CASE REPORT

Supravesical hernia — A rare cause of intestinal obstruction

Balakrishnan Saravanan*, Manoj Kumar A. Paramu, Elanchezhian Ranganathan

Ysbyty Gwynedd, General Surgery, 10 Caecilmelyn, Penrhosgarnedd, Bangor LL57 NB, Wales, UK

Available online 10 July 2006

Abstract Supravesical hernia is an unusual type of hernia. It is of two types: internal and external [Skandalakis JE, Gray SW, Burns WB, Sangmalee U, Sorg JL. Internal and external supravesical hernia. Am Surg 1976 Feb;42(2):142–6]. We are reporting a case of internal supravesical hernia, in a 62-year-old gentleman to call attention to the entity, as a rare cause of intestinal obstruction.

© 2006 Surgical Associates Ltd. Published by Elsevier Ltd. All rights reserved.

Introduction

Supravesical hernia is rare. The first case of supravesical hernia, according to Keynes, was reported by Sir Astley Cooper in 1804. It is of two types: internal and external. The internal type is more difficult to diagnose and commonly presents as intestinal obstruction or undiagnosed abdominal pain.

Case report

A 62-year-old gentleman, presented with a twelve hour history of colicky abdominal pain and vomiting. On examination, he was dehydrated with a pulse rate of 104/min, BP 130/80 mm Hg and temperature 37.7 °C. Abdominal examination revealed central abdominal distension and tenderness on deep palpation in the hypogastric region. Full blood count and biochemical profile were normal.

Abdominal X-ray revealed dilated small bowel loops. A provisional diagnosis of small bowel obstruction was made.

Exploratory laparotomy was done through midline incision after adequate fluid resuscitation. It revealed a loop of ileum herniating through a pouch in the supravesical fossa (Fig. 1).

The hernial ring was a 1 × 2 cm defect in the prevesical fascia. Digital exploration of defect after reduction of incarcerated bowel, revealed the sac to run medially and inferiorly to depress the wall of the bladder. The pregan-grenous loop of ileum with doubtful viability was resected and an end-to-end anastomosis was performed. The pouch was closed with 1-0 prolene interrupted stitches. Post-operative period was uneventful and the patient was discharged on the seventh post-operative day.

Discussion

The supravesical fossa is the area of abdominal wall between remnant of urachus (median umbilical ligament) and remnant of left or right umbilical artery (medial
umbilical ligament). The inferior boundary is formed by a peritoneal fold, part of which is the transverse fold of the bladder (Fig. 2).

The fossa may go on to form a deep diverticulum. These supravesical diverticula may herniate in several directions. Those in the superior portion of the supravesical fossa usually result in external hernias, while those arising in the inferomedial part may become lodged in the prevesical space of Retzius to form an internal hernia. The internal hernia in turn can be prevesical, paravesical, lateral or intravesical.\(^1,3\) When the bladder apex is weakened by a defective closure of the urachus, the diverticulum may herniate directly into the bladder forming intravesical type of internal supravesical hernia.\(^2,3\)

Pre-operative diagnosis of this condition is very difficult. In our case, the diagnosis was made only during laparotomy. In patients presenting with small bowel obstruction, without any history of previous abdominal operations and no obvious external hernias are detected, pre-operative investigations may be very helpful in diagnosing this condition. CT\(^4\) or MRI\(^5\) scan may possibly diagnose this condition. Cystoscopy\(^2\) may show a tunnel shaped deformity in the bladder wall. Supravesical hernia can be seen on herniography\(^6\) and in the consecutive series of 1000 cases, Gullmo described 183 external and 1 internal supravesical hernia. However, this method of investigation is relatively new and not widely available, which may explain the paucity of reports of supravesical hernias. This condition has been reported to be diagnosed and treated laparoscopically.\(^7\)

The majority of the recorded cases have been subjected to an exploratory laparotomy. The treatment is release of the intestinal obstruction and closing the hernial defect. Most authors advise against attempts to excise the hernial sac and think that freshening the edges of the ring, with closure of the defect using continuous or interrupted stitches with non-absorbable sutures is sufficient.\(^2,8\)

### Conclusion

The present case illustrates a cause of small bowel obstruction that is particularly difficult to diagnose pre-operatively. The diagnosis was made only at the time of surgical laparotomy as with majority of the recorded cases.\(^8–11\) We suggest that, a supravesical defect incidentally found during routine surgical exploration of the pelvis, should be sutured, to avoid incarceration of the bowel. The case reiterates the difficulty in diagnosing this rare hernia and calls attention to the entity as an unusual cause of small bowel obstruction.

### References