Obturator hernia of the Richter type: A case report

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Abstract Obturator hernia is a rare type of hernia which accounts for only 0.07–1.4% of all intra-abdominal hernias and 0.2–5.8% of small-intestinal obstructions. Because the symptoms are non-specific, the diagnosis is often delayed until laparotomy is performed to treat bowel obstruction. The need for awareness of the condition is stressed, and the diagnosis of obturator hernia should be strongly suspected in a thin, elderly woman who has small bowel obstruction and no previous abdominal surgery. Here is a case report of obturator hernia in which the diagnosis was difficult because of the slow development of symptoms; on laparotomy it was found to be a Richter hernia. Computed tomography scanning can be helpful and will typically show an incarcerated small bowel behind the pectineus muscle. Laparoscopy may be necessary for diagnosis, and the hernia can be repaired laparoscopically.

Keywords Richter obturator hernia · Strangulated

Case report

A 76-year-old lady presented with a 4-day history of abdominal distension. On examination she was frail and emaciated. The abdomen had features of ileus. The hernial orifices were clinically normal. Abdominal X-ray showed multiple air fluid levels in the small bowel. Initial treatment with intravenous fluids and nasogastric decompression failed.

Results

X-ray abdomen dilated fluid filled small bowel loops down to the left pelvis. A transition zone with a knuckle of small bowel caught between the left pectineus and obturator externus muscle was clearly seen. This finding was pathognomonic of small bowel obstruction secondary to an obturator hernia (Figs. 1 and 2).

Operative findings

Laparotomy revealed a classical Richter's hernia within the left obturator foramen. The knuckle of bowel was strangulated requiring a limited small bowel resection. The dilated foramen was closed with interrupted sutures. The patient made an uneventful recovery.

Discussion

Richter's hernia may be defined as an abdominal hernia in which only part of the circumference of the bowel is entrapped and strangulated in the hernial orifice (Figs. 1 and 2). The segment of the engaged bowel is nearly always the lower portion of the ileum [1]. But any part of the

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Fig. 1 Partial entrapment of bowel wall with preservation of luminal continuity

Fig. 2 Photograph showing entrapped bowel in the obturator foramen

intestinal tract, from the stomach [2] to the colon, including even the appendix [3–5] may become incarcerated.

The precondition for the formation of this particular hernia, as stated by Richter, is determined by the size and consistency of the hernial orifice: it must be big enough to ensnare the bowel wall, but small enough to prevent protrusion of an entire loop of the intestine, and the margin of the hernial ring must be firm or, in Richter's words, "possess strong spring-force" [6]. According to others, the presence of a tight constricting ring is a prerequisite for strangulation and compromised blood circulation, which finally leads to ischaemia and gangrene of the involved bowel [7, 8]. Richter's hernias tend to progress more rapidly to gangrene than ordinary strangulated ones.

Making the diagnosis of Richter's hernia may be difficult because of the apparently innocuous initial symptoms

and sparse clinical findings; the diagnosis may remain presumptive until clearly confirmed at surgery. The first mild symptoms, such as vague abdominal pain and slight malaise, may not be appreciated, resulting in delayed diagnosis [7, 8]. There be nausea and vomiting, but they are on the whole less common and less severe than in the usual form of strangulation because obstruction is rarely complete.

According to localisation and the mode of herniation and entrapment, the clinical picture and course can vary considerably. Nevertheless, the cases can be divided into four main groups based on clinical responses.

- The obstructive group, in which the dominant clinical presentation of intestinal obstruction leads to early diagnosis and therapy, resulting in an excellent prognosis;
- The danger group, in which symptomatology is vague and non-specific: initial examinations with or without contrast fail to reveal impending disaster, and the subsequent delay in surgery is chiefly responsible for the high rates of death and complications;
- The postnecrotic group, in which local strangulation and perforation leads to formation of an enterocutaneous fistula, the fistula may close spontaneously or remain chronic;
- The "unlucky perforation" group, in which the postnecrotic abscess, as a result of unlucky anatomical constellations, accidentally finds its way into another compartment, resulting either in a large abscess with severe septic/toxic load or in peritonitis; both of these would lead to a high death rate.

There is but one treatment: surgery.

Conclusion

Irrespective of the availability of sophisticated diagnostic facilities, the prognosis can be improved significantly only by including this deceptive disease in the differential diagnosis of uncharacteristic abdominal pain, specifically in patients with a history of laparoscopic surgery. Imaging modalities, such as computed tomography or water-soluble contrast studies, are of doubtful usefulness in the early diagnosis of Richter's hernia. The entrapped small segment of bowel wall would be difficult to visualise on computed tomography, and contrast studies would be unrevealing in the early stages, when there is still patency. Therefore, awareness during the clinical examination remains the key for proper diagnosis and timely surgery

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