Micro-colon associated with multiple ileal atresia in a newborn infant – Case report and Literature review

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Summary

We report a case of a 5-day-old infant male who presented with abdominal distention and inability to pass meconium. Barium enema revealed microcolon, and at surgery the etiology was found to be multiple proximal ileal atresia.

Keywords: ***Abdominal distention, Meconium, Multiple ileal atresia, Microcolon-Barium enema.***

Résumé

Nous donnons un rapport d'un cas d'un enfant masculine âgé de 5 jours atteint d'une distension anormale et de l'incapacité de faire le meconium. Le lavement barium avait indiqué un microcolon et pendant la chirurgie on a remarqué que l'étiologie était atrésie iliaque proximale multiple.

Introduction

Micro-colon is a radiographic feature with diverse etiologies. It is demonstrated on barium enema as a colon of the normal length but diminished calibre[1]. the situation occurs when little or no small bowel contents reach the colon during fetal life and the colon therefore remains thin and ribbon-like. This may be due to obstruction at the small intestine or secondary to primary colonic atresia. The disease is more common in males with a ratio of 7:6[2]. It is a rare disease and even rarer in the tropics. To the best of our knowledge microcolon secondary to multiple ileal atresia alone has not been previously reported in our environment.

Case presentation

A 5-day-old male infant presented with abdominal distention and failure to pass meconium. The antenatal and birth history were normal. The mother is P^{2+0} and she is not diabetic or hypertensive. There is no similar history in the family. The baby is not a product of consanguineous marriage.

On examination he was in respiratory distress and slightly febrile, a patent anus was noted which admitted the tip of a thermometer. The abdomen was distended, and the chest was clear. The pediatrician made an initial diagnosis of Hirschsprung's disease. The plain abdominal radiograph showed dilated loops of bowel with multiple air fluid-levels (Fig. 1). Limited barium enema showed that the colon is normal in length but small in caliber (Fig. 2). This radiological appearance is in keeping with a diagnosis of microcolon. However, at surgery, patient was found to have multiple proximal ileal atresia in 3 sites. He had resection of the region of the atresia (10 – 15cm) and anastomosis of the normal segment. The post operation condition of the patient was uneventful, and subsequent examinations of the patient over a period of 6 months in the clinic showed normal development of the patient.

Fig. 1. ***Erect bdominal radiograph demonstrating bilateral flank fullness with multiple air fluid levels and paucity of gas in the pelvis, suggestive of a middle small bowel obstruction.***

Discussion

Microcolon is usually associated with meconium ileus, ileal atresia, megacystis-microcolon hypoperistalsis syndrome, colonic atresia and aganglionosis[2]. Barium enema evaluation is

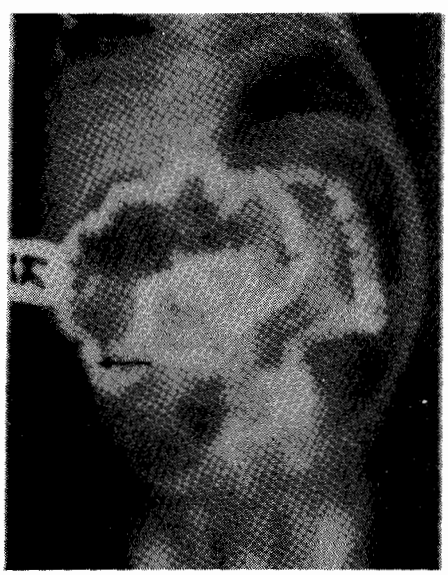

Fig. 2. ***Barium enema demonstrating a small caliber colon though of normal length in keeping with microcolon; contrast medium hs refluxed into the terminal ileum.***

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necessary to make the diagnosis and to define the extent of involvement. However it cannot distinguish functional and organic microcolon. True colonic atresia and Hirschsprung's disease can only be definitely diagnosed by biopsy.

Microcolon is usually associated with the meconium plug ileus. It is a condition more common in Caucasians[2]. The disease is secondary to low small bowel obstruction in infants in whom the thick and sticky meconium cannot be readily propelled through the bowel[3]. The excessive viscidity is due to the absence of normal pancreatic and intestinal gland secretion during fetal life. It is usually closely related to cystic fibrosis[3,4,5]. However, in this case other features of cystic fibrosis such as recurrent chest infections were absent. The prompt differentiation of Meconium ileus and ileal atresia, is of therapeutic significance. Meconium ileus is a functional obstruction and it is best managed conservatively with gastrografin enema, or ingestion of substances containing acetyl cystenine[5]. Whereas, multiple ileal atresia is an organic obstruction and as illustrated in this case is only amenable to surgery. There is a high incidence of Intestinal perforation in Meconium ileus, operation should be avoided if possible. The radiological differentiation of these conditions is difficult. Both present as multiple dilated small bowel loops. However a "bubbly" appearance of the meconium in the right side of the abdomen has been described in meconium ileus[4]. The colon in babies with meconium ileus or ileal atresia will usually be narrow. This is not a true microcolon but it is secondary to disuse. The colon rapidly returns to its normal size after treatment[7]. In some instances microcolon coexist with other anomales such as megacystis microcolon intestinals hypoperistalsis syndrome. Megacystis microcolon intestinalis hypoperistalsis syndrome is a rare cause of intestinal obstruction and females are more affected than males[6]. Patients with megacystitis microcolon intestinalis hypoperistalsis syndrome apart from the microcolon, demonstrate an enlarged urinary bladder, marked bilateral hydronephrotic kidneys and a Strikingly short small intestinal bowel loops. An association has also been reported with hypothyroidism in which total relief was obtained after treatment with L-thyroxine and enemas[8].

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