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MECONIUM PSEUDOCYST WITH SCROTAL SWELLING IN NEWBORN — A CASE REPORT WITH REVIEW OF LITERATURE

Neonatology

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ABSTRACT

Meconium pseudocyst is complicated form of meconium peritonitis. This is due to accumulation of meconium in peritoneal cavity for weeks to months. A calcified fibrous wall forms around meconium and displacing abdominal viscera in periphery. Meconium peritonitis is defined as a sterile chemical peritonitis that is caused by escape of meconium from the intestinal tract into the peritoneal cavity during the fetal or perinatal period. It can be classified into three pathological variations: fibroadhesive; cystic and generalized. The cystic type has a meconium filled pseudocyst that can present as abdominal distension at birth. (4) In this case apart from abdominal distension there was large scrotal swelling mimicking hernia. Intra-abdominal calcification is pathognomonic for the diagnosis. (3)

KEYWORDS

Meconium pseudocyst, meconium Peritonitis

INTRODUCTION

Meconium peritonitis with pseudocyst formation is a rare entity. The estimated incidence is about 1 in 35,000 live births but actual frequency may be higher. The etiology can be categorized as perforation with obstruction, including Stenosis, atresia, volvulus, extrinsic congenital band, meconium ileus, and internal hernia, or perforation without obstruction. Intra-abdominal calcification is recognized as a pathognomonic presentation either by X-ray or ultrasound. (3) Therapy is empiric since some cases improve and may even resolve in utero. Most authors recommend expectant management unless it is complicated. In the neonate with meconium peritonitis the perforation may either have sealed off completely in utero or may seal in the neonatal period or may require surgical repair. Prior to labor the meconium is sterile, so the perforation does not translate into bacterial contamination. However, contamination can occur after delivery. The surgical indications are intestinal obstruction, severe abdominal distension and subsequent respiratory distress in newborn.

Case report — Four days old male bay with complaint of large scrotal swelling with abdominal distension since birth. Antenatal period was uneventful. Earlier he was misdiagnosed as obstructed inguinal hernia on sonography. Careful examination showed abdominal distension with scrotal swelling. Scrotal swelling was reducible. Baby had passed meconium with no vomiting. Hematological examination was normal. X-ray abdomen erect posture showed paucity of gas in distal abdomen and large air-fluid level (1). There was calcification in Right upper part of abdomen in x-ray abdomen. Repeat Ultasonography was done which showed large cyst with air and calcification in inguinal region also with nonvisalization of whole intestine. After convincing the attendants that baby having abdominal problem not inguinal hernia, laparotomy was done. Anterior wall of cyst was completely adhered with peritoneum and was opened. Large amount of meconium with bile was present inside the cavity. Whole abdominal structure was compressed entrapped with its posterior and lateral wall. It was extending up to scrotal cavity. Cyst wall was dissected off gently as maximal as possible. Whole intestine delivered but no perforation site found. Ileostomy was done patient recovered well. After three month Ileostomy closure was done.

DISCUSSION

Morgagni first described Meconium peritonitis in 1761 and more comprehensively by Simpson in 1838. (1). The clinical course ranges from spontaneous healing to rapid fatality, depending on the timing of perforation and if the perforation persists after birth. Postnatal surgical intervention to relieve the intestinal obstruction or close the perforation and restore the intestinal continuity is usually necessary.(6) Since the 1980s, antenatal diagnosis by maternal sonography has added to the diagnostic yield. (2) Antenatal diagnosis of meconium peritonitis is believed to reduce the mortality rate from 50% to 11% and predict postnatal surgery in 50% of those with meconium pseudocyst. (3) A fetal intraperitoneal cystic mass that shows high T1 and low T2 signals in prenatal magnetic resonance imaging is considered pathognomonic of meconium pseudocyst.(8) From the embryologic point of view, meconium formation begins about the 3rd month of gestation. Intestinal peristalsis begins about the 5th month of gestation and the meconium fills the entire intestine. (5) The meconium ileus and cystic fibrosis are present in 15-40% of infants with meconium peritonitis. In particular, cystic fibrosis is considered non-existent in oriental people, except in a few cases of gene mutation. Our case showed no clinical evidence of cystic fibrosis. In 1943, Agerty and associates were the first to record survival of a patient with meconium peritonitis treated surgically. Since then several reports of survival after surgery for meconium peritonitis have been published.(4) However, there is no standardized operative procedure for meconium peritonitis. The purpose of surgery is to establish intestinal continuity and to preserve maximum of the intestinal length. Underlying pathologic processes should also be corrected. In general, meconium peritonitis can be classified into three pathological variations: fibro-adhesive; cystic and generalized.(7) In the fibro-adhesive type, the perforation usually seals off before birth as a result of an intensive fibroblastic reaction. Later on obstruction develops due to adhesion. The aim of surgery is to achieve adhesiolysis and resection of the non-viable intestine, but dissection is usually difficult. (7) In the cystic type, the perforation generally remains open. But in our case there was no visible perforation. By opening the cyst and finding the perforation, the cause of the obstruction can be determined. Decortication must be done to dissect the cyst from the entrapped intestine. After an adequate length of intestine is freed, the non-viable or severely entrapped intestine can be resected, followed by bowel exteriorization. In the generalized type, the perforation occurs in the perinatal period and results in wide dissemination of meconium in the peritoneal cavity. In conclusion, laparotomy was essential in our case as whole intestine was entrapped in posterior and lateral wall of pseudocyst.

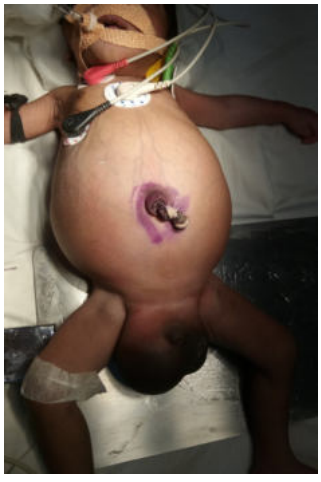
Legend-1 X-ray Abdomen Erect Posture (arrow Showing Calcification

Legend-2bowel Entrapped Behind The Posterior Wall Of Cyst

Legend -3 Release Of Bowel From Posterior Wall Of Cyst

Legend-4 Ileostomy

Legend -5 Abdominal distension with scrotal swelling



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