

Appendicitis in a Spigelian hernia: an unusual cause for a tender right iliac fossa mass

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ABSTRACT

Spigelian hernias are a rare type of hernia through the Spigelian aponeurosis, whose contents commonly include omentum or small bowel. In the absence of incarceration or strangulation, they can be difficult to diagnose clinically. In the emergency setting, they can present rarely as a painful abdominal mass and computed tomography provides a reliable diagnostic imaging modality. We report an emergency presentation of a Spigelian hernia containing the appendix.

KEYWORDS

Spigelian hernia – Appendix – Computed tomography – Sonography – Appendicectomy

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Case history

A 74-year-old man presented acutely to the accident and emergency department of a district general hospital with a 5-day history of absolute constipation. This was associated with a large, painful swelling in the right lower quadrant of the abdomen. He had complained of a much smaller ‘lump’ in this area ‘on and off’ for several months prior to his acute admission. He was nauseous but with no vomiting. Systemic enquiry revealed only some hesitancy on urination, which had been present for several months. Past medical history included a previous duodenal ulcer, Parkinson’s disease and previous pulmonary embolisms following orthopaedic injuries, for which he was taking long-term warfarin. His only other regular medications were simvastatin and ropinirole.

On physical examination, the patient was afebrile, with a firm, tender mass in the right iliac fossa. Digital rectal examination found a smoothly enlarged prostate but no other abnormality. Routine blood tests including haemoglobin, white cell count, C-reactive protein, liver function tests, and urea and electrolytes were all normal, as was dipstick urinalysis. His international normalised ratio was 2.9.

Given the history of absolute constipation in association with a right iliac fossa mass, computed tomography (CT) of the thorax, abdomen and pelvis was performed as the first radiological investigation. This showed a hernia at the inferolateral aspect of the right rectus abdominis muscle containing the appendix from its caecal root (Figs 1–4). Minimal inflammation of the caecal pole was seen, along with free fluid and inflammation in the surrounding herniated

fat, suggesting a degree of vascular compromise although the appendix itself did not appear significantly thickened. The hernial defect measured 21mm in diameter. There was a trace of free fluid in the pelvis but no suggestion of a tumour.

The patient was listed for an emergency repair and appendicectomy. At operation, an oblique incision was made in the right iliac fossa and the external oblique aponeurosis was opened to reveal the hernial sac. The neck of the sac was exposed and the hernial defect at the edge of the right rectus abdominis muscle identified. The sac was opened to enter the peritoneal cavity. The sac contained a small amount of fluid and a macroscopically normal appearing appendix. A standard open appendicectomy was performed before closing the peritoneum. The hernial defect was closed with 2/0 Vicryl® (Ethicon, Somerville, NJ, US) by direct approximation of muscle and the external oblique aponeurosis was closed.

The patient made an uneventful postoperative recovery and was discharged 48 hours after his operation. Histology from the appendix specimen showed acute appendicitis, with atrophy of the proximal appendix mucosa, pus present in the lumen and acute inflammation in the wall.

Discussion

Spigelian hernias are rare, accounting for only 1–2% of all hernias, and are found at the site of a congenital or acquired weakness in the Spigelian aponeurosis,



Figure 1 Computed tomography of the appendix root at the caecal pole traversing the right Spigelian hernia orifice (asterisk) and entering the hernia sac (arrow)

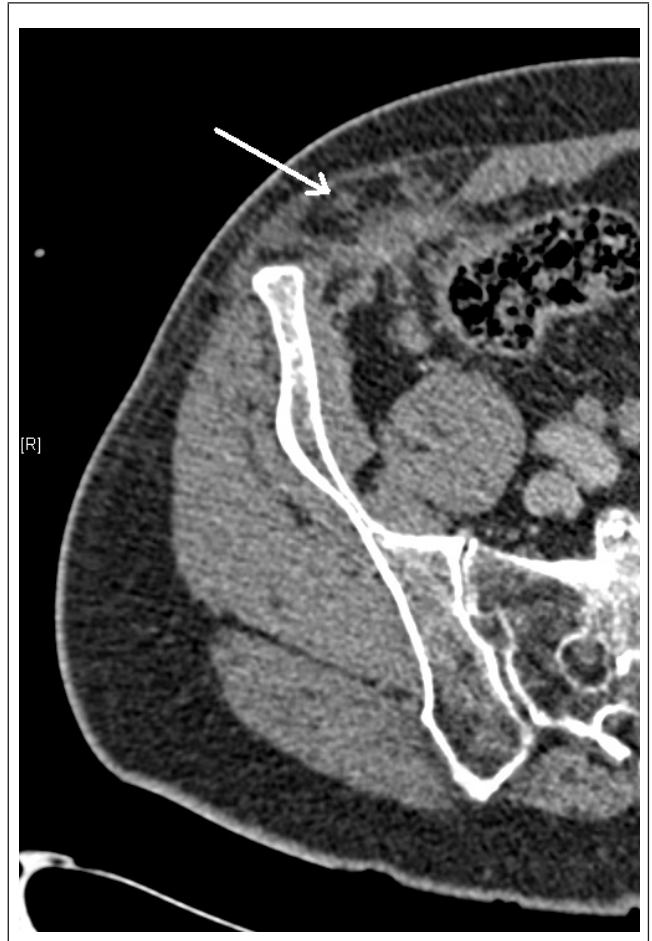


Figure 2 Computed tomography of the appendix in cross section in the hernia sac (arrow)

between the linea semilunaris laterally and the lateral edge of the rectus muscle medially.¹ Their incidence is slightly higher in females, and obesity and pregnancy are predisposing factors. Contents of the hernia can include preperitoneal fat, the peritoneal sac or intra-abdominal organs. Omentum and small bowel are the most common contents although there are reports of these hernias containing the large bowel, stomach, gallbladder, ovary, testis, uterus and bladder. A search of the literature found only three other case reports of a Spigelian hernia containing the appendix.²⁻⁴

Spigelian hernias pose a difficult diagnostic challenge. Without evidence of incarceration or strangulation, the signs and symptoms can be non-specific, with patients often only describing abdominal pain that is exacerbated by exertion and contraction of the abdominal wall musculature. The obese abdominal wall that can predispose to these hernias also makes initial diagnosis more difficult. When a Spi-

gelian hernia is suspected clinically, sonography has been shown to be an effective and accurate imaging modality.⁵ In the emergency setting, where the diagnosis may be in doubt and other intra-abdominal pathology is suspected, CT may be more reliable and it diagnosed the hernia accurately in the case described here.

Treatment of Spigelian hernias is surgical, with open, extraperitoneal laparoscopic and intraperitoneal laparoscopic techniques described. In the open approach, direct muscle approximation is used although mesh can be employed for particularly large defects.¹

Conclusions

This case report describes an unusual cause for a painful, tender right iliac fossa mass and highlights the advantages of CT in the emergency setting for the diagnosis of such rare clinical presentations.

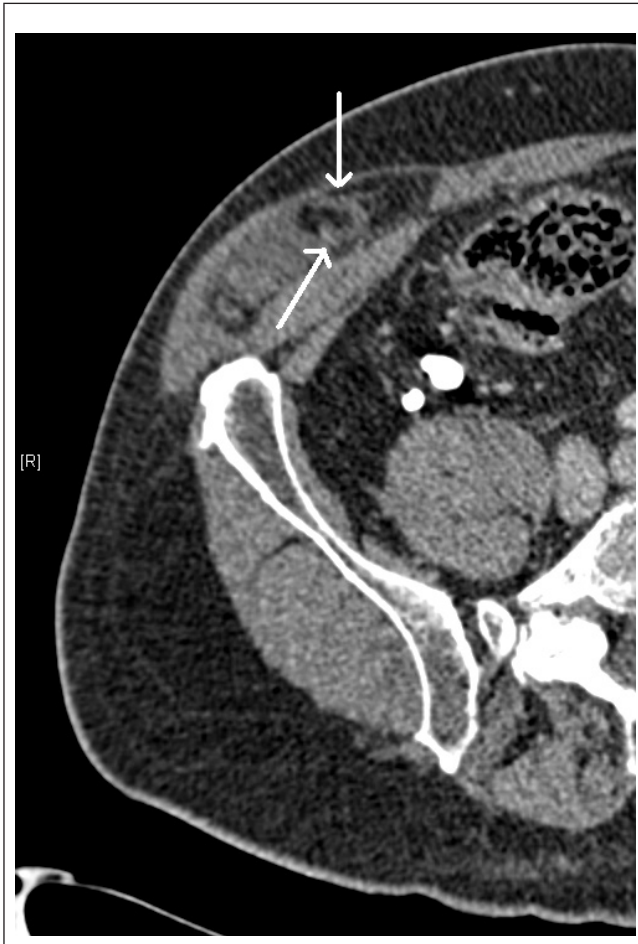


Figure 3 Computed tomography of the coiled tip of the appendix (between arrows) in the hernia sac with adjacent free fluid



Figure 4 Coronal oblique computed tomography of the appendix (arrows) from the root at the caecal pole (asterisk), via the Spigelian hernia orifice into the inflamed sac

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