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Short Clinical Report

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Intestinal prolapse through the patent vitellointestinal duct in a preterm newborn

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CASE PRESENTATION

A preterm male neonate was born to a 32-year-old mother at a primary care center by cesarean section (done in view of fetal distress) at 33 weeks of gestation. The amniotic fluid was meconium stained. Antenatal scans were reported normal. Mother had hypothyroidism and was being treated with (100 µg/day) levothyroxine. Birth weight was 2250 grams and Apgar scores were 8-10 at 1 and 5 minutes after birth, respectively. Abdominal examination revealed a red fleshy round shape mass (2×2.5 cm) protruding from the umbilicus along the umbilical cord. The size of the umbilical ring was 1.5 cm in diameter. The mass had no coverage and resembled the intestine with normal colored mucosa (Fig.1).

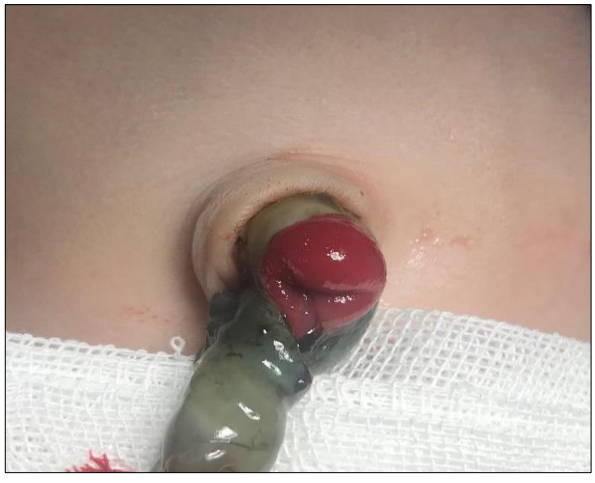

Figure 1: Prolapse of intestine from the umbilicus.

The anal opening was normally positioned; however, the baby had not passed any meconium and there were no features of intestinal obstruction. A heart murmur was heard on cardiac auscultation. The rest of the systemic examinations were normal. One hour after birth, a dark-greenish discharge was observed through the end of the protruding mass. Intravenous fluids and empirical antibiotics were started. A gradual prolapse of mucosa through the umbilical mass was noted. Ultrasound examination of the abdomen was normal. Echocardiography showed mild left ventricular hypertrophy and tricuspid regurgitation. Pediatric surgery consultation was done, and the newborn was prepared for emergency surgical repair to prevent ischemia and necrosis of the prolapsed intestinal loop. The patient was operated via a circumumbilical approach 6 hours after birth.

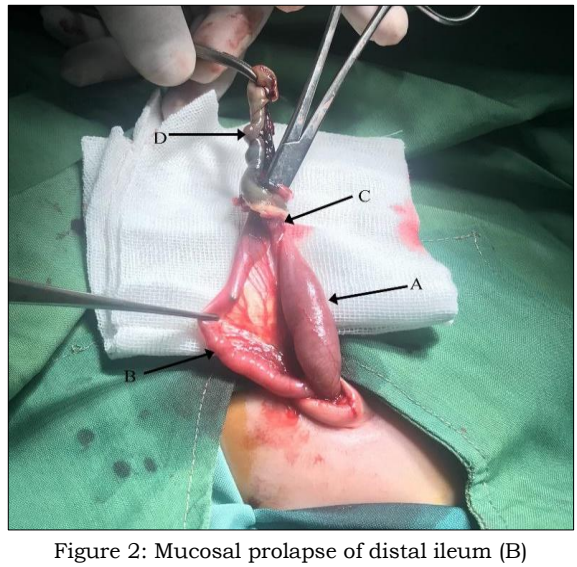

Figure 2: Mucosal prolapse of distal ileum (B) through the patent vitellointestinal duct (C). A: Proximal intestine, B: Distal intestine, C: Patent vitelline duct, D: Congested cord and its vessels.

Surgical examination under anesthesia revealed mucosal prolapse of distal ileum through a 3-cm patent vitellointestinal duct (VID). The intestine was healthy with intact vascularity. The patent VID was resected, and bowel anastomosis was done, followed by umbilicoplasty (Fig.2). There was no urachal anomaly. Feeding was started with expressed breast milk on postoperative day 2 and gradually increased. The baby was on full breastfeeding at day 9 and was discharged home. The baby is doing fine on follow-up (2 months).

DISCUSSION

The persistent omphalomesenteric (vitelline) duct also called vitellointestinal duct (VID) occurs in approximately 2% of the newborns and in 6% the duct remains patent.[1,2] Patent VID may present itself with intermittent or continuous umbilical discharge.[3,4] Intestinal prolapse through the patent VID is rare anomaly but is considered as a surgical emergency. Although there is equal frequency between the sexes, symptomatic form is more common in males. [5-7]

The clinical presentation is variable with very few reported cases of this entity presented at birth and most of the clinical presentations were beyond the first day of life or after neonatal period.[1,7,8] It may later present with sudden evisceration of intestine (prolapse) from umbilicus while the baby is crying and if the condition not managed promptly by surgical intervention, may lead to intestinal obstruction, strangulation and gangrene of the prolapsed intestine.[3,5]

To the best of our knowledge, there are only a few case reports of prolapsing PVID in preterm newborns presenting at birth.[7,9] The outcome is highly dependent on the time of presentation, early diagnosis, complications (strangulation), and associated anomalies.[7] We believe that PVID need prompt diagnosis and repair as soon as possible to avoid risk of bowel prolapse, ischemia, gangrene, or obstruction.

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