In-utero bilious emesis masquerading as meconium liquor: a case report of situs inversus and multiple intestinal atresia

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Introduction

Multiple intestinal atresia and situs inversus are rare congenital disorders, each with an incidence of less than 1 in 10,000 live births; co-existence has been reported in a small number of case reports only [1,2].

Situs inversus totalis denotes the complete transposition of the visceral organs. Etiology is thought to be due to a mechanical disturbance of rotation of the cardiac tube in organogenesis. Situs inversus is commonly diagnosed antepartum during morphology ultrasound, or as an incidental finding in an asymptomatic individual later in life. However, situs inversus can be associated with various congenital cardiac diseases, and a spectrum of rotational anomalies of the gastrointestinal tract, such as annular pancreas, biliary or intestinal atresia, preduodenal portal vein or diaphragmatic hernias[1].

Intestinal obstruction can result in in-utero bilious emesis and cause a green colouring of liquor that mimics meconium-stained liquor. Additionally, situs inversus can present with fetal conduction abnormalities and is a differential of fetal bradycardia.

Aim

To discuss the rare presentation of multiple intestinal atresia and situs inversus intrapartum.

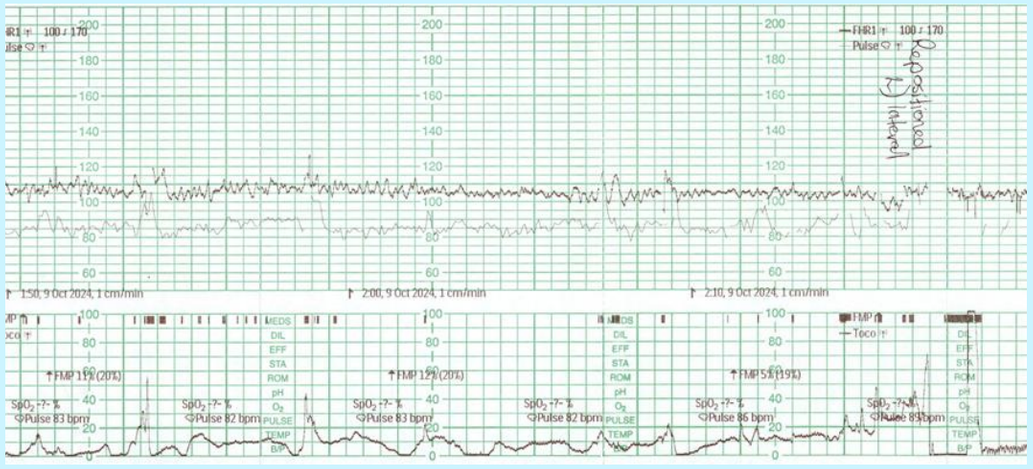
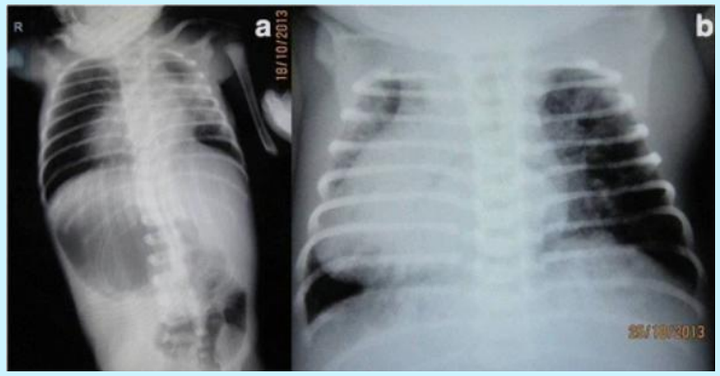


Figure 1: Intrapartum CTG, demonstrating fetal baseline bradycardia

Case

A 27-year-old G3P1 woman presented in preterm labour at 35+5 weeks, on a background of an otherwise uncomplicated pregnancy. Combined first trimester screening was low risk, and early anatomy and morphological ultrasounds had been reported as normal. Unusually for a preterm infant, the baseline fetal heart rate on CTG gradually reduced from 120 to 100 over multiple hours, with normal variability. Rupture of membranes at 6cm dilation revealed thick green stained liquor, thought to be meconium. Fetal scalp lactate was 5.6, prompting delivery via emergency caesarean section. A live male infant was delivered in good condition with Apgar scores of 9 at 1 and 5 minutes of life. Arterial and venous cord lactates were 2.5 and 2.0 respectively, indicating a well-oxygenated fetus.

Abdominal distention and persistent bilious vomiting at 24 hours of life without passage of meconium prompted further investigation. Chest and abdominal xray demonstrated situs inversus totalis, markedly distended loops of gas in the proximal bowel, and paucity of gas in the distal bowel. Small bowel series demonstrated promixal bowel obstruction and atypical midgut rotation.



The child was urgently transferred to a tertiary centre for operative management. Laparotomy demonstrated jejunal and ileal atresia and multiple mesenteric defects, with 9 anastomoses formed, and majority of the bowel removed.

Figure 2: Neonatal Xray demonstrating situs inversus totalis and distended proximal bowel loops[1]

Discussion

This case demonstrates the unusual presentation of fetal bradycardia in a preterm infant and highlights the differential of situs inversus as a cause of cardiac conduction delay. Similarly, green-coloured liquor can result from in-utero bilious emesis and is a rare masquerade for meconium liquor. Clinicians should be aware of these important differentials as early diagnosis and urgent corrective surgery is paramount.

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References

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