SUPRAVESICAL HERNIA: A CASE REPORT

N T Ong

Dept of Surgery
Toa Payoh Hospital
Singapore 1129

N T Ong, BA, MBBS, FRCSE, AM
Senior Registrar

SYNOPSIS

A seventy-year old man presented with symptoms and signs of intestinal obstruction with strangulation, was initially thought to have an inguinal hernia. At laparotomy, the inguinal lump was found to be an external supravesical hernia. The hernia contained infarcted small bowel which was resected, and the hernia obliterated. A report of this case and a discussion of this rare hernia follows.

INTRODUCTION

Supravesical hernia, through an acquired defect in the supravesical fossa, is relatively unknown. Two broad groups are distinguished, an internal type which remains in the pelvis, and an external group which may present in the inguinal, femoral, or pararectal regions.

The internal group may be further sub-divided into pre-, para-, intra-, or retro-vesical depending on the position of the sac relative to the bladder. Patients with this type of hernia may present with symptoms and signs of intestinal obstruction associated with pressure symptoms related to the bladder (1).

We describe a patient who presented with strangulating intestinal obstruction and a lump in the inguinal region, originally thought to be an inguinal hernia, but found on exploration to be a supravesical hernia presenting externally at the supra-inguinal area, i.e., an external supra-inguinal supravesical hernia.

CASE REPORT

A 70-year old man, LBS, was admitted to Toa Payoh Hospital in July 1984 with complaints of abdominal cramps, distension, and a painful lump in the right inguinal region. The duration of the complaints was said to be two days, although he had, apparently, similar milder episodes several times in the past ten years. He had been constipated since the onset of the abdominal pain. He had not noticed any fever, nor any localised abdominal tenderness before the onset of the presenting complaints. There was no vomiting, although he felt nauseated. There had been no severe loss of weight recently, nor any urinary symptoms. He did not smoke cigarettes, nor drink alcohol regularly. He had no past medical or surgical history of note.

On examination, the patient was found to be a thin elderly man. He was febrile and tachycardic, but not dehydrated. Blood pressure was 130/100 mmHg, and the pulse rate was 96/min. Examination of the abdomen revealed a diffuse distension of the suprapubic region, and visible peristalsis. There was a lump in the right inguinal area superior and lateral to the midpoint of the inguinal ligament. There was no scrotal swelling. The abdomen was tender and guarded, especially in the right lower quadrant. The inguinal lump was tender to palpation. Tinkling hyperactive bowel sounds were ausculated. Per rectal examination did not reveal any mass or tenderness. No faeces were produced on withdrawing the examining finger. A diagnosis of an incarcerated ingunal hernia with strangulation was made, although the inguinal swelling appeared to be superior and lateral to the internal inguinal ring (? "reductio en masse").

Plain radiographs of the abdomen revealed gas-fluid levels on the erect film, and small bowel distension on the supine film. The large bowel was not visualized, nor was there any aerobilia. There were no abnormal haematological or electrolyte laboratory findings apart from a leucocytosis (20,000/dl, 93% polymorphs). A chest radiograph and electrocardiogram were within the normal range for a man of his age. Urinary examination and microscopy were unremarkable.

At surgery under general anaesthesia, the inguinal region was first explored, and it was clear that there was no inguinal or femoral hernia. The mass at the supra-inguinal region was palpable, and was found to be extraperitoneal and not transparietal. A separate lower paramedian incision was made, and blood-stained peritoneal exudate was found. On tracing the collapsed distal ileum, it was seen to enter a hernia with its neck in the right supravesical fossa. The hernial neck was incised superiorly to deliver the incarcerated contents (a gangrenous 12 cm loop of small bowel), and on exploring the sac, it was found that the hernia passed from the right supravesical fossa laterally beneath the right lateral umbilical ligament in the extraperitoneal layer to just above the level of the right internal inguinal ring. The loop of ileum was clearly infarcted and was resected, the ends being re-anastomosed end-to-end with two layers of '2/0' Dexon. The hernial sac was everted and excised and the peritoneal edges resutured with '0' Dexon.

The patient made an uneventful postoperative recovery, and was discharged home in eight days. He has been well on outpatient follow-up with no bowel or bladder symptoms.

DISCUSSION

Supravesical hernia has rarely been diagnosed preoperatively, and the internal variety, even more rarely. This patient on first presentation appeared to have an inguinal hernia owing to the visible right inguinal lump. The characteristics of the lump, however, were not typical, particularly its situation above the level of the internal inguinal ring. The indication for surgery was the clinical setting of a strangulating intestinal obstruction. The laparotomy showed clearly the situation, a hernial sac with its neck in the right supravesical fossa passing laterally to point at the anterior abdominal wall superior and lateral to the internal inguinal ring. Thus the hernia was an external, or lateral, suprainguinal supravesical hernia.

The supravesical area is bounded laterally and superiorly by the lateral umbilical ligaments (obliterated hypogastric arteries), and inferiorly by the peritoneal fold over the fundus of the bladder. This area is divided into right and left halves by the median umbilical ligament (obliterated urachus). The floor of the supravesical fossa is lined by peritoneum overlying a variable depth of sub-peritoneal fat. Under this layer anteriorly is the prevesical space (the cave of Retzius), a preperitoneal cavity between the pubic bone and the anterior wall of the bladder. The lining of the cave of Retzius is the vesical fascia posteriorly and the fascia transversalis anteriorly. The supravesical fossa may be accentuated in a thin patient, or one who has lost weight over a short period, and the fossa may be further deepened by increased intra-abdominal pressure. If a protrusion of intestinal contents occurs through a defect in the floor of the fossa, a hernia may be caused with the sac passing anteriorly (prevesical), inferiorly and laterally (paravesical), downwards into the bladder (intravesical), posteriorly (retrovesical), or anteriorly and laterally (external). The latter variety may present as a median suprapubic, transrectal, pararectal (either Spigelian or median direct inguinal), or lateral (lateral direct inguinal or femoral) hernia. Thus some direct inguinal, low Spigelian, femoral, and obturator herniae may in fact be external supravesical herniae, as the neck of the hernial sac may very well arise from the supravesical fossa (1), and the true state of affairs not be revealed except at a laparotomy or transperitoneal repair operation.

An external supravesical hernia may present medially, as a median suprapubic hernia. If it passes slightly more laterally, it may present as a transrectal hernia. More laterally still, it may become pararectal, through the lower part of the linea semilunaris as a Spigelian hernia, or through the conjoint tendon as a median direct inguinal hernia. Lateral to the conjoint tendon, it may present as a lateral direct inguinal hernia (1). Astley Cooper, in the first description of a supravesical hernia, described one presenting externally as a femoral hernia (2). It is believed that our patient is the first described in the medical literature as a case of a supra-inguinal lateral external supravesical hernia.

Much more attention has been paid to the internal variety in which the patient may present with symptoms of intestinal obstruction and micturition difficulties. Blum (quoted by Fromme) had been

credited with the first report of a cystoscopic view of an intravesical supravesical hernia (3). However, the vast majority of cases reported have had the diagnosis made only at laparotomy. Internal supravesical hernia is thus a difficult one to recognise and to diagnose, although the treatment is simple. Most surgeons advocate obliteration of the hernia with a few non-absorbable sutures through the neck. In our case, the sac was everted and excised, and the defect in the extraperitoneal layer closed with '0' Dexon sutures.

Keynes in his review made the case that many "direct" inguinal herniae may in fact be supravesical in origin, depending on the location of the neck of the sac rather than on the fundus. If this point is remembered, it follows that repair of the posterior wall of the inguinal canal may not obliterate the hernia. In any case, the clinical presentation of our patient with strangulating intestinal obstruction warranted a laparotomy through a paramedian incision. This illustrates the possibility of missing the true site of herniation in a patient who presents with an "obvious" inguinal hernia.

REFERENCES

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