

An unusual case of right lower quadrant pain: Spigelian hernia

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Section: Abdominal imaging

Area of Interest: Abdomen

Procedure: Diagnostic procedure

Imaging Technique: CT

Special Focus: Hernia Case Type: Clinical Cases

Authors: Maria Ana Serrado¹, Sofia Dutra², José Maria Barros³

Patient: 65 years, female

Clinical History:

A 65-year-old woman presents to the ER with marked right lower quadrant pain and positive blumberg sign. Laboratory results revealed a slight elevation of C-reactive protein (8, 7 mg/L; normal <5mg/L). She had history of diverticulosis and colonic polyps and previous hysterectomy and oophorectomy. She had family history of colorectal cancer.

Imaging Findings:

Non enhanced and contrast enhanced multidetector computed tomography (CT) was requested to investigate possible causes of patient's complaints, mainly to rule out acute appendicitis and caecal diverticulitis. Multiplanar CT images showed right lower quadrant hernia, through a 3-cm defect located between the anterior rectus muscle and oblique muscles into the subcutaneous planes, consistent with Spigelian hernia. The hernia sac measured 9-cm and contained fat. The herniated fat showed mild stranding. A retro-caecal appendix was identified, with no signs of inflammation. Signs of diverticulosis were noted, with no signs of inflammation. There were no signs of bowel obstruction or ascites.

Discussion:

Spigelian hernia was first described by Josef Klinkosh in 1764 and named after Adriaan van der Spiegel^{1, 2} It is defined by the protrusion of preperitoneal fat, a sac of peritoneum or an organ, through a congenital defect or a weakness of the Spigelian fascia.³

Spigelian hernias constitute only 0, 12% of all abdominal wall hernias.² Spigelian hernia is more frequent in the 5th and 6th decades of life with no gender preference.^{1, 4} It is usually on the left side.³

Predisposing factors include: obesity, rapid weight loss, multiple pregnancies, chronic obstructive pulmonary disease, chronic constipation, ascites, trauma, previous surgery, scarring and chronic ambulatory peritoneal dialysis.^{1, 2, 4}

The clinical diagnosis is difficult. It may present with a palpable mass or tenderness.⁵ In many cases incarceration or

strangulation are the first clinical signs.¹

The Spigelian fascia extends from the 9th rib to the pubic tubercle. Its medial border is beneath the point where the external oblique aponeurosis becomes the anterior rectus sheath and its lateral border is the fibres of the internal oblique muscle. The external oblique aponeurosis lies superficially.

A hernia can occur anywhere along the Spigelian fascia. Almost 90% of Spigelian hernias occur in the Spigelian hernia belt, a 6-cm area extending from the umbilicus superiorly to the interspinous plane inferiorly, where the fascia is widest.^{2, 4} The most common location is where the semicircular line crosses the semilunar line.⁵ The hernia ring is a well defined defect in the aponeurosis.² Two sub-types of Spigelian hernia have been described: interstitial (below the external oblique muscle) and subcutaneous (the hernia sac crosses the external oblique muscle and becomes superficial).³ It can contain fat, omentum, small bowel, large bowel, appendix, ovaries, testis, gallbladder and stomach.²⁻⁴

The diagnosis of Spigelian hernia is often made by computed tomography (CT). CT provides the exact location, content and signs of complications.³ Ultrasonography, herniography and magnetic resonance can aid in the diagnosis.^{2, 5, 6}

Spigelian hernia can be repaired by conventional approach (transverse incision over the protrusion) or laparotomy. In laparoscopic surgery, intra-abdominal or extra-peritoneal approach may be used.^{2, 3} In this case the planned treatment will be elective laparoscopic repair.

If the muscular defect is not recognized, Spigelian hernia can be confused with abdominal wall lipoma.⁷ Clinically occult Spigelian hernia should be assessed with radiological investigations.⁵ Given the high rate of incarceration and strangulation, once diagnosed, surgery should always be advised.²

Differential Diagnosis List: Spigelian hernia, Acute appendicitis, Caecal diverticulitis, Omental infarction, Epiploic appendagitis, Rectus muscle haematoma

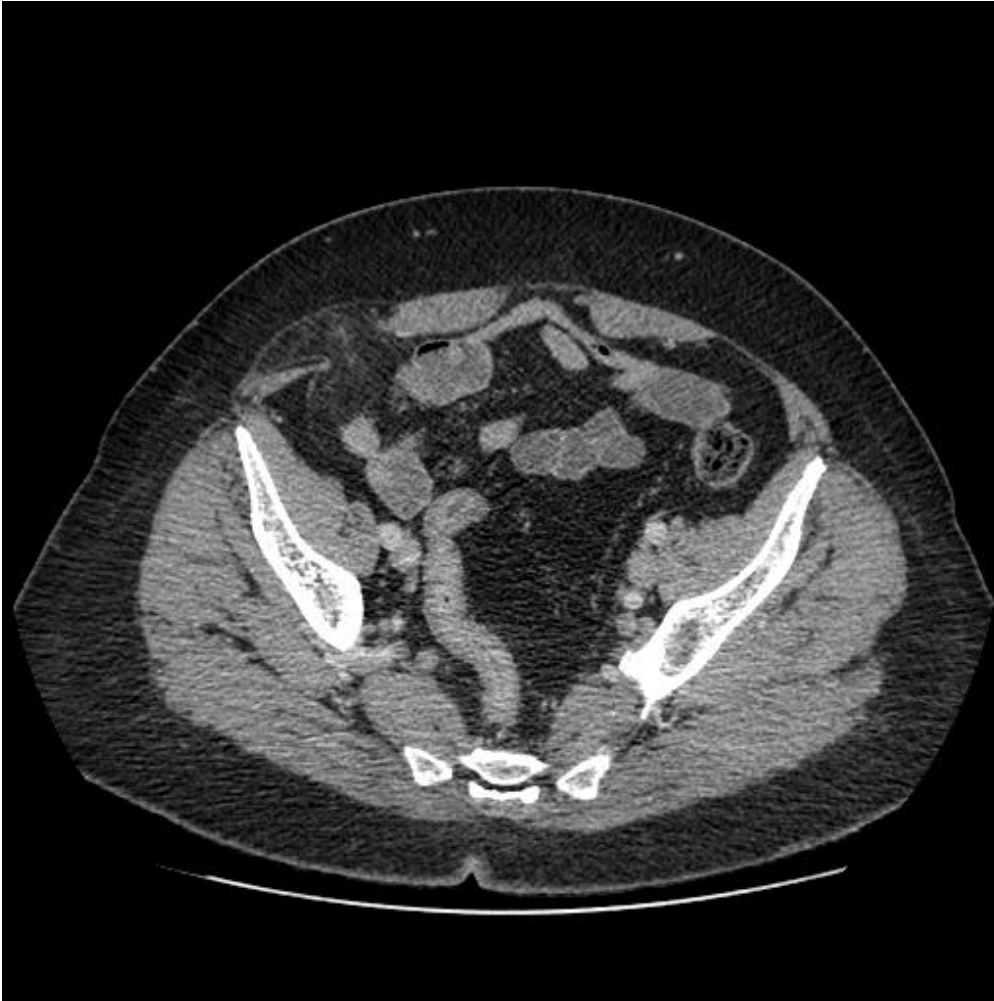
Final Diagnosis: Spigelian hernia

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Figure 1

a



Description: Axial contrast enhanced CT shows a right-sided lower quadrant hernia, through a 3-cm defect located between the anterior rectus muscle and oblique muscles into the subcutaneous planes, consistent with Spigelian hernia. **Origin:** Hospital São José, Centro Hospitalar Lisboa Central, E.P.E., Departamento de Radiologia

b



Description: Coronal contrast enhanced CT shows a right-sided lower quadrant Spigelian hernia and mild stranding of the herniated fat. **Origin:** Hospital São José, Centro Hospitalar Lisboa Central, E.P.E., Departamento de Radiologia

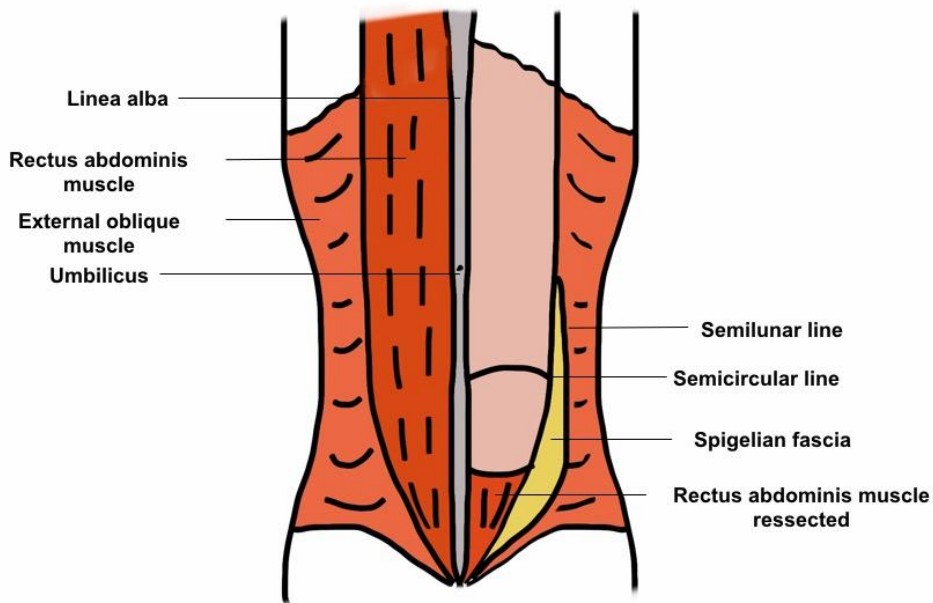
c



Description: Sagittal non enhanced CT shows a right-sided lower quadrant Spigelian hernia. Note the normal retro-caecal appendix (white arrow). **Origin:** Hospital São José, Centro Hospitalar Lisboa Central, E.P.E., Departamento de Radiologia

Figure 2

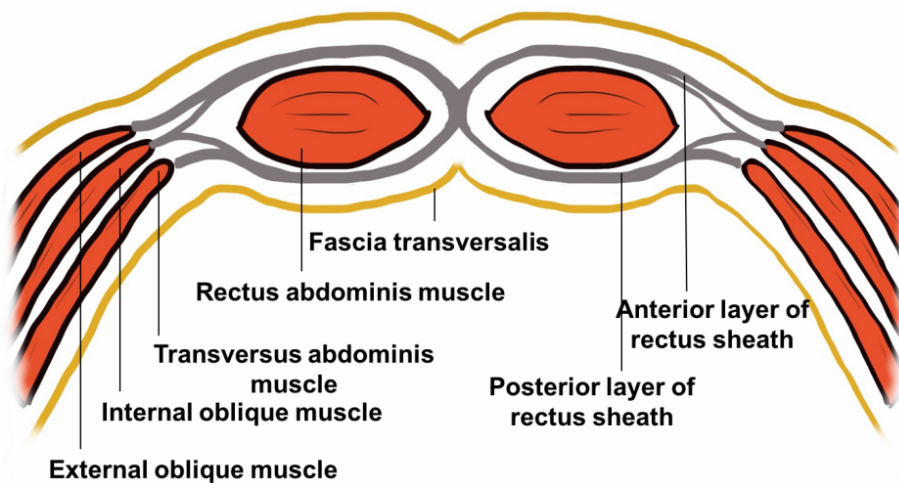
a



Description: Diagram of the anterior abdominal wall shows the location of Spigelian hernias. Left rectus abdominis muscle resected. **Origin:** Serrado, MA, Serviço de Imagiologia, SESARAM, E.P.E.

b

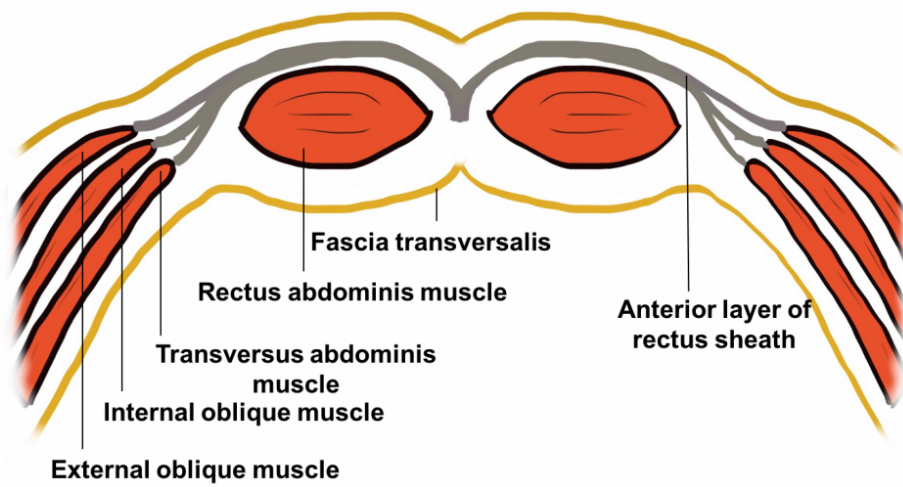
Above semicircular line



Description: Diagram of the anterior abdominal wall above the semicircular line, axial view. **Origin:** Serrado, MA, Serviço de Imagiologia, SESARAM, E.P.E.

c

Below semicircular line



Description: Diagram of the anterior abdominal wall below the semicircular line, axial view. **Origin:** Serrado, MA, Serviço de Imagiologia, SESARAM, E.P.E.