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Gall Bladder Necrosis Associated with Gastroschisis: Case Report of a Rare Complication

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Abstract: ***Gastroschisis is a congenital defect characterized by herniation of abdominal viscera without a covering sac. Evisceration and necrosis of the gall bladder is rare. We report a case of a neonate with gastroschisis associated with gangrenous gall bladder. The neonate underwent emergency exploratory surgery with reduction of contents, cholecystectomy, and abdominal wall closure. The neonate succumbed to cardiorespiratory arrest. To the best of our knowledge, this is the first reported case of gall bladder necrosis in gastroschisis requiring cholecystectomy.***

Keywords: Gastroschisis, Gall bladder necrosis, Cholecystectomy, Congenital abdominal wall defect

1. Introduction

Gastroschisis is a congenital malformation of the anterior abdominal wall with an incidence of approximately 2.5 per 10,000 live births.[1] The defect is usually located to the right of the umbilical cord, through which the intestines and, rarely, other abdominal viscera herniate without a covering membrane.[2]

Associated anomalies include biliary atresia, choledochal cyst, cleft lip and palate, and sternal cleft, although intestinal atresia and gastroesophageal reflux are more commonly encountered. [3,4]

We report a rare case of gastroschisis with evisceration and necrosis of the gall bladder requiring cholecystectomy.

2. Case Report

A male neonate weighing 2 kg, born on 11 March 2026, was referred to the pediatric surgery department at 48 hours of life with eviscerated bowel loops, dehydration and shock. After Initial resuscitation, patient was shifted for surgery.

Intraoperatively the examination revealed gastroschisis with evisceration of almost the entire bowel along with part of the liver. A gangrenous structure in the right hypochondrium was identified as the gall bladder. The abdominal wall defect measured approximately 2 cm.

Despite attempts, no improvement in color was observed, confirming gangrene of the Gb.

Skin flaps were raised above the rectus sheath, and the abdominal contents were gradually reduced into the peritoneal cavity. Cholecystectomy was performed after identification and ligation of the cystic duct and cystic artery. Skin closure was completed with some difficulty.

At 6 am the next morning, the neonate developed cardiorespiratory arrest and could not be revived.

3. Discussion

Gastroschisis is a congenital anterior abdominal wall defect characterized by herniation of abdominal viscera through a paraumbilical defect without a covering sac.[2] Although the eviscerated contents usually consist of the small intestine, other organs such as the stomach, colon, urinary bladder, gonads, liver, and Gb may rarely herniate through the defect.[4] Associated complications include bowel edema, adhesive intestinal obstruction, prolonged ileus, sepsis, necrotizing enterocolitis, malabsorption, and surgical site infection.[4] In the present case, the bowel was viable; however, the gall bladder had undergone gangrene.

Gall bladder evisceration in gastroschisis is exceedingly rare. Drinnen and Filston reported a case of gastroschisis with gall bladder evisceration associated with late chylous ascites.[5] Mirza et al. described a patient with gastroschisis in whom both the gall bladder and urinary bladder had eviscerated, with subsequent gall bladder necrosis.[6] The rarity of gall bladder involvement may be related to its relatively fixed anatomical position and short mesentery.

In our patient, evisceration of the gall bladder resulted in gangrene, necessitating cholecystectomy at the time of abdominal wall closure. To the best of our knowledge, this is the first reported case in which cholecystectomy was performed for a gangrenous gall bladder associated with gastroschisis. [5,6] Awareness of this unusual presentation is important, as prompt recognition and appropriate surgical management can prevent further morbidity.

Conflict of Interest: Nil

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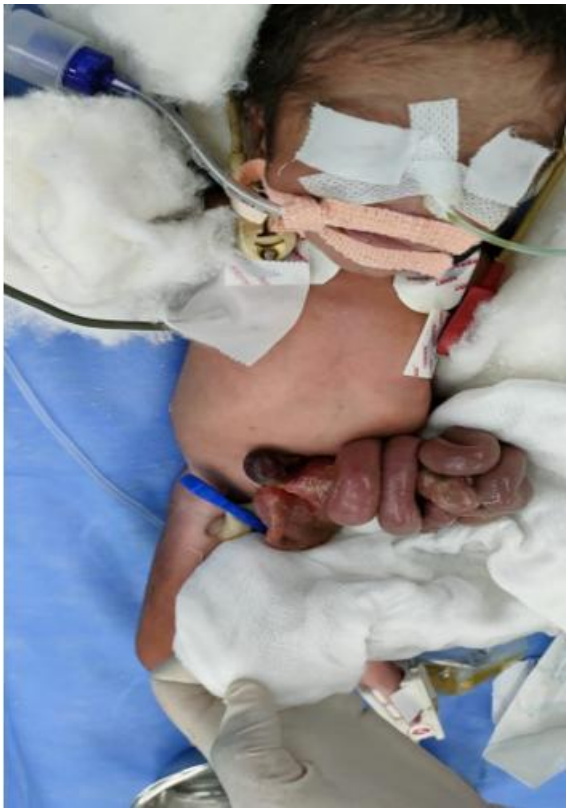

Figure 1 (A): Pre-operative picture of neonate with gastroschisis and a necrosed gall bladder.

Figure 1 (B): Intra- operative picture delineating the necrosed Gall bladder along with exposed intestines of gastroschisis