Calcified meconium pseudocyst: X-ray diagnosis of meconium peritonitis at birth

Gabrielle Shu-yi Lee,1 Suresh Chandran,1,2,3 Victor Samuel Rajadurai1,2,3

DESCRIPTION
An infant girl was born at term to a mother diagnosed antenatally to have a fetal abdominal cyst and polyhydramnios. At 32 weeks, fetal imaging showed a calcified lesion (4.5×6.2 cm) in the central abdomen. At birth, a calcified cystic lesion suggesting a meconium pseudocyst (MPC) was noted in the X-ray of the abdomen (figure 1). Abdominal ultrasound scan confirmed a large calcified cyst in the central abdomen. The infant underwent laparotomy due to increasing bilious aspirate. Intraoperatively, they found a large MPC with extensive interloop adhesions and ileal atresia with perforation requiring stoma creation. Histopathological report showed ileal atresia with perforation and a large MPC. The child recovered well and underwent stoma closure at 3 months of age.

Fetal meconium peritonitis (MP) is a sterile chemical peritonitis following bowel perforation.1 Cystic type of MP occurs when the inflamed intestinal loops become fixed, leading to formation of an intraperitoneal cyst with a fibrous wall. When the extruded meconium becomes walled off, it can form a cystic, rim-calciﬁed mass reﬂecting the normal intra-abdominal healing process to conﬁne the perforation.2 MPC, a rare presentation of MP, has thinning of the intestinal wall with a smooth muscle layer connecting the cyst to normal intestine and it lacks epithelium due to inﬂammation.3 Fetal ultrasonography showing ascites, calciﬁcation and bowel dilation strongly indicate MP. In neonates with MPC, X-ray of the abdomen often reveals calcified pseudocyst. X-ray findings alone are not diagnostic in MPC, per-operative ﬁndings and histopathology help to differentiate the cystic form of MP from MPC.

Learning points
▸ Meconium peritonitis (MP) is rare. Fetal scan showing meconium pseudocyst (MPC), calcification and bowel dilation strongly suggests MP.
▸ MPC formation is rare in MP. More than 85% cases of pseudocyst can be diagnosed as calcified cyst in roentgenogram.
▸ X-ray ﬁndings alone are not diagnostic in MPC, per-operative ﬁndings and histopathology help to differentiate the cystic form of MP from MPC.

REFERENCES