On-line Case Report

Unusual hernia in a colostomy closure site

MOHAMMAD HOWLADER, THISHI SURENDRANATHAN, YASSER ABDULAAL,
ALAN JAMES, HAYTHEM ALI, AMIR NISAR

Department of Surgery, Maidstone & Tunbridge Wells Hospitals NHS Trust, Maidstone, Kent, UK

This is a case report of an interstitial hernia following previous transverse loop colostomy closure. There are no reported cases in the literature of gangrenous gall-bladder as the content of an interstitial hernia. This condition can present as a diagnostic challenge. We present a case with a previous reversal of a colostomy in the right upper quadrant presenting with a short history of a right iliac fossa mass and tenderness. Clinically, the patient was septic without any peritonitis. Subsequent computed tomography scan suggested the hernial sac contained gall-bladder and loops of bowel. At surgery, a gangrenous gall-bladder was found within an interstitial incisional hernia (between the external and internal oblique muscle). Retrograde cholecystectomy was performed and bowel and hernia were reduced. The hernia was repaired in layers and patient had an uneventful recovery.

Keywords: Interstitial hernia – Incision – Strangulated gall-bladder

Case report

A 74-year-old woman presented to the accident and emergency department with a 2-day history of severe abdominal pain and a palpable mass in the right iliac fossa. She complained of nausea but no other gastrointestinal symptoms.

She had a temperature of 38.3°C and pulse of 81 beats/min. Examination revealed a 20 × 20 cm tender mass extending below a previous transverse colostomy scar at the right upper quadrant. The maximum induration and tenderness was in the right iliac fossa. There was no cough impulse. She also had a reducible, non-tender, mid-line, incisional hernia.

Relevant past history was of a diverticular abscess 10 years previously, which caused a colovesical fistula. She underwent a left hemicolectomy and primary anastomosis, with a covering right upper quadrant transverse colostomy. This was reversed 5 months later.

On admission, she had a raised white cell count of 24.37×10^9 cells/l and C-reactive protein level of 322 mg/l. X-ray chest and abdomen were unremarkable. A computed tomography (CT) scan (Fig. 1) showed a large, right lateral, abdominal hernia containing the gall-bladder, which was distended with thickened wall and surrounded by inflammatory changes. Bowel loops were also seen within the hernial sac.

Following resuscitation, exploration of the hernia was performed through a transverse incision incorporating the previous colostomy scar. The hernial content was a gangrenous gall-bladder and the hepatic flexure of colon. This incisional hernia was an interstitial hernia between the external and internal oblique muscles of the anterior abdominal wall. The colon was reduced and retrograde cholecystectomy was performed. The removed gall-bladder measured 15 × 9 cm and the cystic duct was 8 cm long. The sac was dissected and hernia was repaired in layers with nylon sutures. A suction drain was placed in

Correspondence to: Mohammad Howlader, 19 East Road, London E15 3QS, UK
E: m.howlader@ucl.ac.uk

Figure 1 Contrast enhanced coronal section of computerised tomography scan showing the hernial sac containing the gall-bladder and a loop of bowel. Inset: arrows indicate the herniated gall-bladder and cystic duct.

the cavity and skin was closed with subcuticular absorbable sutures. The patient had an uncomplicated recovery. Histology of the specimen confirmed the diagnosis of gangrenous gall-bladder in a hernial sac.

Discussion

Hernias with uncommon contents include Richter's hernia (Knuckle of bowel), Littre's hernia (Meckel's diverticulum), and Maydl's hernia (a double loop of intestine forming a 'W' entrapped in a hernial ring). Hernial sac has also been reported to contain ovary, bladder and diverticular abscess, *etc.* Interstitial hernia is a rare sub group. Interstitial hernia is described as herniation between the muscle layers of the anterior abdominal wall. First reported by Bartholin in 1661, an interstitial hernia has a hernial sac (usually in the inguinal region) found between the layers of the anterior abdominal wall.¹ Groin interstitial hernias are associated with abnormal testicular descent in 60–70% of cases.¹ Interstitial hernia is often misdiagnosed or mismanaged. The main diagnostic tests are CT scan, magnetic resonance imaging (MRI) or laparoscopy. The usual content of these interstitial hernias is bowel or omentum. There are no reported cases in the literature of gangrenous gall-bladder as a content of an interstitial hernia. Incisional hernias are common and can occur in about 4–21% of cases.² Incisional hernias can present as a simple or a complex complete hernia. No interstitial incisional hernias have been reported either.

This case was unusual, rare and interesting for three reasons: (i) the content of the hernia was unusual – a

gangrenous gall-bladder; (ii) the hernia was of unusual type – an interstitial hernia; and (iii) this was an incisional hernia from closure of a colostomy with a gall-bladder as its content.

There is one previous case of gallbladder strangulation within an incisional hernia in the literature.³ That patient also presented with a right-sided mass at the previous colostomy closure site which was not interstitial. This raises the possibility of weakness in the closure of the colostomy wound with limited access and potential risk of infection. In addition, there has been one case reported of normal gall-bladder in hernial sac lying subcutaneously through a previous laparotomy incision,⁴ one through the parastomal herniation,⁵ one as a fistula without any previous incision⁶ and one through a previous incision for cholecystostomy.⁷ There has also been internal herniation of gall-bladder through the foramen Winslow.

Conclusions

This rare case demonstrates a number of points:

1. The use of CT scans for accurate diagnosis, which allows a prompt treatment planning and surgery.
2. The possibility of interstitial hernia at a previous incision, more particularly at previous colostomy. In such situations, there may not be an obvious large swelling in the area and signs of inflammation may not be marked due to intervening muscle layers.
3. The importance of stoma closure technique. It is crucial to isolate and define the inside edge of the

stoma site. The closure should incorporate a full-thickness closure of all the three abdominal muscles. The usual practice of tension-free, gentle approximation of muscles will help to reduce the chances of a weak repair and resultant hernia.

References

1. Barling V. Interparietal hernia. *Aust NZ J Surg* 1956; **26**: 32–5.
2. Gislason H. Closure of the abdomen in acute wound failure. In: Schumpelick V, Kingsnorth AN. (eds) *Incisional hernia*. Berlin: Springer, 1999; 253–7.
3. Benzoni C, Benini B, Pirozzi C. Gallbladder strangulation within an incisional hernia. *Hernia* 2004; **8**: 387–8.
4. Sirikrci A, Bayram M, Kervancioglu R. Incisional hernia of a normal gallbladder: sonographic and CT demonstration. *Eur J Radiol* 2002; **41**: 57–9.
5. Garcia RM, Brody F, Miller J, Ponsky TA. Parastomal herniation of the gallbladder. *Hernia* 2005; **9**: 397–9.
6. Carragher AM, Jackson PR, Panesar KJ. Subcutaneous herniation of gall-bladder with spontaneous cholecystocutaneous fistula. *Clin Radiol* 1990; **42**: 283–4.
7. Shirahama M, Onohara S, Miyamoto Y, Watanabe A, Ishibashi H. Incisional hernia of gallbladder in a patient with gallbladder carcinoma: sonographic demonstration. *J Clin Ultrasound* 1997; **25**: 398–400.