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Case report

A rare presentation of Spigelian hernia involving the appendix

Ling Xu*, Gurjeet Dulku, Richard Ho

Department of Diagnostic and Interventional Radiology, Royal Perth Hospital, Perth, WA, Australia

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ABSTRACT

Spigelian hernia (SH) is a rare entity accounting for 1–2% of ventral abdominal wall hernias. Elusive clinical signs and symptoms pose a diagnostic challenge and a consequent risk of strangulation. We present an emergent case of a Spigelian hernia involving the appendix.

1. Introduction

Spigelian hernia (SH) is a rare type of anterior abdominal wall hernia. SH remains a diagnostic challenge particularly when clinical presentation varies considerably and in the absence of incarceration or strangulation on imaging. Omentum and small bowel are its usual contents but other abdominal viscera have also been described [1].

2. Case report

A 68-year-old overweight woman presented with one week history of abdominal pain, initially suprapubic then radiating to the right iliac fossa (RIF), associated with nausea and diarrhea. Patient was afebrile on examination while maximal tenderness was elicited in the RIF with an associated 5 × 3 cm irreducible lump.

C-reactive protein was 33 mg/L while all other biochemical tests were normal. Patient subsequently underwent a Computed tomography (CT) abdomen and pelvis (Figs. 1–3). Multislice helical CT abdomen and pelvis was performed in the portal-venous phase following intravenous contrast administration with multiplanar reformats utilising the institution's GE lightspeed VCT scanner and protocol. Total dose length product for the study was 953 mmGy/cm, window width of 300 and level of 30 were employed.

Surgery included laparoscopic appendicectomy, SH sac resection and open repair. Histopathology reports a normal appendix with an inflamed mesoappendix. The hernia sac was inflamed but was negative for malignancy.

3. Discussion

Spigelian hernia occurs through a defect in the Spigelian aponeurosis along the linea semilunaris close to the arcuate line.

Reported incidences are between 0.1–2% of all abdominal wall hernias with a higher female to male ratio of 1.8:1 peaking between the 4th to 7th decade. Risk is increased with obesity, pregnancy,previous surgery and rapid weight loss [2].

Spigelian hernia can be subdivided into interstitial and subcutaneous with the former located below the major oblique aponeurosis while the latter crosses the major oblique aponeurosis as a consequence of rupture [3]. Omentum, intestines, stomach, gallbladder, ovary/testis, uterus, bladder and appendix can potentially protrude into the defect [4–6] which correlates with varying degree of non-specific clinical presentations.

Ultrasonography (USS) and CT abdomen and pelvis are important for anatomical localisation and surgical planning [7,8]. Ultrasound has a sensitivity and positive predictive value (PPV) of 90% and 100% respectively. Limitations include operator dependence while diagnostic accuracy is reduced in obese patients. Alternatively, CT abdomen and pelvis demonstrates a sensitivity of 100% and PPV of 100%. Advantages include provision of additional information regarding different layers of abdominal wall and surrounding soft tissue changes [9]. CT is more reliable at identifying incarcerated or strangulated SH than USS [5]. Unfortunately, the use of CT as first line imaging modality in hernia is limited by its associated ionising radiation.

The choice of surgical approach can be dependent on the SH sub-

* Corresponding author at: Department of Diagnostic and Interventional Radiology, Royal Perth Hospital, Level 3, North Block, 197, Wellington Street, Perth, WA 6000, Australia.
E-mail address: Ling.Xu@health.wa.gov.au (L. Xu).

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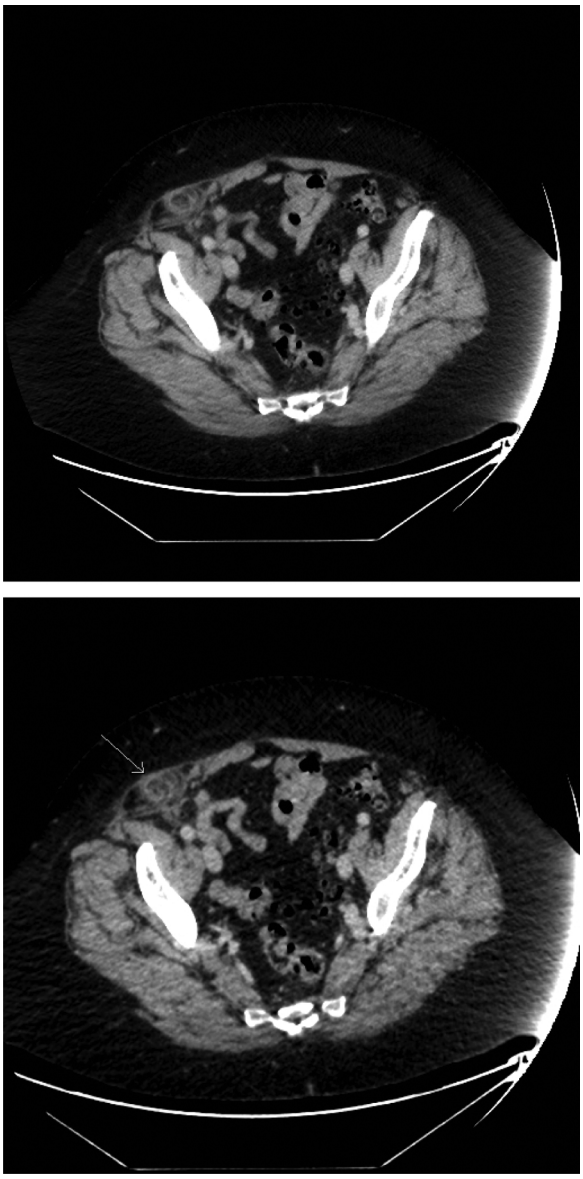

Fig. 1. Transverse Computed tomography demonstrates the appendix (arrow) traversing into the right Spigelian hernial sac.

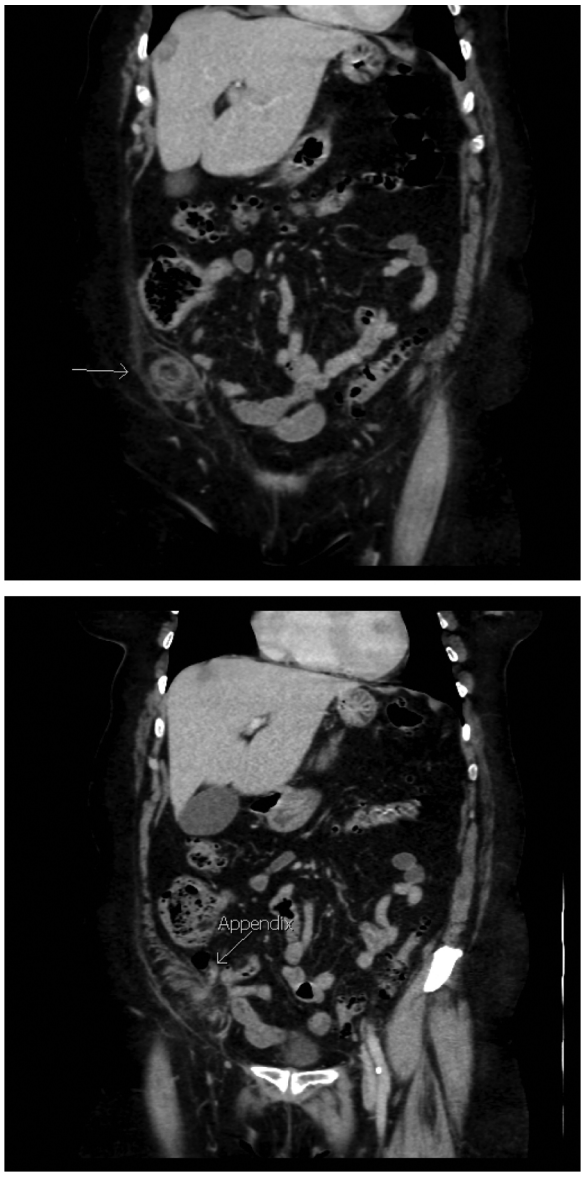

Fig. 2. Coronal computed tomography demonstrates the appendix (arrow) traversing and coiling into the right Spigelian hernial sac with associated *peri*-appendicular stranding within the hernia sac.

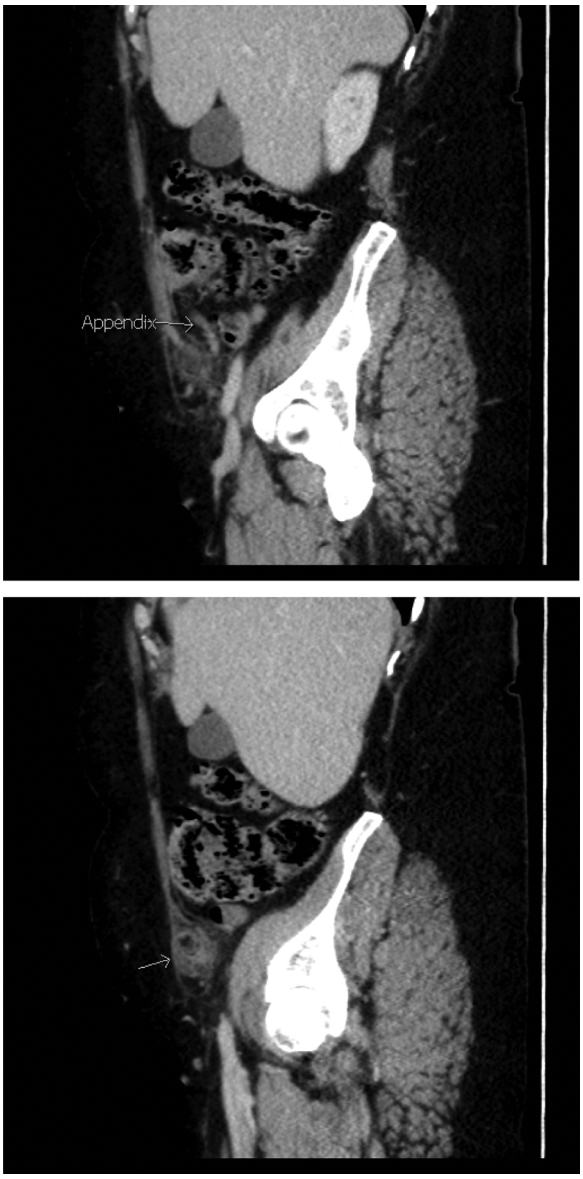

Fig. 3. Sagittal computed tomography demonstrates the appendix (arrow) traversing and coiling into the right Spigelian hernial sac with associated *peri*-appendicular stranding within the hernia sac.

types. A larger hernia neck diameter was observed in the subcutaneous subtypes but closed-loop small bowel obstruction (SBO) was statistically associated with the interstitial sub-group [3].

This emphasises the importance and relevance pre-operative CT in the identification of hernia contents, the presence of SBO and the differentiating the two SH subtypes [3].

To our knowledge, the incidence of appendix involved in SHs in the absence of inflammatory bowel disease are low with only 6 case reports identified, four cases of appendicitis [2,4,6,10] and two ischaemic appendix [1,5].

4. Conclusion

Spigelian hernias are rare entities and even more unusual when involving the appendix. Early recognition and timely surgery is vital.

Conflict of interest

The authors declare no conflict of interest.

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