Spigelian Hernia: a Diagnostic Dilemma and Laparoscopic Management

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Received: 15 November 2013 / Accepted: 23 April 2014 / Published online: 6 May 2014
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Abstract Spigelian hernias, also called as lateral ventral hernias, are rare hernias to present themselves in clinical practice. The significance of these hernias lies in the fact that they are commonly intraparietal hernias and are, hence, difficult to diagnose clinically. Moreover, the neck of these hernias is usually small, posing a fair risk of strangulation. With the advancement in laparoscopic hernia repair, there is evidence that Spigelian hernias too can be repaired laparoscopically, thereby causing less morbidity and shorter hospital stay. Here, we present a rare case of large Spigelian hernia that posed to us as a diagnostic dilemma. The symptoms, clinical findings, and ultrasound of the patient were not specific, and a CT scan had to be used as the measure to confirm the diagnosis. The patient was then managed successfully with laparoscopic intraperitoneal onlay mesh repair. The details of the case and a brief discussion are included.

Keywords Spigelian hernia · Lateral ventral hernia · IPOM · Laparoscopic hernia repair · Laparoscopic Spigelian hernia repair

Introduction

Spigelian hernias also known as lateral ventral hernias occur due to defects in the lateral abdominal wall. These hernias occur along the semilunar line, a line that runs along the lateral border of the anterior rectus sheath, first described by Adrian van der Spiegel [1]. These hernias are unique that they are mostly intraparietal which makes them difficult to diagnose clinically. A high index of suspicion along with the aid of

radiological investigations is required to be able to diagnose a Spigelian hernia.

A number of repairs have been described in the literature for Spigelian hernias. With the advancement in laparoscopy, reports detailing laparoscopic repair of Spigelian hernia have now started to come up [2, 3].

We hereby present a rare case of large Spigelian hernia. The symptoms of the patient were vague and nonspecific. The clinical examination and ultrasound were also inconclusive. The diagnosis could be established only after a CT scan. The patient was then successfully managed by laparoscopic repair. The details and review of literature is presented.

Case Report

A 64-year-old lady with known history of hypertension and hypothyroidism was referred to the surgical clinic with history of on and off pain in the right lower abdomen for 2 months. Pain was mild to moderate in intensity. There was no history of fever, constipation, or urinary dysfunction; however, there was some heaviness in the right lower abdomen.

Patient also developed rashes due to herpes in the right lower abdomen during this period. The symptoms were thus initially attributed to herpes, and basic investigations were delayed. However, when the pain and heaviness persisted after the resolution of rashes, an ultrasound of the abdomen was ordered by the family physician. The USG came out to be normal except for fatty liver. The symptoms kept persisting, and hence, the patient was referred to a specialist center.

On presentation, the general examination of the patient was within normal limits. The abdomen was soft, and local temperature was not raised. There was tenderness along with a vague lumpiness in the right lumbar region. There was no impulse on coughing/straining. No organomegaly or other significant finding was present.

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The routine blood tests were normal. Ultrasound of the whole abdomen already having been conducted had failed to reveal any pathology. Based on the continuation of patient's symptoms and clinical examination, CT scan of the abdomen was done. The scan revealed that the right anterolateral abdominopelvic wall showed herniation of intra-abdominal fat in the subcutaneous region. This defect measured 3.7 cm, and the hernia measured 10.4×4 cm (Fig. 1).

The patient was planned for laparoscopic hernia repair. After proper preparation, the patient was taken to the

operation theater. General anesthesia was given, and a supine position was made with arms tucked by the sides. The primary surgeon and the camera surgeon were standing to the left of the patient, while the trolley nurse was placed to the right of the patient. Pneumoperitoneum was created using a Veress needle placed at Palmer's point. The same was later converted to a 10-mm optical port. On inserting the scope, a defect of 4×3 cm was detected (Fig. 2) at the right lumbar area consistent with a Spigelian hernia. Two working 5-mm ports were made in the left lumbar and left iliac regions. The contents were

Fig. 1 CT scan images detailing the hernia

Fig. 2 Intraoperative view of the defect

reduced from the defect, and a laparoscopic intraperitoneal onlay mesh repair was done using a composite mesh and absorbable tacker. The defect was not closed in order to achieve a tension-free repair.

The postoperative phase was uneventful, and the patient was discharged on the second postoperative day. There was no evidence of recurrence or any other complication in the follow-up period.

Discussion

Spigelian hernias are rare hernias that are also known as lateral ventral hernias. They are due to the defects in the Spigelian fascia. It is the aponeurotic layer between the rectus abdominis muscle medially and the semilunar line laterally. These hernias almost always develop at or below the arcuate line possibly because of the lack of posterior rectus sheath at this level.

Spigelian hernias are generally intraparietal hernias, meaning that they do not lie below the subcutaneous fat but penetrate between the muscles of the abdominal wall. Therefore, there is often no notable swelling, making them difficult to diagnose clinically [4]. Spigelian hernias are usually small necked, and therefore, the risk of strangulation is quite high [5].

Most of these hernias occur on the right side, in the fourth to seventh decade of life [6]. Compared to other types of hernias, they are rare, constituting about 1–2 % of the total abdominal wall hernias [7]. Patients typically present with either an intermittent mass, localized pain, or signs of bowel obstruction. Ultrasonography or a CT scan can establish the diagnosis [8]; however, a CT scan provides the greatest sensitivity and specificity.

These hernias should be repaired promptly because of the high risk of strangulation. Recent evidence suggests that laparoscopy can be safely and effectively used to repair Spigelian hernias. This results in less morbidity and shorter hospitalization compared with open procedures.

In the current light, it appears that suspicion of Spigelian hernias must be kept in mind when dealing with lateral abdominal wall pathologies. Radiological investigations must be used to aid the diagnosis. Once diagnosed, these hernias should be repaired due to a high risk of strangulation. Laparoscopy can be safely and effectively used to deal with Spigelian hernias.

References

1. Leff DR, Hassell J, Sufi P, Heath D (2009) Emergency and elective laparoscopic repair of Spigelian hernias: two case reports and a review of the literature. *Surg Laparosc Endosc Percutan Tech* 19(4):e152–e155
2. Baucom C, Nguyen QD, Hidalgo M, Slakey D (2009) Minimally invasive Spigelian hernia repair. *J Soc Laparoendosc Surg* 13(2): 263–268
3. Barker R, Gill RS, Brar AS, Birch DW, Karmali S (2013) Emergent laparoscopic repair of a Spigelian hernia: case report and review of the literature. *Case Reports in Medicine*. doi:10.1155/2013/197561
4. Larson DW, Farley DR (2002) Spigelian hernias: repair and outcome for 81 patients. *World J Surg* 26(10):1277–1281
5. Skouras C, Purkayastha S, Jiao L, Tekkis P, Darzi A, Zacharakis E (2011) Laparoscopic management of Spigelian hernias. *Surg Laparosc Endosc Percutan Tech* 21(2):76–81
6. Mittal T, Kumar V, Khullar R et al (2008) Diagnosis and management of Spigelian hernia: a review of literature and our experience. *J Minim Access Surg* 4(4):95–98
7. Houlihan TJ (1976) A review of Spigelian hernias. *Am J Surg* 131(6): 734–735
8. Martell EG, Singh NN, Zagorski SM, Sawyer MA (2004) Laparoscopic repair of a Spigelian hernia: a case report and literature review. *J Soc of Laparoendosc Surg/Soc Laparoendosc Surg* 8(3): 269–274