Preterm with Abdominal Ascites

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Abstract

A 29 weeks gestation preterm female baby born to 24 years old Primi mother by spontaneous vaginal delivery. Mother Blood group A positive, HBsAg Negative, HIV negative. Ultrasound scan done at 20 weeks of gestation was normal. No further scan was done. Born by spontaneous vaginal delivery, cephalic presentation, no meconium stained amniotic fluid present. Baby did not cried at birth and was floppy with APGAR score of 5 and 7 at 1 and 5 minute respectively. At birth abdomen was distended. Due to poor respiratory effort she was intubated in labor room.

Keywords: Preterm birth; Abdominal ascites

Introduction

A female baby of 29 week gestation preterm born to 24 year old Primi mother by spontaneous vaginal delivery. Mother Blood group A positive, HBsAg Negative, HIV negative. Ultrasound scan done at 20 weeks of gestation was normal. No further scan was done. Born by spontaneous vaginal delivery, cephalic presentation, no meconium stained amniotic uid present. Baby did not cried at birth and was oppy with APGAR score of 5 and 7 at 1 and 5 minute respectively. At birth abdomen was distended. Due to poor respiratory e ort she was intubated in labor room.

Vital signs

- Temp. 36.3 degree C
- HR 148/min, RR 56 breaths /min
- BP 50/32 (27) mmHg
- Birth weight 1.7 kg
- Length 45 cm
- HC 30 cm
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Discussion

Meconium peritonitis is aseptic chemical peritonitis which result due to intrauterine perforation of the gut in utero and exudation of meconium into the peritoneal cavity. e most common causes are intestinal atresia, meconium plugs, volvulus and cystic brosis. Meconium peritonitis leads to intense in ammation which results in calci cation along the surface of bowel and peritoneum. e prevalence of meconium peritonitis is around 1 in 35000 [1] with a slight male predominance and a survival of 50%. e diagnosis of meconium peritonitis can be made with Ultrasound or by abdominal x-ray of neonates, with varied images, altering according to the etiology of the obstruction/perforation [2]. In general, at least four types of meconium peritonitis are recognized, to know: bro-adhesive (dense mass with calcium deposits caused by chemical reaction), cystic, generalized and healed.

Meconium is a complex mixture of bile salts, cell debris and proteins. Spillage of these constituents has shown to activate immune cells including macrophages [3,4]. Macrophages in lterate into the peritonium and participate in a range of cellular functions, including phagocytosis, release of chemical mediators and antibody dependent cell mediated cytotoxicity [5].

Experimental animal studies have demonstrated that TNF α production by macrophages is signi cantly increased I response to meconium stimulation [5]. Exaggerated production of chemical mediators including TNF α enhances brin deposition and severe intraabdominal adhesion, resulting in short bowel syndrome due to massive resection or polysurgery. Moreover, if sealing of the perforation does not occur, huge abdominal cyst formation and progressive pro- in ammatory cytokine reaction with ascites collection may cause fetal cardiac insu ciency, preterm labor and a poor general condition a er birth.

e poor prognosis can be due to some complications like: development of huge formations of abdominal cysts that may su er rupture; the formation of ascites that can cause fetal heart failure and the development of sepsis with rapid evolution due to frequent bacterial colonization a er 72 hours of birth [6,7].

Conclusion

Meconium peritonitis is a rare condition with many complications and low survival, which requires speci c therapy for each etiology.

erefore, meconium peritonitis should always be suspected in neonates when the Ultrasound and x-rays present with abdominal ascites and perforation. All these babies should be screened to detect cystic brosis, because the association with meconium peritonitis is frequent.

References

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