VOLUME - 11, ISSUE - 12, DECEMBER - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Gastroenterology

SIGMOID VOLVULUS IN CHILDREN : A CASE REPORT

Dr. D. Swetha	MS.,MCh(pediatric Surgery), Assistant Professor of Pediatric surgery, Niloufer hospital.
Dr. C. Babu Rao	Associate Professor, Department of Pediatric surgery, Niloufer Hospital.
Dr. M. Rajesh	Assistant Professor, Department of Pediatric surgery, Niloufer Hospital.
Dr. P. Sarweswar Reddy	Professor, Department of Pediatric surgery, Niloufer Hospital.

ABSTRACT Volvulus in the pediatric population commonly occurs in the small bowel associated with malrotation or internal hernia whereas sigmoid volvulus (SV) is extremely rare. Herein we report a case of SV its clinical history,diagnosis and management.

KEYWORDS :

INTRODUCTION

Sigmoid volvulus (SV), while common in the elderly, is rare in the pediatric population; hence, it is rarely considered as a diagnosis in this group [1]. Volvulus in the pediatric population commonly occurs in the small bowel associated with malrotation or internal hernia [2].

Sigmoid volvulus occurs when a redundant sigmoid loop rotates around its narrow-based, elongated mesentery, resulting in arterial and venous obstruction of the affected segment, and subsequent rapid distention of the closed loop.

Patients most frequently present with abdominal pain, abdominal distension and vomiting, symptoms that may easily be misattributed to a more benign condition. Untreated, SV may progress to colonic ischemia and perforation; as these consequences are potentially life-threatening, clinicians should consider SV in the differential for patients presenting with acute or recurrent episodes of abdominal pain and bowel obstruction

Case

A 12 year old female came to the hospital with complaints of pain in lower abdomen since one and half month,pain is intermittent and dull aching type which relieved with medication. History of chronic constipation is present since 5 years and was relieved with rectal suppositories and proctoclysis enema.

There is no history of vomitings. Her birth and development history were noted to be normal, with no specific history of maternal hypothyroidism and late passage of meconium.

At admission child was stable with per abdomen findings of mild distension and lower abdomen tenderness.Per rectal examination showed roomy rectum.Initial erect abdomen x-ray showed dilated sigmoid loop with gaseous distension of bowel.

Blood and biochemical parameters were within normal limits.During admission child was having recurrent episodes of pain abdomen and constipation was not relieved with enema.

Serial xray abdomen was done which showed peristent sigmoid loop with gaseous distension. Hence a CECT abdomen was done which showed grossly dilated sigmoid colon of diameter 9.9 cms with twisting of sigmoid colon on its mesentery with whirl sign- S/O of sigmoid volvulus.

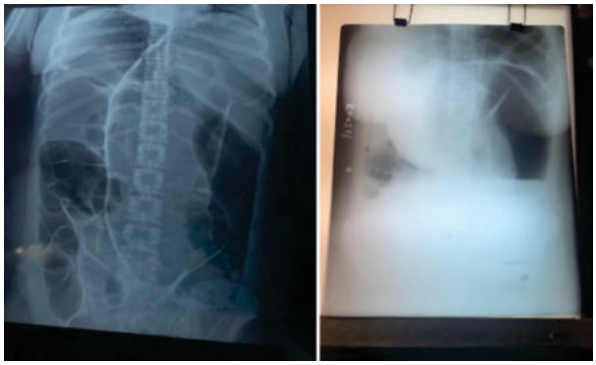

Figure 1: Serial erect Xray abdomen

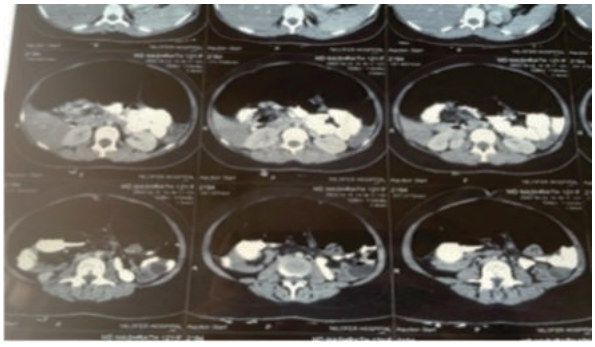

Figure 2: Contrast enhanced CT abdomen

Immediately child was taken up for surgery.Exploratory laparotomy with left infra-umbilical transverse incision was done.Intra operative findings showed grossly dilated sigmoid colon with one twist,volvulus of 360° around its mesentery (Figure *3*), Derotation of bowel was done followed by resection of dilated sigmoid and end to end colonic anastomosis. Post operative period was uneventful. Orals started on 5th POD and child was shifted to full diet by 7th POD. Intra peritoneal drain was removed on 6th POD. Child was discharged on 8th POD in stable condition. Postoperative histopathology report indicated no evidence of aganglionic segment.

DISCUSSION

Volvulus can develop at any segment of the large bowel, but it is commonly seen in the sigmoid colon due to the long mesentery and inherent anatomy. However, volvulus in the sigmoid colon in the pediatric age group is a rare entity [3] Only a few cases/case series of sigmoid volvulus in the

pediatric population have been documented worldwide in literature. In a study conducted between 1941 to 2000, Salas et al. reported only 63 cases, with a median age of seven years and a male preponderance (male:female ratio, 3.5:1) [4].

Figure 3: Grossly dilated sigmoid colon(Intraoperative pic)

Predisposing factors in children have been studied over the years in the few cases documented in the literature, wherein Hirschsprung's disease has been a common association due to short aganglionic segment and dilated ganglionic segment with freely mobile mesentery [5,6]. Congenital anomalous fixation of the colon, myotonic dystrophy, and prune belly syndrome are the other causative factors.

The diagnosis of sigmoid volvulus requires a detailed history, clinical examination, and appropriate interpretation of plain abdominal radiographic films. Diagnosis by plain films was made in 17 to 30% of pediatric cases versus 60 to 90% in adults. Classic radiographical appearance of "Coffee Bean" sign may not be seen in most pediatric cases and is not specific to distinguish from other abdominal pathologies [7].

As in adults, barium enema increases radiographic diagnostic sensitivity in pediatric patients (71 to 82%)

The aim of management is a reduction of the sigmoid volvulus with the prevention of recurrent episodes. The definitive treatment of sigmoid volvulus is sigmoidectomy, either with primary anastomosis or colostomy. Recurrence has been noted to be common when only detorsion is done, whereas recurrence after sigmoidectomy has never been reported so far. non-operative reduction of the volvulus with barium enema or sigmoidoscopy may first be attempted.There has been an established association of sigmoid volvulus with HD, thus a full-thickness biopsy is warranted to rule out aganglionosis.

If accurate diagnosis and prompt treatment are given to a child presenting with sigmoid volvulus, it continues to have a good prognosis.

CONCLUSION

Sigmoid volvulus is an uncommon diagnosis in children. However, case series and case reports of SV are becoming more prevalent in the literature. Failure to recognize SV may result in life threatening complications such as sigmoid gangrene/perforation, peritonitis, sepsis and death

REFERENCES

1. Smith SD, Golladay ES, Wagner C, Seibert JJ: Sigmoid volvulus in childhood. South Med J. 1990, 83:778-781. 10.1097/00007611-199007000-00015
2. Hinshaw DB, Carter R: Surgical management of acute volvulus of the sigmoid colon; a study of 55 cases. Ann Surg. 1957, 146:52-60. 10.1097/00000658-195707000-00006
3. Van Heurn LWE, Pakarinen MP, Wester T. Contemporary management ofabdominal surgical emergencies in infants andchildren. Br J Surg 2014;101:24e33.
4. Carter R, Hinshaw DB: Acute sigmoid volvulus in children. Am J Dis Child. 1961, 101:631-634. 10.1001/archpedi.1961.04020060089010
5. Salas S, Angel CA, Salas N, Murillo C, Swischuk L: Sigmoid volvulus in children and adolescents. J Am Coll Surg. 2000, 190:717-723. 10.1016/s1072-7515(00)00270-2
6. Parolini F, Orizio P, Bulotta AL, et al.: Endoscopic management of sigmoid volvulus in children. World J Gastrointest Endosc. 2016, 8:439-443. 10.4253/wjge.v8.i12.439
7. Khalayleh H, Koplewitz BZ, Kapuller V, Armon Y, Abu-Leil S, Arbell D: Neonatal sigmoid volvulus. J Pediatr Surg. 2016, 51:1782-1785. 10. 1016/j.jpedsurg.2016.06.017