ILEAL ATRESIA WITH INTESTINAL DUPLICATION

S. Sinha
A.N. Gangopadhyay
Harshwardhan
S. Chooramani Gopal

Ileal atresia and intestinal duplications are uncommon malformations. A combination of the two in one patient is rare. A case of a neonate with intestinal obstruction who was discovered to have both these anomalies on exploratory laparotomy, is presented.

Case Report:

A 14-day-old full-term male neonate weighing 2.4 kg presented with vomiting, constipation and abdominal distension since birth. The baby had gross fluid and electrolyte imbalance which was corrected on admission. A plain *X*-ray of abdomen revealed multiple distended loops with gas fluid levels. Exploratory laparotomy was performed after 24 h and type IIIa mid ileal atresia was found with dilatation of the proximal loop. About 15 cm proximal to the involved site an enterogenous duplication cyst was present *(Fig.)*. It was 3×2.5 cm in size with common musculature and blood vessels. Bishop-Koop(1) anastomosis was performed after resection of the grossly dilated proximal segment including the duplication cyst. A transanastomotic

Fig. Excised proximal dilated segment showing proximal end A, distal end B and enterogenous cyst C.

From the Division of Pediatric Surgery, Institute of Medical Sciences, Banaras Hindu University, Varanasi 221 005.

Reprint requests: Dr. A.N. Gangopadhyay Reader in Pediatric Surgery, Department of Surgery, Institute of Medical Sciences, Banaras Hindu University, Varanasi 221 005.

Accepted: July 27, 1992

silastic tube was passed through the exteriorized distal loop into the proximal segment for about 10 cm. This was used to decompress the proximal segment for about 10 cm, This was used to decompress the proximal segment and was removed on the fourth day. Post-operative recovery was uneventful. The enterotomy opening was closed after 3 months.

Discussion

Duplication of bowel occurs infrequently and is usually an isolated finding(2). Out of 38 cases of gastrointestinal duplication in one series, only one was found to have associated atresia(3). A deLorimier *et al.*(4) have described 613 cases of jejunoileal atresia over a decade, of which 49% were ileal. Malrotation and meconeum ileus were the commonest associated abnormalities. Only 7 cases of jejunoileal atresia with duplication were found in this series. In another series of 127 cases of jejunoileal atresia, no patient had associated duplication(5). A recent series of 45 infants with small bowel atresia showed an association of enterogenous cyst in 2 cases only(6). The finding of both ileal atresia and duplication in a patient is thus rare. In our experience 77 cases of intestinal atresia over the past 10 years, this is the first case with an associated intestinal duplication.

The etiology of jejunoileal duplication is probably multifactorial with implication of persistence of transitory intestinal diverticula, median septum formation, errors of recanalization of epithelial plugs and traction by the neural tube(7). Interruption in vascular supply is an important cause of intestinal atresia (5). Duplication cysts are known to give rise to intestinal volvulus in children and it is possible that such an event may take place in intrauterine life. This could lead to bowel ischemia and atresia.

This patient presented for treatment late (this is common in India). Preoperative diagnosis of these patients is difficult with the proximal dilated loop obscuring the presence of a duplication cyst.

The authors have been using Bishop-Koop operation with trans-anastomotic decompression of the proximal segment for many years and have found significantly reduced incidence of anastomotic leakage and stenosis.

REFERENCES

1. Bishop HC, Koop CE. Management of meconeum ileus; resection, Roux-en-y anastomosis and ileosteomy irrigation with pancreating enzymes. Ann Surg 1957, 145: 410-414.
2. Sherman Nj, Morrow D, Asch M. A triple duplication of the alimentary tract. J Pediatr Surg 1978, 13:187-188.
3. Mellish RWP, Koop CE. Clinical manifestation of duplication of the bowel. Pediatrics 1961, 27: 397-407.
4. deLorimier AA, Fonkalsrud EW, Hays DM. Congenital atresia and stenosis of the jejunum and ileum. Surgery 1969, 65: 819-827.
5. Nixon HH, Tawes R. Etiology and treatment of small intestinal atresia: Analysis of a series of 127 jejunoileal atresia and comparison with 62 duodenal atresias. Surgery 1971, 69: 41-51.
6. Patrapinyokul S, Brereton RJ, Spitz L, Kiely E, Agarwal M. Small-bowel atresia and stenosis. Pediatr Surg Int 1989, 4: 390-395.
7. Shandling B. Congenital and perinatal anomalies of the gastrointestinal tract and intestinal obstruction. *In:* Nelson Textbook of Pediatrics, 13th edn, Eds Behrman RE, Vaughan VC. Philadelphia, W.B. Saunders Co., 1987, pp 778-791.