



# A rare case of Spigelian hernia penetrating the external oblique muscle

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## Abstract

### Introduction

Spigelian hernia is a rare abdominal wall hernia. It occurs between the fascia of the anterior rectus abdominis, the internal oblique and the transverse abdominal muscles, being almost exclusively intercalated between the layers of the abdominal wall. We have presented a very rare case of Spigelian hernia penetrating the external oblique muscle and have discussed the surgical considerations through a literature review.

### Case report

A 63-year old man presented complaining of abdominal pain, constipation and abdominal distension that had been ongoing for two days. Clinical examination revealed a palpable, painful mass in the right lateral abdominal wall, which augmented in size during Valsalva manoeuvre. Ultrasonographic evaluation showed protrusion of the intestinal helix in the right lateral abdominal wall, and contrast computed tomography evaluation was diagnostic of a Spigelian hernia penetrating the external oblique muscle. The patient underwent a repair of the hernia defect with the use of a mesh. There was no evidence of recurrence one year after the surgery.

### Conclusion

Spigelian hernias are rare and carry a significant risk of incarceration and

strangulation that lead to serious complications, while their clinical presentation is often vague, leading to delayed diagnosis. Primary repair has so far been the treatment of choice, while other techniques can also be considered depending on the patient's characteristics and the hernia type. A thorough physical examination along with high clinical suspicion remains crucial in the diagnosis of the Spigelian hernia; additionally, modern imaging modalities assist in timely and accurate preoperative diagnosis. Prompt surgical treatment is the key to avoid complications.

### Introduction

The Spigelian hernia represents an uncommon abdominal wall hernia occurring between the fascia of the anterior rectus abdominis, the internal oblique and the transverse abdominal muscles<sup>1</sup>. This type of hernia is very challenging in terms of diagnosis, and although recent imaging modalities have increased the preoperative diagnostic yield, it eludes diagnosis in some cases. The present report describes a rare case of Spigelian hernia that traversed the external oblique muscle.

### Case Report

A 63-year old man presented complaining of diffused abdominal pain, constipation and abdominal distension. The pain was ongoing for two weeks, while constipation and abdominal distension were present for the last 48 hours. The patient had a history of bilateral inguinal hernia repair.

Clinical examination revealed a palpable, painful mass in the

right lateral abdominal wall, which augmented in size during the Valsalva manoeuvre. Ultrasonographic (U/S) evaluation showed protrusion of the intestinal helix in the right lateral abdominal wall, and contrast computed tomography (CT) revealed a Spigelian hernia penetrating the external oblique muscle, incarcerating part of the ascending colon (Figure 1).

In the operating room, the abdominal wall was explored through a transverse incision. A hernia sac that protruded from the external oblique muscle, containing and strangulating part of the colon, was identified and reduced. The abdominal wall defect was repaired using a mesh. The patient was discharged on postoperative day three without complications. There was no evidence of recurrence one year after the surgery.

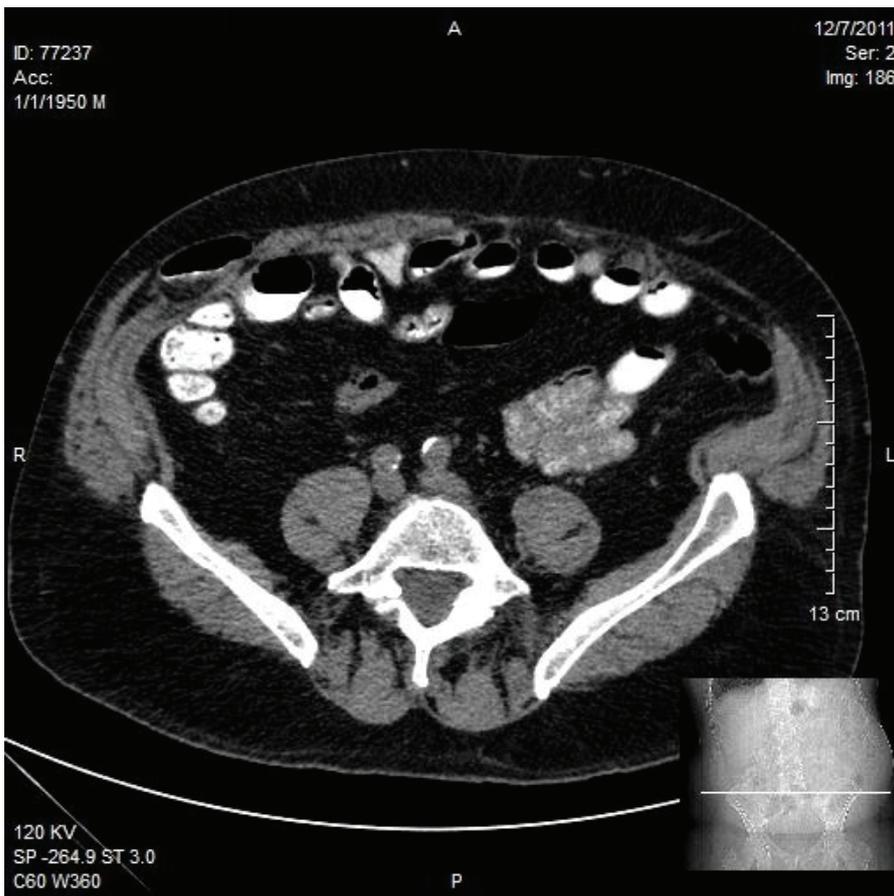
### Discussion

The Spigelian hernia, named after Adriaan van den Spieghel (1578–1625), a Belgian anatomist, is an infrequent hernia, accounting for as little as 12% of abdominal wall hernias<sup>1</sup>. The Spigelian hernia occurs at the point where the semilunar line crosses the semicircular line, where the fascias of the oblique and transverse muscles begin to split to allow the formation of two separate layers, leaving the overlying external oblique muscle and fascia intact. However, scarce reports of Spigelian hernia defects traversing the thick external oblique fascia also exist in the literature<sup>2-4</sup>.

The symptoms of a Spigelian hernia can be non-specific and intermittent, and might consist of vague abdominal pain, nausea and abdominal discom-

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**Figure 1:** Abdominal CT scan of the 63-year-old patient, with oral contrast, depicting the protrusion of a part of the ascending colon via the external oblique muscle.

fort. Owing to the coverage of the external oblique muscle, a protrusion is not always readily evident. U/S has been recommended as the first line imaging investigation in all patients with obscure abdominal pain<sup>5</sup>. Real time U/S offers the ability to perform an evaluation in both supine and upright positions, or while the patient performs a Valsalva manoeuvre. Oral contrast CT can also be useful in depicting the abdominal wall defect and its content. However, despite the usefulness of imaging studies in securing the diagnosis, they often yield false negative results<sup>2</sup> and the reported achievement of an accurate preoperative diagnosis still ranges from 47% to 92% in the literature<sup>6</sup>.

A notable percentage (21%–33%)<sup>4,6</sup> of patients with Spigelian hernias will present with a compli-

cation of their hernia, requiring an emergency operation. Spigelian hernias carry a significant risk of incarceration (14%–24.1%)<sup>3,7</sup> and strangulation (2.4%–14%)<sup>2</sup> because of the sharp margins around the abdominal wall defect. Accordingly, in our case, the patient neglected the initial symptoms and presented when bowel symptoms arose.

Primary repair has been the standard surgical treatment for this type of hernia<sup>3</sup> but the availability of mesh and laparoscopic techniques has increased the range of available options to choose from. Moreno-Egea et al.<sup>6</sup> recommended an extraperitoneal laparoscopic approach as the treatment of choice for elective treatment of Spigelian hernias. In this series, the laparoscopic approach was reported to be superior in terms

of morbidity and hospital stay<sup>6</sup>. In our case, we opted for a mesh repair due to the protrusion of the sac through the external oblique muscle and the size of the abdominal wall defect.

### Conclusion

A thorough physical examination along with high clinical suspicion remains the cornerstone in the diagnosis of the Spigelian hernia; additionally, modern imaging modalities assist in a timely and accurate preoperative diagnosis. Primary repair remains the treatment of choice, while other techniques can also be considered after considering the patient's characteristics and the hernia type.

### Consent

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.

### Abbreviations list

CT, computed tomography; U/S, ultrasonography.

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