CASE REPORT

Inguinoscrotal herniation of a caecal adenocarcinoma

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SUMMARY

An 84-year-old man with multiple comorbidities presented from a residential care home with a 1-month history of asthenia and moderate abdominal pain. On examination, he was found to have an irreducible right-sided inguinoscrotal hernia. Subsequent blood tests revealed a significant anaemia (haemoglobin 48 g/L), for which he was transfused. A CT scan of the abdomen and pelvis revealed a large caecal tumour, herniating through the right inguinal canal into the scrotum. The patient underwent an elective open right hemicolectomy with inguinal hernia defect repair, from which he recovered well. He was discharged from the ward 12 days postoperatively and is awaiting outpatient follow-up.

BACKGROUND

This case describes a rare combined presentation of two common surgical issues: colorectal cancer and inguinal hernias are both common in the elderly population, with over 36 000 new colorectal cancer cases arising in the UK each year (of which approximately 20% arise from the caecum),¹ and an estimated incidence of abdominal wall hernias in the over 65s of 13/1000.² However, less than 30 cases of colon cancer herniating into the inguinal canal have been described in the literature thus far,³ and of these only four involved carcinoma of the caecum.⁴ The treatment of inguinal hernias containing colon cancer is not standardised,⁵ and in most cases a two-phase approach appears to be preferred, involving a midline laparotomy to allow resection of the tumour, followed by a traditional inguinal hernia repair. To this author's knowledge, this is the first description of a herniated caecal tumour reduced and resected through a single transverse incision on the right. Additionally, the patient's multiple comorbidities complicated communication

Figure 2 Coronal slice of a CT scan of the abdomen and pelvis demonstrating the location of the herniated viscus within the scrotum.

both preoperatively and postoperatively, providing an important opportunity to reflect on patient-centred management of complex cases in vulnerable patient populations.

CASE PRESENTATION

An 84-year-old man with a history of chronic kidney disease and pulmonary embolism presented from his residential care home with a 1-month history of asthenia and abdominal pain. He had a psychiatric history of schizophrenia (controlled with 1 mg risperidone daily) and additional significant hearing loss. On examination, he was found to be anaemic, with a haemoglobin of 48 g/L, and a right-sided inguinoscrotal hernia, measuring approximately 10×6 cm, was noted. The hernia was not strangulated or incarcerated, and there were no signs of bowel obstruction. The patient denied any history of rectal bleeding, weight loss or any change in bowel habit. No significant family history was elicited.

INVESTIGATIONS

A CT scan of the abdomen and pelvis was arranged (figures 1 and 2), which revealed a carcinoma of the caecum, with intrascrotal herniation into the scrotum. The carcinoma was staged as T3N0V0M0 (Dukes stage B).

DIFFERENTIAL DIAGNOSIS

Differential diagnoses in this case included an uncomplicated inguinoscrotal hernia, hydrocele, haematocele and an epididymal cyst.

Figure 1 Axial slice of a CT scan of the pelvis demonstrating the location and appearance of the herniated viscus.

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Figure 3 An intraoperative image of the ascending and transverse colon and mesentery demonstrating the location of the tumour in relation to the hepatic flexure.

However, none of these differentials would adequately explain the significant anaemia identified at presentation, in a patient for whom there was a high index of suspicion of colonic carcinoma.

TREATMENT

The patient was transfused at initial presentation, for symptomatic relief and to ensure fitness for surgery (haemoglobin was brought from 48 g/L at presentation to 111 g/L on the morning of surgery). A transverse incision approximately 12 cm in length was made on the right side of the abdominal wall, just below the umbilicus. The caecum was pulled out of the scrotum, and the large bowel was mobilised (figure 3) to the splenic flexure. Care was taken to preserve the right ureter, right colic artery and duodenum when ligating the ileocolic artery. The right haemicolectomy specimen was sent to pathology for analysis, and a side-to-side ileocolonic anastomosis was made with the transverse colon. The inguinoscrotal hernia sac was excised along with the right spermatic cord and sent as a separate inguinal orchiectomy specimen, before the hernia defect was closed with 1 PDS sutures (Polydioxanone).

The patient was given prophylactic anticoagulation (dalteparin), three postoperative doses of intravenous antibiotics and epidural anaesthesia in the surgical intensive recovery unit. He was stepped down to the ward the following day, where he continued to recover well over the next week.

OUTCOME AND FOLLOW-UP

The patient recovered well on the surgical ward and was discharged back to his residential care home. Histology of the excised specimens revealed no malignancy in the orchiectomy specimen, and determined that the right haemicolectomy specimen contained a fully resected T3N0V1M0 (Dukes stage B) tumour. It was determined that the patient was not for adjuvant chemotherapy. His general practitioner was informed of developments, and outpatient follow-up was arranged.

DISCUSSION

Colon cancer is the most common neoplasm found within any hernia,⁶ and despite the prevalence of inguinal hernias in the elderly population being approximately 6%,⁶ dual presentations

remain rare. As such, there is no agreed-upon approach to dealing with this condition, with a variety of laparoscopic and open techniques having been trialled.¹³⁻⁵

Traditionally, these malignancies are classified according to their anatomical relationship with the hernia, and can thus be defined as intrasaccular (the hernia sac contains an organ that contains the primary malignancy), saccular (involving a primary lesion of the peritoneum) or extrasaccular. The presence of malignancy may itself lead to an inguinal hernia by increasing intra-abdominal pressure, although carcinoma is found in less than 0.5% of excised groin hernia sacs.³

The advantages of laparoscopic surgery are well known, and include reduced blood loss, reduced immune and inflammatory responses to surgery, shorter hospital stays and a reduction in time taken to resume normal gastrointestinal function.^{7,8} An additional benefit of the laparoscopic approach is that the induction of the pneumoperitoneum may allow the reduction of herniated bowel with minimal manipulation, reducing the risk of adhesion formation. However, in the context of a large, incarcerated hernia containing colon, the benefits of laparoscopic approaches must be weighed against the risk of iatrogenic injury to the colon and other nearby structures. Additionally, it is not always possible to reduce the contents of such a hernia without division of the internal ring, a task that may be more technically challenging when attempted laparoscopically.

To our knowledge, there has not yet been a completely laparoscopic excision and repair of a herniated colonic carcinoma. Although Pernazza *et al*⁵ demonstrated an oncologically sound laparoscopic resection of a similar malignancy, it was ultimately deemed necessary to perform an open hernia repair to minimise the risk of contamination of the mesh. Other demonstrated approaches to herniated caecal tumours include midline laparotomy with a secondary right inguinal incision,⁵ and oblique right groin incision with a secondary transverse scrotal incision directly over the tumour mass.¹ In both cases, the approach taken was determined by the characteristics of the tumour in relation to local structures in order to facilitate en bloc resection. It would appear that this is the first documented case of a herniating caecal tumour being repaired through a single incision, although it is important to emphasise that, as long as the goals of treatment are achieved (in this case R0 resection and reduction of the hernia), there are many potential surgical approaches to such cases.

An additional consideration with this patient was the care needed to accurately convey information about a complex condition, requiring major surgery, to an elderly man who is hearing-impaired. A sensitive and understanding manner is essential to build trust and obtain truly informed consent.

Learning points

- ▶ Anaemia is an important indication of colorectal cancer and may occur in the absence of other indications such as weight loss and rectal bleeding.
- ▶ Common surgical complaints may coexist in the same patient, and thorough investigation is needed to ensure optimum treatment is delivered and no diagnosis is missed.
- ▶ CT remains an important imaging technique preoperatively.
- ▶ Communication difficulties must be overcome with a calm, professional and patient-centred approach.

Competing interests None declared.

Patient consent Obtained.

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