Perforated small bowel in omphalocele at birth

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ABSTRACT

The rupture of an omphalocele sac during birth is a well recognized entity. The associated lesions due to vascular compromise can result in necrosis of the bowel with perforation. Spontaneous bowel perforation in an omphalocele at birth is not reported in the literature. We describe a case with bowel perforation at the fundus of an omphalocele in a newborn.

KEY WORDS: Abdominal wall defects, omphalocele, perforation of hollow viscus, umbilical hernia

Perforation of bowel in an omphalocele is a rare entity. While the usual complications of incarceration, strangulation and spontaneous rupture of the hernial sac are well documented in cases of umbilical hernia.\(^1,2\) Perforation of the small bowel in the omphalocele at birth is not reported in the literature. We describe here the management and successful outcome of one such case with review of etiopathogenesis of abdominal wall defects.

CASE REPORT

Female infant delivered at term weighing 2100 gm was brought on Day 3 of life with history of an opening at the tip of an umbilical swelling present since birth. Examinations revealed an omphalocele around 5 cm in size with a pouting red opening at the fundus [Figure 1], which was a perforation in the small bowel and was discharging meconium. At emergency surgery, a laparotomy revealed an ileal loop entering a 2 cm defect in the umbilicus [Figure 2]. The umbilical defect was cut open to deliver the hernial contents. The ileal loop within the herna had perforated but was otherwise healthy. The edges of the perforation were freshened and closed primarily. Feeding was started on the fifth postoperative day. The child had an uneventful recovery.

DISCUSSION

Congenital malformations of the abdominal wall consists of a combination of an opening in the parietes alongwith visceral abnormalities. The most frequent are omphalocele and gastrochisis. Embryological analysis of the formation of the abdominal wall distinguishes an
omphalocele from gastroschisis. An omphalocele develops due to the absence of differentiation of the lateral folds of the embryo. On the contrary, gastroschisis results due to absence of differentiation of the mesenchyme at one point of the somatopleural lining. Clinically, an omphalocele consists of an opening of the abdominal wall, lined by a double layer (peritoneum and external layer of the amniotic membrane), which may rupture before birth but there is usually no perforation of gut lumen. Ruptures most often occur in large grotesque omphalocoeles. Gastroschisis is a true antenatal hernia lying to one side of the umbilical cord.

An umbilical hernia is remarkably free from complications, with the most common being incarceration. However, spontaneous rupture of an omphalocele sac and associated intestinal atresias are well known complications of an omphalocele. A perforated small bowel in an omphalocele of a newborn has not been reported in the literature. However, a case of perforation of small intestine inside an internal omphalocele after blunt trauma is reported. The perforation of small bowel in an omphalocele is either primary or iatrogenic. The late intrauterine vascular catastrophe is a well-documented cause of small bowel atresias and perforation. The iatrogenic injury is a result of injudicious placement of an umbilical cord clamp in cases of unrecognized small hernia of the umbilical cord. In our case there was no injudicious placement of an umbilical cord clamp and there was no bowel atresia or other associated anomalies on exploration. The perforation of gut to the surface was most probably either as a result of ischaemic insult or due to mechanical factor. Primary closure of the perforation and umbilical defect in these cases usually result in uneventful recovery as in our case.

REFERENCES