Appendicular abscess with appendicolith in a Spigelian hernia masquerading caecal volvulus—A case report

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ABSTRACT

INTRODUCTION: Spigelian hernias are rare hernias of the anterior abdominal wall named after Adrian van den Spiegel, the anatomist who first described them in the 16th century. They represent around 2% of all hernias.

PRESENTATION OF CASE: We present an 83-year-old female with one week history of a painful right iliac fossa swelling, her examination revealed a tender lump with no cough impulse and non-reducible and her computed tomography (CT) scan showed a mass anterior to ileocaecal valve suggestive of a caecal volvulus. Intra-operative the finding was a Spigelian hernia containing an appendicular abscess and an appendicolith.

DISCUSSION: The diagnosis of Spigelian hernias represents a challenge for the surgeons principally due to their rarity but also due to their anatomy and the variety of their contents. Searching the literature we found many different intra-abdominal structures presenting within a Spigelian hernia but we did not encounter a case similar to this.

CONCLUSION: Clinicians need to be aware of these hernias when dealing with lower abdominal swellings and have a high index of suspicion even in the presence of negative clinical and CT findings.

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1. Introduction

Spigelian hernias account for about 2% of the abdominal wall hernias.1 To the best of our knowledge this is the first report of a case of Spigelian hernia in which the content was appendicular abscess with an appendicolith. Moreover it masqueraded a caecal volvulus in CT appearances.

2. Presentation of case

An 83-year-old Caucasian female presented with a painful right lower quadrant swelling for a week. It started initially as pain, but progressively she noticed a swelling which has increased in size. She had no other symptoms apart from an episode of loose stools on the day of admission. Her past medical history included a bilateral total hip replacement, hypertension, cardiomyopathy, right mastectomy and axillary clearance and thyroidectomy. On general examination she was well with her vital signs within normal limits. Abdominal examination revealed a well defined, firm 8 cm x 8 cm irreducible tender mass in the right iliac fossa without a cough impulse. The skin over the lump was normal. The rest of the abdominal examination was unremarkable with no signs of peritonism or bowel obstruction. Her hematological investigations showed a white cell count (WCC) of 18.4 x 10⁹ g/dl (89.7% Neutrophilia) and a C-reactive protein (CRP) 117. Her liver and renal function tests were within normal limits.

A CT scan of the abdomen and pelvis with oral and IV contrast (Fig. 1) was reported as caecal volvulus positioned against the week anterior abdominal wall extending up to the inferior border of the liver. Interestingly there was no evidence of small bowel or large bowel obstruction. She underwent an exploration of the lump under general anesthesia through a transverse incision placed directly over the swelling. Pus was found directly underneath the external oblique, with peritoneum and abscess herniated through a weakness on the abdominal wall. Caecum was attached to lateral abdominal wall. The abscess was found tracking between the linea semilunaris laterally and the bolder of rectus abdominis muscle medially. The Incision was extended to enter the peritoneum and caecum with right colon were mobilized. One appendicolith was found in the disintegrated remnant of the appendix. Healthy appendicular base was ligated with 2/0 vicryl. The abdominal cavity was washed with warm saline and a size 20 Robinson drain was placed. Mass closure of the wound was done with 1-Nylon and with clips to the skin which was infiltrated with 25 ml of 5% chirocaine. She had an otherwise uneventful recovery and was discharged home on the eighth post-operative day. She is symptom free two years post-surgery.
Spigelian hernias, accounting for about 2% of the abdominal wall hernias are commonly found in an area called Spigelian hernia belt, a transverse 6-cm wide zone between anterior superior iliac spine and umbilicus. Above the umbilicus these hernias are less common unless there is an acquired anatomical defect. This is due to the way the fibers of internal oblique and transversus abdominis are crossing each other. They are one and a half times more common in women and present on the 6th decade. In Spigelian hernias the contents herniate though a weakness in the Spigelian aponeurosis, the fascia between the linea semilunaris laterally and the lateral bolder of rectus abdominis muscle medially. Unusually low Spigelian hernias mimicking inguinal hernias have also been reported but this is more common in children due to a congenital defect. It is not an unusual phenomenon for the Spigelian hernias to remain undiagnosed even after imaging. In this case the CT revealed a possible caecal volvulus and the examination was not diagnostic either as there was no positive cough impulse and the lump was not reducible. In a study done by Larson et al., 6 out of 19 patients who had a false negative CT had an obvious Spigelian hernia during operation. The hernia examination findings like cough impulse and reducibility are not present due to their narrow neck. Other investigations used in the diagnosis of these hernias are ultrasound and magnetic resonance imaging (MRI) scan but the CT still remains the golden standard.

The finding of an incarcerated appendix within the Spigelian hernia has been reported in literature. The difference in this case however is that the initial pathological process was the appendicitis followed by the formation of the abscess and then the Spigelian hernia, and this due to the finding of an appendicolith within the disintegrated appendicular stump intra-operatively. Looking towards the best management of these hernias we could not find many studies done on this subject. This is likely due to their rarity but also that they can remain undiagnosed and present later as an emergency like in this case. In an emergency setting the treatment of choice is an open approach due to the high incidence of incarceration and strangulation. However the best results are achieved by the total extra-peritoneal approach technique (TEP).

In a prospective, randomised trial involving 22 patients Alfredo Moreno-Egea et al. randomised the patients into three groups according to the treatment they received. The open approach, the laparoscopic total extraperitoneal approach (TEP) and the laparoscopic infra- abdominal approach (IA). Each group’s morbidity (pain, bleeding and the need of drainage), length of hospital stay and recurrence was recorded. It was found that the morbidity was 4/11 (36.4%) in the open approach compared with 0 in the laparoscopic p < 0.5. And the length of stay in days was 5.2 in the open compared with 1 in TEP and 1.4 in IA with all the 8 cases of the TEP group done as day cases p < 0.001. There was no hernia recurrence in any of the groups.

4. Conclusion

We present a rare case of appendicular abscess, diagnosed by CT scan as caecal volvulus and identified intra operatively as a Spigelian hernia. To the best of our knowledge this is the first report of this kind in literature. Clinicians need to keep an open mind when dealing with lower abdominal swellings and be aware that even the best imaging techniques can be misleading.

Conflict of interest statement

The authors declare no conflict of interest related to the publication of this manuscript.

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Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Authors contributed equally.

References


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