Case report

Fallopian Tube Masquerading as Small Bowel in a Spigelian hernia: A Case Report

ABSTRACT

Introduction: Spigelian hernias are rare abdominal wall hernias that occur through a defect in the Spigelian fascia, in the lower abdomen. Most commonly, these hernias contain omentum or small bowel, although rare cases involve pelvic organs like ovaries and fallopian tubes. This case report describes a rare case of an incarcerated Spigelian hernia containing a right-sided fallopian tube.

Presentation of Case:A 52-year-old woman presented with a one-week history of intermittent right lower abdominal pain and a long-standing swelling in the same region. She had prior history of lower midline laparotomy for ectopic pregnancy, over 20 years ago. Imaging with contrast-enhanced computed tomography (CT) revealed the presence of small bowel within a Spigelian hernia. However, during laparoscopic surgery, the hernia defect was found to contain the right fallopian tube. The hernia was repaired using an intraperitoneal onlay mesh technique, and the patient was discharged on postoperative day 2.

Discussion: Spigelian hernias present a diagnostic challenge due to its rarity and the masking of defect by abdominal wall fat and musculature. Imaging such as CT scans are usually required to confirm the diagnosis and identify hernia contents. In women, pelvic organs should be considered as potential hernia contents. Due to the high risk of strangulation, surgical intervention is recommended for symptomatic patients. Laparoscopic repair remains the preferred method, offering reduced morbidity, shorter hospital stays, and less postoperative pain.

Conclusion: This case highlights the rarity of fallopian tube involvement in Spigelian hernias and the importance of a high index of suspicion in diagnosis and treatment planning.

Keywords: [spigelian hernia, fallopian tube, abdominal pain, small bowel, laparoscopic surgery, strangulation, suspicion }

1. INTRODUCTION

Spigelian hernias are uncommon ventral hernias, accounting for less than 2% of all abdominal wall hernias [1]. It arises through a defect of the spigelian fascia, adjacent to the semilunar line at the anterior abdominal wall. Spigelian hernias typically occur in the lower abdomen, where the posterior rectus sheath is deficient. The most common contents of Spigelian hernias are omentum followed by intraperitoneal organs such as small bowels and colon with some rare cases

of incarcerated pelvic organs such as ovaries and fallopian tube [2, 3]. We report a rare case of an incarcerated Spigelian hernia that contains a fallopian tube.

2. CASE PRESENTATION

A 52-year-old woman presented to the outpatient surgical clinic with one-week history of intermittent, dull pain in the right lower abdomen. She also reported a swelling in the same area for the past 10 years, which had not been bothersome until recently. Her bowel and bladder functions were normal, and she was afebrile. Her past surgical history included a midline laparotomy performed over 20 years ago for a ruptured ectopic pregnancy. Her medical history was otherwise unremarkable, except for dyslipidemia. Physical examination revealed a well-healed lower midline scar and a non-tender abdomen in an overweight female. A positive cough impulse was noted adjacent to the right semilunar line, just below the level of the umbilicus. A small bulge was better appreciated with the patient in a standing position. An abdominal contrast-enhanced computed tomography (CT) revealed a right spigelian hernia measuring 2 cm x 2.6cm with protrusion of small bowel through the defect. The patient underwent laparoscopic repair of the Spigelian hernia. Intraoperatively, small bowel adhesions were found along the midline of the anterior abdominal wall, adjacent to the midline scar. After adhesions were released, the hernia defect was identified, containing the right fallopian tube. The defect was closed using an intraperitoneal onlay technique with a 15 cm x 10 cm monofilament polypropylene composite mesh (Covidien), anchored with 5 mm absorbable tackers (Covidien) in a double crown pattern. The patient was discharged well at postoperative day 2.

3. DISCUSSION

Spigelian hernia was first depicted by Josef Klinkosch, a Bohemian anatomist and surgeon in 1764 and was named after Adriaan Van der Spieghel, a Belgian anatomist who first described the semilunar line in 1645. Spigelian hernias are very uncommon and the accurate diagnosis can be difficult as the hernia defect can be masked by abdominal fat and external oblique aponeurosis [4].

Spigelian hernia can occur in both men and women, with a slight predominance in women over the age of 50 [5]. These hernias can be either congenital or, more commonly, acquired. Factors such as previous abdominal surgery, chronic cough, pregnancy, obesity, aging, heavy weightlifting, collagen disorders and trauma contribute to the development of Spigelian hernias [6]. In our patient, obesity and a history of abdominal surgery were the possible contributing factors to the development of the Spigelian hernia. The presence of fallopian tube as a content of Spigelian hernia is rare and only a few cases have been reported in literature of date, further emphasizing the significance of this case [2, 3, 6].

When diagnosing a Spigelian hernia, several differential diagnoses must be considered, including abscess, lipoma, hematoma of the rectus abdominis, and neoplasm. Imaging techniques such as abdominal wall ultrasonography or computed tomography (CT) scan can help confirm the diagnosis as well as the contents of the hernia, as clinical assessment alone may sometimes be insufficient or uncertain [7]. In this case report, the CT scan initially suggested that the contents of the hernia were small bowel. However, during surgery, it was found that the right fallopian tube had herniated through the abdominal wall defect. We propose two theories to explain this. First, the small bowel adhesions to the abdominal wall may have obscured the fallopian tube within the hernia defect, leading to the misinterpretation of small bowel as the hernia content. Second, it is possible that the hernia contents could have interchanged, as the hernia was not yet obstructed or incarcerated.

Spigelian hernias are challenging and carry a significant risk of strangulation which has been reported to be as high as 40% [8]. The risk is increased due to the narrow fascial margins surrounding the defect. Therefore, surgical repair should be the primary treatment option for symptomatic patients to prevent complications such as strangulation.

Surgical options for Spigelian hernia repair include open surgery and minimally invasive techniques, such as laparoscopic and robotic repair. However, robotic repair is still not widely available in many centers due to its limited access and the high cost associated with the procedure. Laparoscopic repair remains the preferred surgical approach, as it has been shown to be safe, reduces morbidity, shortens hospital stays, causes less postoperative pain, and can be performed safely in an outpatient setting [9]. Options of laparoscopic repair include: transabdominal preperitoneal approach (TAPP), totally extraperitoneal (TEP) approach and intraperitoneal onlay mesh (IPOM) repair using composite mesh [10]. In our patient, the intraperitoneal onlay mesh technique was chosen as the preferred method due to its technical ease, particularly in the background of a fibrosed peritoneal layer from previous surgery.

4. CONCLUSION

Spigelian hernias are rare entities and pose diagnostic challenge. A high index of suspicion, coupled with the use of imaging modalities such as computed tomography, can aid in diagnosis and surgical planning. In women, pelvic organs such as the ovaries and fallopian tubes must be considered as potential contents of the hernia. Laparoscopic surgical repair remains the standard of care in managing spigelian hernias.

CONSENT

All authors declare thatwritten informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available on request for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

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