Case Report

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A Case Report: Gastroschisis

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Abstract

Gastroschisis is a rare congenital anterior abdominal wall defect, which involves herniation of the small bowel with no membranous sac covering it [1]. It is usually present just to the right of a normal insertion of the umbilical cord into the body wall. There is an increased risk of intra uterine growth retardation (IUGR), fetal death, and premature delivery [2]. We hereby report a patient with this condition who came to the Neonatal Intensive Care Unit of our hospital.

Keywords: Gastroschisis; Anterior Abdominal Wall Defect; IUGR.

Introduction

Gastroschisis is a rare congenital anterior abdominal wall defect, which involves herniation of the small bowel with no membranous sac covering it [1]. It is usually present just to the right of a normal insertion of the umbilical cord into the body wall. It is seen in approximately 1 in 4000 live births, and is more common in mothers under 20 years of age. It is usually diagnosed during serial prenatal ultrasonography. There is an increased risk of intra uterine growth retardation (IUGR), fetal death, and premature delivery [2]. Treatment is by reduction of the bowel and closure of the defect [1].

Case Report

A 4 hours old preterm Male neonate was admitted to our NICU with intestine outside the abdominal cavity since birth. He was the first child born of a non-consanguinous marriage with birth weight of 1.9kg and maternal age being 20 years. Antenatal USG was done but anomaly scan was not done hence wasn't diagnosed antenatally. On Examination he was hemodynamically stable, conscious with good cry, tone, activity and reflexes. On Per Abdominal Examination; loops of intestines were visible outside the anterior abdominal wall to the right of umbilicus.

On Investigation

Hb-19.6 gm/dl,

WBC-17300/cumm ,

Platelet-619000/cumm,

CRP-33,

Serum Calcium-9 mg/dl

Fig 1: Showing loops of intestine outside the anterior abdominal wall.

Fig. 2: Intraoperative

Fig. 3a: SILO reconstruction done Stage 1

Fig. 3b: Silo Reconstruction done

Fig. 4: During closure surgery

Fig. 5: Complete closure Stage 2

Operative Notes

Repair was done using SILO technique in two stages. In first stage the exposed bowel was washed and edges of the defect were identified and sutured to Silo bag. Once the bowel was significantly reduced into the abdominal cavity, second stage of repair was done. Silo bag was removed and complete closure of defect was done. No part of the bowel was resected during this procedure.

Post operatively prolonged parenteral nutrition was given through Peripherally inserted central line, Intravenous Antibiotics were given for infection prevention and baby was placed under warmer for prevention of heat loss.

Patient had significant weight gain and no other complaints on follow up.

Discussion

Gastroschisis is a most common major abdominal wall defect. It is usually a small defect in the anterior abdominal wall typically located to the right of the umbilical ring and resulting in the herniation of the abdominal contents, without a surrounding membrane, into the amniotic cavity [3].

Exact cause of gastroschisis is uncertain, but various causes have been proposed including ischemic insult to the developing body wall. The right paraumbilical area is an area at risk because it is supplied by the right umbilical vein and right omphalomesenteric artery until they involute. If this ordered development and involution is disturbed in degree or timing, then a body wall defect could result from the resulting body wall ischemia [2,3]. An alternative hypothesis that may account for some cases of gastroschisis is that the defect results from an early rupture of a hernia of the umbilical cord [3].

In Gastroschisis the bowel is usually thickened,

matted, oedematous and covered with a fibrinous peel [3].

Gastroschisis has a very strong association with young maternal age, with most of these mothers being age of 20 years or younger [4,5]. Oligohydramnios is also common in gastroschisis, being present up to 25% of cases. The cause is unknown and it is usually of moderate severity and associated with IUGR, fetal distress, and birth asphyxia [2].

Gastroschisis can be differentiated from omphalocele as it is herination of abdominal viscera through an enlarged umbilical ring [4]. The origin of defect is failure of the bowel to return to the body cavity from its physiological herniation during 6th week to 10th week. The viscera are covered by amnion [2,6]. Gastroschisis can be differentiated from umbilical hernia. The intestines return to the abdominal cavity during the 10th week but the mass again herniate through an imperfectly closed umbilicus, thus forming umbilical hernia [2,1].

Gastroschisis is often diagnosed during prenatal ultrasound done for routine obstretric evaluation. AFP is also usually elevated in abdominal wall defects. Prenatal ultrasound could potentially identify the overwhelming majority of abdominal wall defects and accurately distinguish omphalocele from gastroschisis. The outcome of patients who have gastroschisis depends largely on the condition of the vulnerable bowel [7,6].

Conclusion

Improved understanding of gastroschisis, its early diagnosis by prenatal ultrasound, safe delivery of the foetus with a ventral wall defect, advanced surgical techniques for its correction and intensive care management of neonates reduces the morbidity and mortality.

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