

## MECONIUM PERITONITIS

(Report of a Case)

BY

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Meconium peritonitis is a distinct entity and is defined as a sterile chemical or foreign body peritonitis due to escape of meconium into the general peritoneal cavity. It was in 1838 that Simpson first described the condition and further analysed 27 cases. In all, over 100 cases have been described to date mostly by pathologists on autopsy findings. Peritonitis may occur as early as the fourth to sixth month of foetal life or it may be seen soon after birth. If seen after birth the child may manifest symptoms of peritonitis, intestinal obstruction and ascites. Sometimes perforation of the intestine with resulting peritonitis may occur as late as several hours after birth. If rupture occurs before birth, material in the abdominal cavity becomes calcified and often loops of the intestines get matted. Newhauser, in 1944, drew attention to the calcified plaques in the peritoneal cavity of new-born infants and demonstrated these by roentgeno-

grams. Very rarely a cyst is formed in the abdominal cavity as a result of leakage of meconium into the abdominal cavity and the following case clearly demonstrates such a lesion, which is recorded for its rarity.

### *Case Report.*

A fourth para was admitted for pregnancy of 36 weeks' size, associated with hydramnios, in Government Victoria Hospital for Women and Children, Visakhapatnam, on 17-5-55. She had generalised oedema. B.P. 120/80. Urine did not contain any albumin. First child was prematurely dead-born during the eighth month. The other two children are full-term and normal. On 20-5-55 a dead female foetus was delivered.

### *Main Autopsy Findings (P.M. 2479)*

Foetus weighed 3 lbs. and 8 ozs. The age of the foetus was about 8 months.

On opening the abdomen perito-



neum was markedly thickened and adherent to the anterior abdominal wall. A cyst was seen on the left side of the abdominal cavity, extending from the dome of the diaphragm above to the umbilicus below and walled off laterally by lateral abdominal wall and medially by an adhesion to the anterior abdominal wall. Spleen, liver and intestines were densely adherent on the posterior aspect. On opening the cyst meconium came out; the wall of the cyst was thickened and contained calcified plaques (Fig. 1). No other abnormalities were noticed in other organs. The loops of intestines could not be separated owing to dense adhesions with calcified spots.

#### *Histological Study.*

All the organs were sectioned and studied with haematoxylin and eosin stain. The cyst wall revealed number of calcified areas, walled off by fibrous tissue with round-cell collections in the wall (Fig. 2). Intestines revealed areas of calcification on the serosal aspect with organising exudate. Section of the liver studied showed over the surface dense areas of calcification (Fig. 3). Similar changes were seen over the surface of the spleen (Fig. 4). Other organs did not reveal any abnormality.

#### *Morbid Anatomical Diagnosis.*

"Meconium peritonitis with formation of a cyst in the abdominal cavity".

#### *Comment.*

The gross and microscopic findings in the intestines and other organs are

consistent with those of meconium peritonitis. Meconium peritonitis is often the result of atresia and perforation of the intestines or infarctions of the intestines. In the case recorded, probably rupture had occurred with resulting leakage of meconium into the peritoneum, which led to the development of peritonitis, and later on to calcification and encystment with healing of rupture. Dabler in 1888 described a cyst in the abdomen in the new-born infant, which in his opinion was due to intrauterine perforation of the descending colon. Cyst contained meconium which was calcified and walled off, so that relative healing of the rupture had taken place. This is in accordance with the case recorded but were unable to demonstrate the exact site of rupture, as the intestines were matted together, and with the formation of a cyst rupture must have got sealed off. Ratnavathi and D. J. Reddy in 1952 have recorded a case of meconium peritonitis in a new-born infant and they also were unable to locate the exact site of atresia and perforation due to matting of the intestines.

Cases of meconium peritonitis have been reported in new-born babies in whom subsequent autopsy examination has failed to show any hole through which meconium could have escaped and the explanation offered in these cases is that the presence of vigorous peristalsis of the intestines might rupture the gut and relieve itself by passing the meconium into peritoneal cavity and that perforation may even heal before birth. In all these cases recent roentgenological examination may be of great help

in diagnosing meconium peritonitis with calcified spots.

**Summary.**

1. Unusual case report of meconium peritonitis with cyst formation is recorded.
2. Mechanism of cyst formation is briefly discussed.

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**References**

1. Dubble A.: Arch. P. Path. Anat.; 111, 567-574, 1888.
2. Neuhauser E. B. D.: Am. J. Roentgenology; 51, 421-425, 1944.
3. Potter E. L.: Pathology of Foetus and Newborn. First Edition, 1952. Year Book Publishers.
4. Ratnavathi C., and Reddy D. J.: I. J. Surgery; 14, 236-248, 1952.
5. Simpson J. Y.: B. M. J.; 50, 390, 1838.



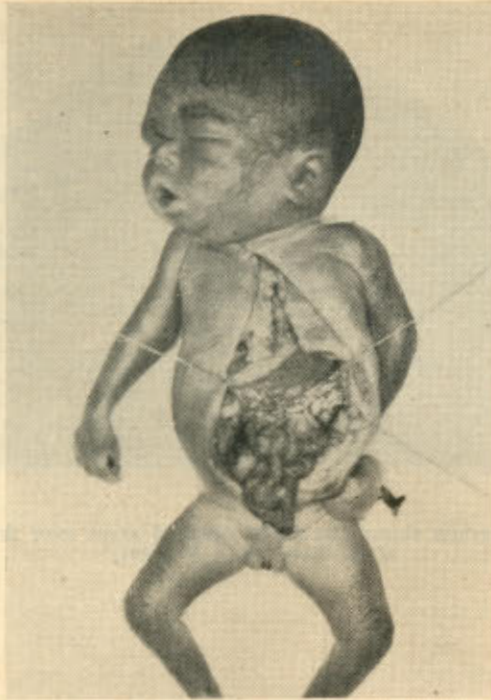


Fig. 1  
Photograph of the foetus showing the opened  
cyst cavity in the abdomen with calcific spots.

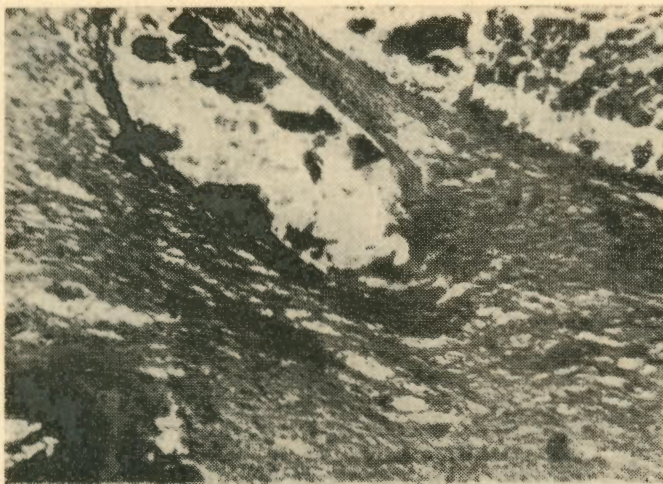


Fig. 2  
Photomicrograph illustrates the cyst wall with calcified areas  
walled off by fibrous tissue and round cell collections in the wall  
of the cyst (H & E x 60).

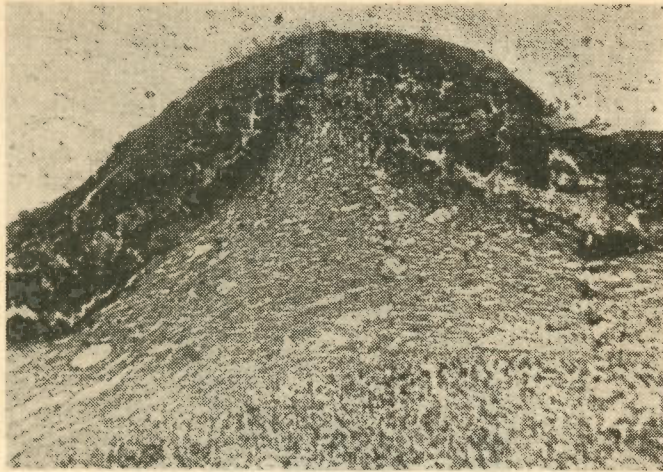


Fig. 3

Photomicrograph shows the dense calcified areas over the surface of the liver (H & E x 60).

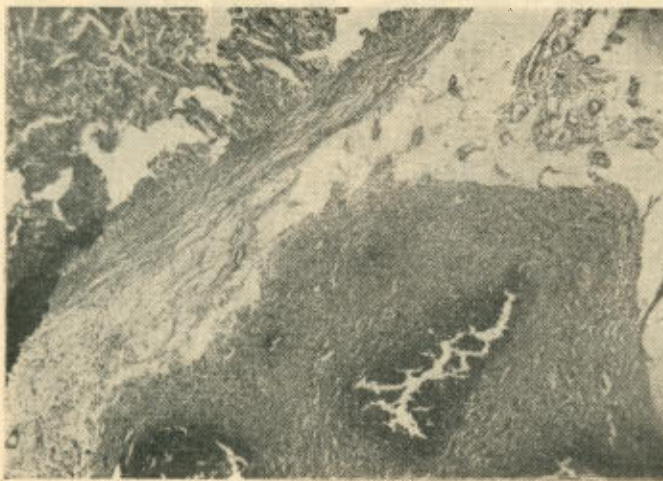


Fig. 4

Photomicrograph illustrates the calcified spots over the surface of the spleen (H & E x 40)