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Neonatal Patent Vitellointestinal Duct with Omphalocele: Case Report

Nandan M P, Darshan A M

Abstract: ***A case of patent vitellointestinal duct with omphalocele in a 2 day old neonate who presented with omphalocele noted with meconium from the patent vitellointestinal duct had vomiting and poor feeding with partial intestinal obstruction and a flower like pink, lesion at his umbilicus has been reported. Ultrasound abdomen was done and ruled out other associated anamolies. On exploration patent vitellointestinal duct was opening into the sac of the omphalocele which is rare in presentation. He underwent resection and anastomosis of vitello intestinal duct and sac excision and abdominal wall repair surgery. Persistence of the vitellointestinal duct as a whole or a part of it leads to a wide variety of anomalis-meckel's diverticulum is the commonest lesion and a pvid is the rarest. Umbilical cord clamping flush with the abdominal wall may convert a mecklel's diverticulum prolapsing in the base of umbilical ring into a pvid. Careful assessment should be made for associated anomalies. Omphalocele repair (minor) with primary resection and anastomosis gives good cosmetic and functional results.***

Keywords: Neonate, omphalocele, umbilical hernia, PVID, vitello intestinal duct malformations

1. Background

The Vitello intestinal duct (VID) is a hollow tube connecting the yolk sac to the midgut lumen of the foetus, which obliterates by the end of the 7th week of gestation [1]. Failure to obliterate can result in several malformations ranging from complete patency in the form of a fistula, to the most discussed Meckel's diverticulum, simple cyst, umbilical granulomas, or a fibrous cord. These conditions can in turn give rise to a multitude of symptoms and complications or may also remain asymptomatic [2].

2. Case Presentation

The patient was a term baby boy born to a mother who had normal prenatal scans. He was noted to have some watery and mucous discharge from his umbilicus from birth. He passed urine and meconium in the first few hours after birth. The omphalocele was noted with the meconium-stained patent VID on day 2 of life, revealing a red lesion below which there was a small quantity of watery and some sticky discharge which increased in amount 1 day prior to presentation. The rest of the abdominal wall was intact with no other defects. Genitalia looked normal and both testes were descended in the scrotum. The entire exteriorised mass was contained in a stoma bag stuck down to the abdominal wall. Meconium was noted to be discharging from the aperture of one of the tubular projections.

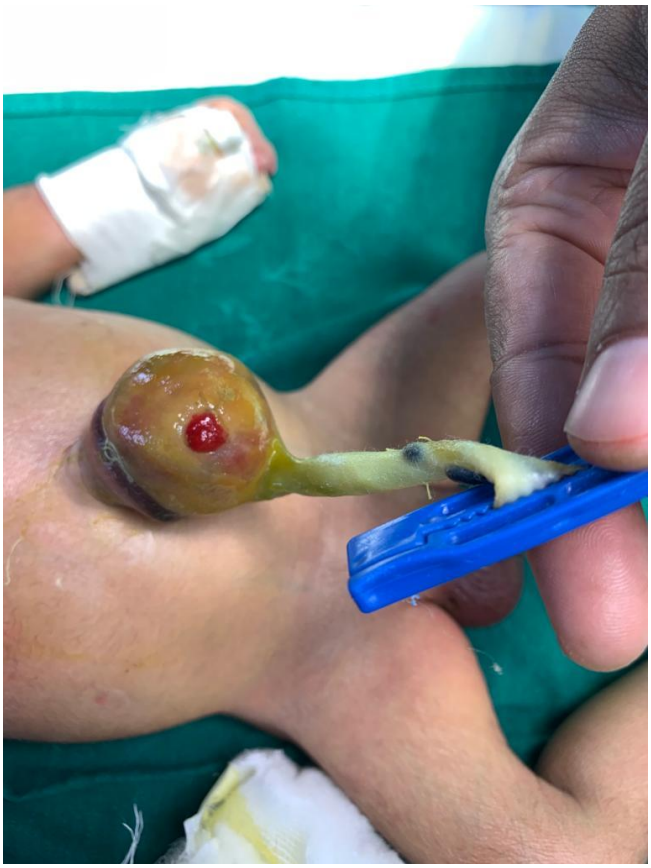

Figure 1: Clinical photograph showing patent Vitello intestinal ductopening into the omphalocele wall.

Investigations
Routine preoperative surgical investigations were within normal limits. Ultrasound scan of the abdomen was normal, and no other anomalies detected.2D echo was done to rule out cardiac anomalies was found to be normal.

Differential Diagnosis
Patent urachal sinus or urachus and ruptured omphalocele sac with bowel injury were considered as differential diagnosis.

Treatment
Baby was taken up for surgery and findings were noted as shown in the **figure 2**. Patent Vitello intestinal duct was exteriorised to the omphalocele sac. It was omphalocele minor. meconium staining noted from the patent vitello intestinal duct. Baby underwent resection and anastomosis of vitello intestinal duct and sac excision and abdominal wall repair surgery.

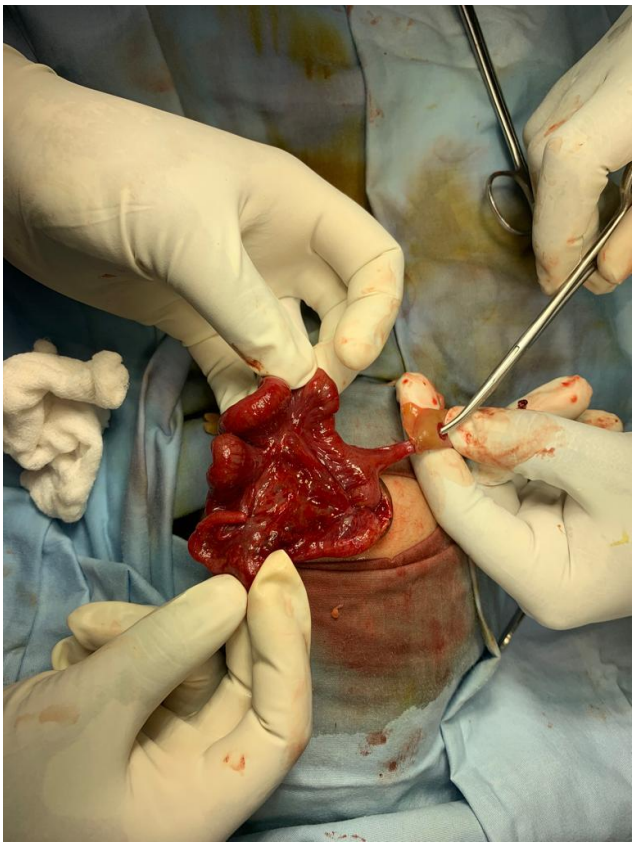

Figure 2: Exteriorisation of patent vitello intestinal duct to the omphalocele sac

Outcome and Follow-Up
Enteral feeding was started on postoperative day 4. The child was discharged after 8 days of hospitalisation after completing due immunisations. he was asymptomatic and gaining weight at follow-up after 1 month.

3. Discussion

Meckel's diverticulum is the most common of Vitello intestinal ductanomalies, but it is one of the most unlikely to cause symptoms, being symptomatic only in 2% of the population [3] [4] [5]. In developing countries, PVID is the most common Vitello intestinal duct anomaly to present with symptoms [5]. Various clinical presentations include gastrointestinal bleeding (40–60%), obstruction (25%), diverticulitis (10–20%) and umbilical discharge [2] [4] [5].

Generally patent vitello intestinal duct opens into the abdominal wall through umbilicus but in our patient patent vitello intestinal duct opened to the wall of the omphalocele, which is a rare presentation.

Prompt surgical intervention is required to prevent complications, including subacute or acute intestinal obstruction, strangulation, and gangrene of the intestinal loop. If the patient arrives early, primary closure of the PVID following reduction of the omphalocele contents may be attempted. If the defect is large, resection of the loop of intestine near the patent duct can be carried out followed by primary anastomosis [4].

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