Case Report
Research

Pediatric Education and

Volume 12 Number 2, July - December 2024
DOI: https://dx.doi.org/10.21088/per.2321.1644.12224.5

Colonic Atresia with Rectal Atresia: The Management of a Rare Presentation: A Case Report

Rashmi Ranjan[1], Saurav Srivastava[2], Pranay Kumar[3], Digamber Chaubey[4]

How to cite this article: Rashmi Ranjan, Saurav Srivastava, Pranay Kumar *et al.*, Colonic Atresia with Rectal Atresia: The Management of A Rare Presentation: A Case Report. Pediatr. Edu. Res. 2024;12(2): 61-63.

Abstract

Obstructions in the lower intestinal tract, specifically colonic and rectal atresias, are distinct conditions that share similarities but necessitate different surgical interventions. Most of our understanding regarding these malformations is derived from isolated Case Report and a limited number of comprehensive investigations. Rectal atresia is a rare congenital anomaly characterized by a normal anus but an obstructed rectum. Its co-occurrence with other digestive system abnormalities, particularly colonic atresia, is even less frequent. We present an unusual case in which rectal atresia is observed in conjunction with colonic atresia, which was not detected during the initial surgical procedure. Contrast enema revealed only 2 cm of the anal canal from the distal end. The infant underwent surgical intervention for rectal atresia via the posterior sagittal approach. An end-to-end anastomosis was performed following resection of the atretic segment. Postoperatively, the patient was maintained on a regimen of regular Hegar's dilatation. Rectal atresia with colonic atresia is an exceedingly rare anomaly with very few cases reported in the literature. Awareness of such coexistence may minimize further complications.

Keywords: High divided sigmoid colostomy, Transverse loop colostomy, Colonic stricture.

INTRODUCTION

Neonatal intestinal obstruction can be caused by rectal atresia (RA), a highly uncommon condition that makes up 1% of all anorectal malformations (ARM)[1]. RA is anatomically characterized by a normal anal canal and a well-formed anal sphincter[1,2]. Another infrequent cause of neonatal intestinal obstruction is colonic atresia. This abnormality represents less than 10% of all intestinal atresia cases. The overall occurrence is estimated to be between 1:5000 and 1:66,000[3,4,5]. When these two anomalies occur together, it requires a thorough understanding of the anatomical structure and careful planning for effective treatment.

CASE REPORT

A three-day-old male infant presented to the emergency department with complaints of failure to pass stools since birth and abdominal distension associated with bilious vomiting. Upon clinical examination, the anal opening was present; however, it was not possible to advance a Hegar's dilator beyond 2 cm. A transverse loop colostomy was performed as an emergency procedure. At two

Author's Affiliation: [1,3] Pediatric Surgery, Indira Gandhi Institute of Medical Science, Patna 800014, Bihar, India, [2,4] Pediatric Surgery, All India Institute of Medical Sciences, Patna 801507, Bihar, India.

Corresponding Author: Saurav Srivastava, Pediatric Surgery, All India Institute of Medical Sciences, Patna 801507, Bihar, India

E-mail: sauravsrii@gmail.com

Received on: 18-09-2024 **Accepted on:** 28-10-2024

months of age, a distal loopogram was planned, but the distal stoma could not be visualized due to retraction. Contrast enema revealed only 2 cm of the anal canal from the distal end. No imaging was available from the initial surgery. Two-dimensional echocardiogram and abdominal ultrasound were unremarkable. The infant underwent surgery for rectal atresia via the posterior sagittal approach. An end-to-end anastomosis was performed following resection of the atretic segment. Postoperatively, the patient was maintained on a regimen of regular Hegar's dilatation. Three months following this surgical intervention, a contrast enema was conducted (Fig. 1). This study demonstrated opacification of the entire left colon, which appeared to terminate just below the skin level. During stoma mobilization for closure, it was observed that approximately 3 cm of the distal retracted colon was atretic with a significantly narrowed lumen (Fig. 2). The bowel distal to this segment was also narrow but did not appear atretic. The distal stoma was refashioned following the excision of the atretic segment, and the patient was maintained on regular distal stoma washes to dilate the distal bowel. Stoma closure with the adequate calibre of the distal colon was achieved through washes and rectal dilatation using a Hegar's dilator after six months. The patient has demonstrated satisfactory progress during the postoperative follow-up period.

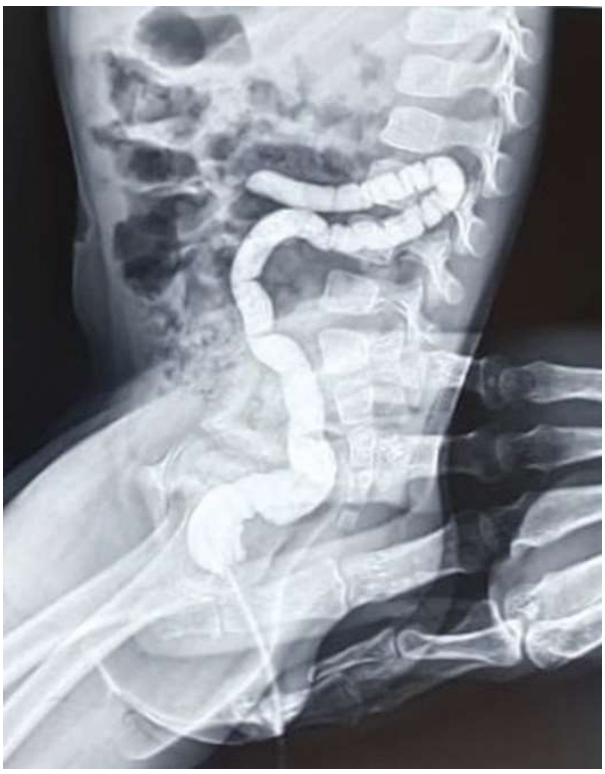

Fig. 1: Contrast enema after surgery for rectal atresia through the posterior sagittal route

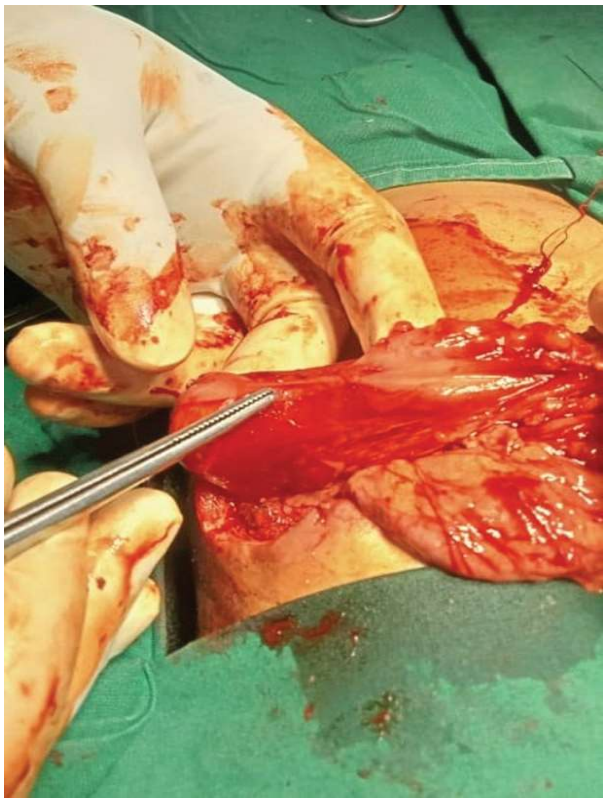

Fig. 2: Intraoperative picture showing type I colonic atresia (as pointed by the handheld forceps) after stoma mobilization.

DISCUSSION

ARM is a very common congenital anomaly in North India and in this case, we had a child with a rare variety of ARM, rectal atresia. In the hands of a general surgeon who usually doesn't do a high sigmoid divided colostomy (HDSC), transverse loop colostomy (TLC) is considered safe. In this case, there was anatresia in the distal bowel which was the left half of the transverse colon and splenic flexure. Using the Grosfeld classification, this was classified as type II colonic atresia[6]. Ismailet al reported a case of high ARM with colonic atresia and malrotation[7].

For this rare presentation, two explanations can be given. First, since the child did not have any history of NICU admission for any feeding or abdominal distension problems (to rule out necrotizing enterocolitis (NEC)), the technical problem can be the cause of the stricture in the distal bowel. As splenic flexure lies in the watershed area of the vascular supply, any undue handling or traction can cause the compromised vascular supply and stricture of the segment. Had it been a congenital or acquired stricture during the neonatal period, the TLC would have served as a lifesaving procedure as high divided sigmoid colostomy

(HDSC) would have been sited distal to the stricture and hence would have required revision in the neonatal period itself. Second, colonic atresia has a presentation with a patent anal opening. Since in this case, there was an anal opening, it might be a rare case of Colonic Atresia with Rectal Atresia[8].

If the stoma retracts before the second stage of ARM, the author believes that the stoma should be refashioned, and the correction of the ARM should be done only after a proper contrast study through the distal stoma is done. Any proximal atresia will present with a collapsed distal colon. Any attempt made at making a stoma on the collapsed segment can be catastrophic as this atresia will cause a closed loop obstruction with the ileocaecal valve. The mortality rate in such cases is reported as high as 60%.[9]

CONCLUSION

The low incidence of CA may result in delay in the diagnosis and management of this condition. Early recognition and prompt surgical intervention are crucial for optimal outcomes in these cases. Further research and collaborative efforts are needed to better understand the etiology, associated anomalies, and long-term outcomes of colonic and rectal atresias.

Conflict of interest: No

REFERENCES

1. Luo C-C, Ming Y-C, Chu S-M, Chao H-C. Individualized management of upper rectal atresia. J Pediatr Surg. 2009;44(112):2406–9.
2. Liem NT, Hien PD. Laparoscopic and transanal approach for rectal atresia: a novel alternative. J Pediatr Surg. 2007;42(111):E25–7.
3. E.C. Pohlson, E.I. Hatch, P.L. Glick, D. TapperIndividualized management of colonic atresiaAm J Surg, 155 (5) (May 1988), pp. 690-692, 10.1016/s0002-9610(88)80146-6
4. Ioannis Patoulias, Thomas Feidantsis, Charalampos Doitsidis, Magdalini Mitroudi, Maria-Styliani Kalogirou, Dimitrios PatouliasEarly diagnosis and surgical intervention untie the gordian knot in newborns with colonic atresia: report of two cases and review of the literature Folia Medica Cracoviensia, 59 (3) (2019), pp. 67-79
5. Bilal Mirza, Shahid Iqbal, Lubna IjazColonic atresia and stenosis: our experienceJ. Neonatal Surg., 1 (1) (January 1, 2012), p. 4
6. Grosfeld JL, Ballantine TV, Shoemaker R. Operative management of intestinal atresia and stenosis based on pathologic findings. J PediatrSurg 1979;14:368–75.
7. Ismail A, Mboma L, Ngotta V, Nyamuryekung'e M. Anorectal malformation, associated with colon atresia and intestinal malrotation, a case report. Int J Surg Case Rep. 2021 Jul;84:106159.
8. Etensel B, Temir G, Karkiner A, Melek M, Edirne Y, Karaca I, Mir E. Atresia of the colon. J Pediatr Surg. 2005 Aug;40(8):1258-68.
9. Cox S., Numanoglu A., Millar A., Rode H. Colonic atresia: spectrum of presentation and pitfalls in management. A review of 14 cases. Pediatr. Surg. Int. 2005;21(10):813–818.