Perforated sigmoid colon carcinoma in an irreducible inguinoscrotal hernia

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ABSTRACT
Inguinal (inguinoscrotal) hernia and colon cancer are common conditions. However, it is rare for primary colon cancer to exist in an inguinal hernia sac and even rarer for it to perforate. We report such an event in our patient, who had an irreducible left inguinoscrotal hernia containing a sigmoid colon carcinoma that had perforated. This clinical picture can be easily confused with hernia strangulation unless the clinician is alert to the presence of certain sinister symptoms and signs.

KEYWORDS
Inguinal hernia – Sigmoid neoplasm – Intestinal perforation

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Case history
A 63-year-old man presented to our emergency department with a 5-week history of diarrhoea and a painful lump in his left scrotum. A longstanding inguinal hernia had extended into the scrotum four months previously and had been steadily increasing in size. On examination, he had a very large irreducible left inguinoscrotal hernia, which was red, hot and tender (Fig 1). He was febrile at 38°C and tachycardic at 119 beats per minute. Blood tests revealed an elevated white cell count of 12.9 x 10⁹/l and a C-reactive protein level of 48mg/l. Abdominal and erect chest radiography was unremarkable. The most obvious working diagnosis was a strangulated hernia although with the change in bowel habit, rapid growth in hernia size and absence of obstruction on abdominal radiography, we were concerned to exclude co-existing pathology.

Computed tomography (CT) of the abdomen and pelvis demonstrated a 6cm long, markedly thick walled segment of sigmoid colon in the inguinoscrotal hernia, which was suspicious of a tumour (Fig 2). There was surrounding free air and fluid suggestive of perforation and involved local lymph nodes but no evidence of intra-abdominal metastasis.

The findings of a thickened midsigmoid segment and a small perforation (Fig 3) were confirmed at operation on the
same day. A midline laparotomy approach was employed. However, we were unable to reduce the hernia back through the internal ring. Despite this, the sigmoid colon required minimal intra-abdominal mobilisation and we were able to achieve an oncologically safe resection via a separate groin incision. A temporary end colostomy was fashioned and the rectal stump was oversewn (Hartmann’s procedure). The hernia was repaired with primary sutures.

Histology revealed a moderately differentiated adenocarcinoma (stage T4b N2). Completion CT of the thorax confirmed no evidence of metastasis. Our patient was discharged on day 10 following surgery. He was referred for adjuvant chemotherapy.

Discussion

Inguinal hernias are common. Approximately 10% of these become irreducible, mainly secondary to benign entities, which can potentially cause bowel obstruction or strangulation.\(^1\) Uncommonly, co-existing malignancy can lead to irreducibility. Malignant tumours in inguinal hernias exist in less than 0.5% of excised sacs.\(^2\) They can be classified as saccular or intrasaccular. The former are primary (mesothelioma) or secondary tumours (metastases) involving the peritoneum (hernia sac) while the latter are primary tumours in organs contained in the sac, such as the one reported here.\(^3\) A literature search revealed only 51 cases of intrasaccular tumours, the first of which was reported in 1936.\(^4\) Most of these cases involved the sigmoid colon but of intrasaccular tumours, the first of which was reported in Ann R Coll Surg Engl 1938; 2: 231–233. Compleation CT of the thorax confirmed no evidence of metastasis. Our patient was discharged on day 10 following surgery. He was referred for adjuvant chemotherapy.

Perforated colon carcinomas generally have a poor immediate postoperative outcome due to intra-abdominal sepsis. With respect to our patient, however, the contamination was contained in the sac, which led to a rather uneventful postoperative recovery. Nonetheless, treatment must be prompt as Fournier’s gangrene may ensue if it is delayed.\(^5\)

Various surgical approaches have been described although the optimal approach is uncertain. Access can be gained either via a midline laparotomy incision, a groin incision or both. The latter approach is the most common, with colectomy at laparotomy followed by standard inguinal hernia repair via a separate groin incision.\(^2\) A transverse left iliac fossa incision has also been described with the obvious advantage of allowing good access to both the left colon and inguinal canal, therefore enabling adequate operative interventions via a single incision.\(^3\)

Ultimately, however, the experience of the surgeon, the patient’s anatomy and operative findings will dictate the choice of approach. In our case, the hernia was so large it was not possible to reduce it into the abdominal cavity for resection without increasing the size of the abdominal wall defect. A separate groin incision therefore had to be made. Regardless of the approach, the operation must achieve a resection based on sound oncological principles and ensure a secure hernia repair.

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