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Left Mesocolic Hernia or Peritoneal Encapsulation? – A Case Report

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ABSTRACT

This is a case report of an 11-year-old boy with left mesocolic hernia. This condition is very similar to peritoneal encapsulation and a literature review of both conditions is done. Confusion among authors in naming them accordingly is addressed.

Keywords: paraduodenal hernia, peritoneal encapsulation, hydronephrosis mesocolic hernia, malrotation

INTRODUCTION

Peritoneal encapsulation, abdominal cocoon, and sclerosing encapsulating peritonitis are relatively rare conditions with some similarity causing confusion in naming them properly, and this problem has been addressed in the author's previous case report[1]. Although left mesocolic hernia and peritoneal encapsulation are similar, there is no cross reference between the two, and filling in that gap is one of the aims of this case report.

CASE REPORT

An 11-year-old Malay boy was admitted with a 5-day history of colicky left loin pain. He admitted having this problem on and off for a few years and those episodes were relieved with narcotic analgesics.

On examination, there was a soft mass at his left flank. It was not ballotable. Ultrasound scan revealed moderate degree of left hydronephrosis and it was further confirmed by intravenous urogram (IVU). CT scan suggested an intestinal pathology, the precise nature of which was not certain.

Laparotomy was done subsequently. It was found that about two-thirds of the small intestine, from just distal to duodenum to mid-ileum, was in a peritoneal sac, part of which was posterior to the left colon, entering through an opening just inferior to the fourth part of the duodenum. There was a vein at the anterior edge of the opening. The colon was normal in its position. Bowel was easily reduced from the sac and the opening was closed without injuring the vein. Recovery was uneventful, and IVU done three months later revealed no more left hydronephrosis.

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DISCUSSION

Peritoneal encapsulation was first described by Cleland in 1868[2]. It is a relatively rare condition where the small intestine is encased in an accessory peritoneal membrane, derived most probably from the yolk-sac peritoneum as it is rapidly withdrawn into the abdominal cavity with small bowel behind it during the 12th week of gestation[3,4]. According to Sieck et al[4], there are two openings in the sac and the condition is asymptomatic.

Left paraduodenal hernia, claimed to be a misnomer by Andrews[5] and proposed by Willwerth as congenital mesocolic hernia[6], is a rather similar condition where most of the small gut enters into a peritoneal sac through an opening which is inferior to the fourth part of the duodenum. Previous postulation of it being an acquired herniation through a recognised paraduodenal fossa (of Landzert), though it may be possible in small hernia, was challenged by later authors who proposed a congenital aetiology[5-7]. It is thought to happen when the mid-gut returns into the abdomen and rotates to its normal position. Andrews suggests that there is reversed rotation of mid-gut loop into the mesocolon[5]. Others believe that the mid-gut loop herniates through the unsupported area of left mesocolon between the inferior mesenteric vein and the posterior parietal attachment[6,7]. Although it can be an incidental finding at autopsy or at laparotomy, some cases are symptomatic[8]. Collective review about it was given by Berardi in 1981[9].

As peritoneal encapsulation is asymptomatic, and most will be seen either during post-mortem or incidentally during laparotomy for other conditions, no diagnostic problem will be encountered. For left paraduodenal hernia, a properly performed upper gastrointestinal barium study including the small intestine has been shown to be of great importance in establishing the diagnosis[9]. Other modalities such as CT scan[10], ultrasound[11] and angiogram[12] are also reported to be useful in its diagnosis.

In both conditions, peritoneal encapsulation and left mesocolic hernia, the operative findings are almost the same where the small intestine is encased in a peritoneal sac. Hence, the first presumption as in this case was that of peritoneal

encapsulation with rare symptomatic presentation. Only upon further review of literature did the diagnosis of left mesocolic hernia become apparent. For the same reason, there are a few case reports of peritoneal encapsulation which, from their descriptions and drawings, look more like left mesocolic hernia[13,14]. In their case report of a peritoneal encapsulation, Lifchitz et al mentioned about the entry point which is below the duodeno-jejunal junction, but not about the exit point[15]. It is also similar in case 3 of an article by Thorlakson et al[16]. Despite the exit points not being mentioned in both cases, they are symptomatic cases, and hence, look more like mesocolic hernia.

Since both conditions were the result of errors in returning and rotation of mid-gut into the abdomen, it may be that they were of the same aetiology with some chronological difference in their occurrence. However it is still preferable to use the term left mesocolic hernia or left paraduodenal hernia in cases where there is only one entry and exit points, as they look and act exactly like hernia; peritoneal encapsulation should be reserved for asymptomatic cases where the sac is loose and have separate entry and exit points.

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