Case Report

A rare case of neonatal intestinal obstruction

Senthil Nathan R[1], M. Gnana Sezhian[2*]

[1]Chief, Department of Pediatric Surgery, Institute of Child Health, Egmore, Chennai, Tamil Nadu, India
[2]Post Graduate, Department of Plastic Surgery, Madras Medical College, Tamil Nadu, India
[*]Corresponding author email: **gnana.mmc@gmail.com**

International Archives of Integrated Medicine, Vol. 9, Issue 9, September, 2022.
Available online at http://iaimjournal.com/
ISSN: 2394-0026 (P) **ISSN: 2394-0034 (O)**
Received on: 25-8-2022 **Accepted on:** 30-8-2022
Source of support: Nil **Conflict of interest:** None declared.

How to cite this article: Senthil Nathan R, M. Gnana Sezhian. A rare case of neonatal intestinal obstruction. IAIM, 2022; 9(9): 49-52.

Abstract

Omphalocele minor is often associated with the presence of other anomalies compared to that of omphalocele major. The occurrence of intestinal atresia is seldom associated with omphalocele minor. Prompt diagnosis and intervention can prevent morbidity and mortality. Following is a rare case report of combination of omphalocele minor and intestinal atresia with strangulation of the proximal bowel.

Key words

Neonate, Neonatal intestinal obstruction, Intestinal strangulation, Omphalocele minor, Omphalocele major, Colon atresia, Umbilical hernia, Congenital hernia, Neonatal laparotomy, Ileo-colic anastomosis, Newborn.

Introduction

An omphalocele is a birth defect in which an infant's intestine or other abdominal organs are outside the abdominal wall because of a defect in the umbilical region. The intestines are covered only by a thin layer of membrane.

Omphalocele minor is often associated with the presence of other anomalies compared to that of omphalocele major [1, 2]. The occurrence of intestinal atresia is seldom associated with omphalocele minor [3, 4]. Prompt diagnosis and intervention can prevent morbidity and mortality [5].

Intestinal atresia is a malformation where there is narrowing or complete obliteration of a portion of the intestine, either the small or the large bowel. The incidence is 1 in 5000 live births and only 1.8-5% of these cases have colonic atresia [4, 6, 7].

It occurs mostly due to intrauterine vascular insult to the developing bowel, leading to ischemic necrosis and subsequent reabsorption of the affected segments [8, 9]. It may be associated with other anomalies like omphalocele, intussusception, malrotation, VACTERL and chromosomal abnormalities. Intestinal atresia especially jejunoileal atresia is the most common cause of intestinal obstruction. Intrauterine diagnosis of the condition is possible using USG of the fetal abdomen.

Case report

One day old male child presented to the department with the complaints of bilious vomiting and not passing meconium after birth. The baby on examination had distended abdomen and a low lying umbilicus with bowel seen through the sac protruding at the umbilical cicatrix. It was a case of exompholos minor (omphalocele minor). The baby was born at 39 weeks of gestation through uncomplicated normal vaginal delivery and his 28th week prenatal ultrasound was normal. Postnatal X ray taken revealed dilated bowel loops (**Figure - 1**).

Management

The baby was stabilized and taken up for emergency surgery. Laparotomy revealed a bowel loop within the omphalocele with proximal dilated and strangulated bowel and distal atretic colon with a mesentric rent. Limited resection of the distal bowel (atretic colon) and resection of the dilated gangrenous proximal small bowel loop (probably terminal ileum) was done measuring 15 cm. Patency of the distal bowel was checked (**Figure – 2**).

Terminal ileostomy and colostomy (atretic distal bowel) was done. Oral feed started on post-operative day 3 (POD 3). On POD 17 (20th day of life) relaparotomy was done and ostomies were dismantled and ileocolic anastomosis done. Baby passed greenish stools and oral feeds started on POD 4, and had uneventful period after that (**Figure – 3**).

Figure – 1: Abdomen photo showing low lying umbilicus with omphalocele minor with skin changes over the swelling.

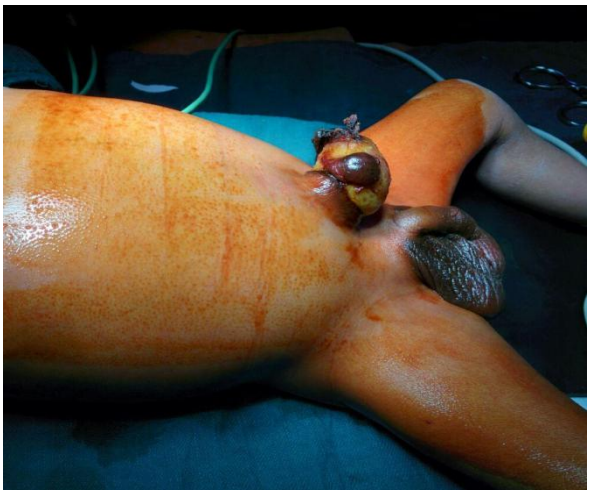


Figure – 2: Per-operative photo showing atretic colon and dilated and strangulated ileum.

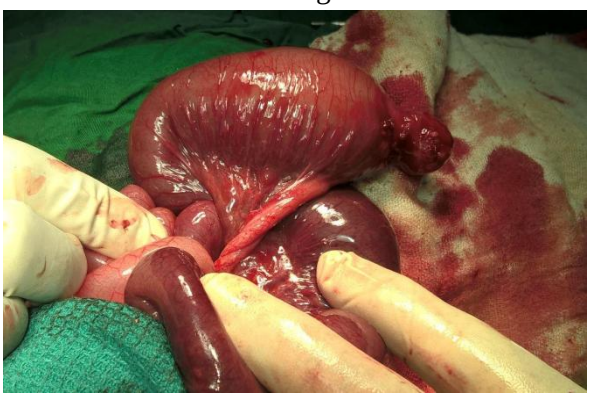
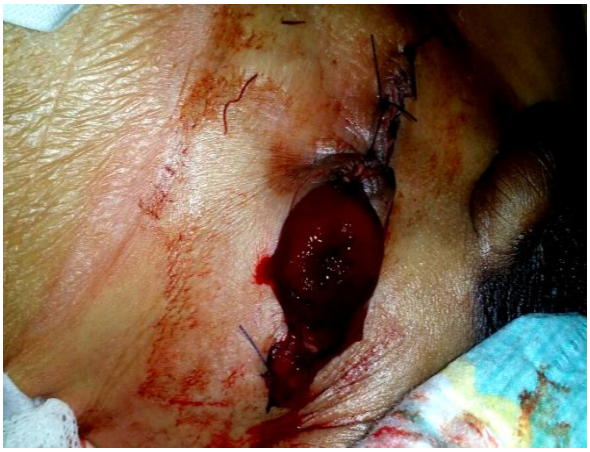


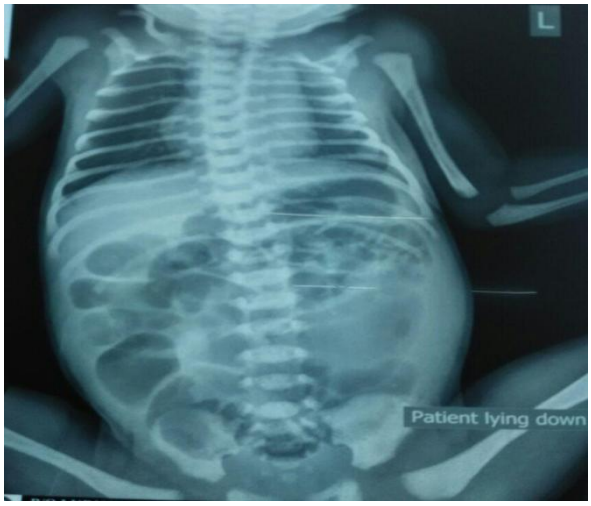
Figure – 3: Post-operative photo showing end ileostomy and colostomy following resection of gangrenous portion.



Discussion

The Incidence of Omphalocele is - 1 in 5000 births. There are two types – major (>4 cm) and minor (<4 cm), depending on the size of the abdominal wall defect [1, 2]. Colonic atresia seen in 1.8- 5% cases of intestinal atresia [6, 7, 10, 11]. In our case it was exomphalos minor with a narrow neck which compromised the blood flow resulting in intestinal atresia and obstruction. The baby had low lying omphalocele (**Figure - 4**) with intestinal atresia (Type IIIa) [12], colon atresia and strangulated bowel. These combinations are rare presentations.

Figure – 4: X - ray of the patient showing dilated bowel loops.



Conclusion

This case highlights the fact that any neonate presenting with omphalocele must be evaluated to rule out other associated anomalies, especially those life threatening ones, and appropriate intervention should be attempted at the earliest.

Acknowledgements

I would like to acknowledge the Department of Paediatric Surgery, Department of General Surgery, and Head of the departments and the Assistant Professors who managed this patient and guided me in presenting this case report.

References

1. Kumar H.R., Jester A.L., Ladd A.P. Impact of Omphalocele Size on Associated Conditions. Journal of Pediatric Surgery, 2008; 43: 2216-2219. http://dx.doi.org/10.1016/j.jpedsurg.2008.08.050
2. Haas J., Achiron R., Barzilay E., Yinon Y., Bilik R., Gilboa Y. Umbilical Cord Hernias: Prenatal Diagnosis and Natural History. Journal of Ultrasound Medicine, 2011; 30: 1629-1632.
3. Pal K., Ashri H., Wabari, A.A. Congenital Hernia of the Cord. Indian Journal of Pediatrics, 2009; 76: 319-321. http://dx.doi.org/10.1007/s12098-009-0061-x
4. Ferede A., Tareen F., Gillick J. Omphalocele Minor Associated with Complete Absence of the Large Bowel. Pediatric Surgery International, 2009; 25: 651-653. http://dx.doi.org/10.1007/s00383-009-2397-8
5. Salomon LJ, Benachi A, Auber F, Bonnard A, Nihoul-Fékété C, Dumez Y. Omphalocele: beyond the size issue. Journal of pediatric surgery, 2002 Oct 1; 37(10): 1504-5.
6. Benson CD, Lotfi MW, Brough AJ. Congenital atresia and stenosis of the colon. J Pediatr Surg., 1968; 3: 253.
7. Ruggeri G, Libri M, Gargano T, Pavia S, Pasini L, Tani G, et al. Congenital colonic stenosis: a case of late-onset. Pediatr Med Chir., 2009; 31: 100-3.
8. el-Shafie M, Waag KL, Spitz L. Ileal atresia secondary to antenatal strangulation by a ruptured omphalocele. J Pediatr Surg., 1972; 7: 64–5.
9. Shigemoto H, Horiya Y, Isomoto T, et al. Duodenal atresia secondary to intrauterine midgut strangulation by an omphalocele. J Pediatr Surg., 1982; 17: 420–1.
10. Mansoor H, Kanwal N, Shaukat M. Atresia of the Ascending Colon: A Rarity. APSP Journal of Case Reports, 2010; 1(1): 3.
11. Freeman NV. Congenital atresia and stenosis of the colon. Br J Surg., 1966; 53: 595-7.

12. Rode H, Millar AJW. Intestinal atresia and stenosis: In: Puri P (ed) Newborn surgery. Arnold, London, 2003, p. 445–456.