# Meconium peritonitis: a rare cause of ascites

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**Case report**

Patient was delivered as one of twins to a 27 year old primigravida mother with 'A' positive blood group at a period of gestation of 33 weeks and 3 days, a product of a non-consanguineous marriage. Mother was a booked case and was diagnosed as a case of twin pregnancy. On the last visit to hospital ultrasonography (USG) revealed ascites and labour was induced as biophysical profile of index twin was 2/10. At birth, baby had a poor respiratory effort and tone and required bag and mask ventilation for one minute. On examination, baby had a fair cry, tone and activity, colour was pink and neonatal reflexes were present but sluggish. The respiratory rate was 49/min with subcostal and intercostal recessions, the heart rate was 145/min, the capillary refill time (CRT) less than 2 seconds and the oxygen saturation ($SPO_2$) 95%. The weight was 1650g, the length 40cm and the occipitofrontal circumference (OFC) 30.2cm. Generalised oedema was present with no pallor, icterus, dilated neck veins, cyanosis or lymphadenopathy. Abdomen was tense with gross generalised distention with shiny skin, visible veins, signs of free fluid, no visceromegaly or palpable lumps and bowel sounds present (Figure 1).

Rest of the examination was normal. Patient was nursed in the neonatal intensive care unit with intravenous fluids, antibiotics and other supportive measures. The packed cell volume (PCV) was 54.2% and the weight of the other twin was 1.5 kg and PCV was 53.8%. The haemogram, renal functions, serum electrolytes, electrocardiogram, echocardiography and urine examination were normal. TORCH profile and direct Coombs test were negative. The serum bilirubin, transaminases, international normalized ratio (INR) were within normal range, serum albumin was low (2.3g/dl) and serum alkaline phosphatase, gamma glutamyl transpeptidase and lactate dehydrogenase (LDH) were high initially but normalised subsequently.

**Figure 1:** ***Ascites with generalised oedema***

**Permission given by parents to publish photograph*

The generalised oedema disappeared but the ascites persisted. Ascitic tap showed a greenish and thick fluid and its analysis revealed protein 4.8g, LDH 136U/L, cholesterol 140mg%, total leucocytes 162cells/cu mm (P80%, L20%) and red blood cells 300/cu mm. Fine needle aspiration cytology (FNAC) of ascitic fluid showed predominantly neutrophils, few macrophages, degenerated cells necrotic haemorrhagic debris and no malignant cells. Investigations suggested exudative ascites. USG of abdomen showed free fluid and calcifications in peritoneum but no organomegaly. Computed tomography (CT) of abdomen showed gross ascites, density of which was between15-25 HU, collapsed and posteriorly compressed bowel loops and calcification along peritoneal lining, features suggestive of meconium peritonitis[1]. Bilateral kidneys and liver were normal. There was no pseudocyst or organomegaly (Figure 2).

Patient was advised surgical intervention but refused and left against medical advice.

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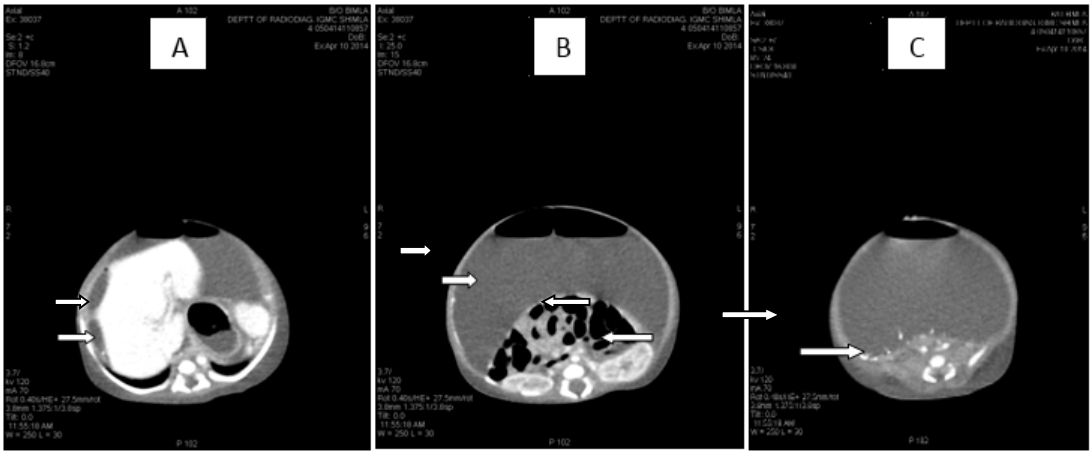


**Figure 2:** ***Arrows showing (A) Scalloping of liver by ascitic fluid (B) Massive ascites with posteriorly compressed gut loops (C) Calcification***

**Discussion**

Meconium peritonitis is an aseptic chemical peritonitis resulting from *in utero* perforation of the gastrointestinal tract[2]. The free meconium acts as an irritant and inflammatory serosal reaction develops leading to ascites, and formation of adhesions, pseudocyst and calcification[2]. It is a rare condition occurring in 1 in 35, 000 pregnant women[3]. Usually the perforation seals off and the bowel is intact at birth[3]. Intraperitoneal meconium usually calcifies, sometimes within 24 hours[4]. The most common causes are small bowel stricture, atresia, bands, volvulus, intussusception and meconium plug syndrome from cystic fibrosis[5]. The diagnosis of meconium peritonitis is possible by clinic-radiological examination[4,6,7]. Common findings include ascites, intra-abdominal masses, bowel dilatation intra-abdominal calcification, polyhydramnios and meconium plug syndrome from cystic fibrosis[8]. At one time, this condition carried a poor prognosis, but this has changed with advances in surgical techniques and postoperative care, with recent literature indicating a 100% survival[9].

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