(Mayo Clinic Number): 953-963.
16. el-Katib U; Volvulus of the caecum: caecopexy by polyvinyl alcohol sponge. Br J Surg., 1973; 60(6): 475–478.
17. Mattei P; Fundamentals of Pediatric Surgery. NY: Springer Science, New York, 2011.