

## Laparoscopic features and repair of a combined left Spigelian hernia and left Morgagni diaphragmatic hernia

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### ABSTRACT

Both Spigelian and Morgagni hernias cause serious morbidity so early diagnosis and timely treatment are necessary. These two types of hernia are more commonly found on the right side of patients. They are rare individually in adults and even rarer in combination. So far, an association between the two hernias has only been reported on the right. We describe the first case of a Spigelian hernia and a Morgagni hernia in a 62-year-old woman, both occurring on the left side. Our accompanying video describes several laparoscopic features that will help lead to early detection and diagnosis.

### KEYWORDS

Morgagni hernia – Spigelian hernia – Laparoscopy

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*A laparoscopic video of this case is available at:* <http://youtu.be/MXOuElueRcI>

Spigelian hernias and Morgagni diaphragmatic hernias usually occur independently. They are both on their own important causes of morbidity, hence early diagnosis and timely treatment are necessary.<sup>1,2</sup> Individually, these two types of hernias are both rare in adults. Only a single report of this association occurring on the right side of a patient with Williams syndrome could be identified.<sup>5</sup> Both types of hernias occur more commonly on the right side. We present the first case of an association of a left-sided Spigelian hernia with a left-sided Morgagni hernia.

### Case History

A 62-year-old woman was admitted as an emergency with a left iliac fossa swelling, which reduced spontaneously. Her past medical history included diabetes mellitus, hypertension and a left-sided Bell's palsy. She had previously experienced ankle ligament problems leading to left ankle fusion and rotator cuff tears.

The patient underwent an elective laparoscopy as the hernia site appeared to be higher than usual for an inguinal hernia. On laparoscopic inspection of the abdominal cavity, a left-sided Spigelian hernia was confirmed and a possible Morgagni hernia in the left hemidiaphragm was also noted. Owing to lack of consent, only the Spigelian hernia was initially repaired at laparoscopy, with an intraperitoneal mesh.

After informing the patient of the findings, elective computed tomography of the chest and abdomen was requested. This confirmed the suspicion of a Morgagni hernia. At laparoscopic repair of the diaphragmatic hernia, two adjacent defects were noted. Interior laparoscopic measurements showed the combined defect to be 8cm in maximal size and laparoscopic repair was effected with Proceed<sup>®</sup> mesh (Ethicon, Somerville, NJ, US). Following surgery, she was admitted to the high dependency unit for observation. She developed mild atelectasis of the lungs, which resolved. She remained well on discharge and at review 15 months after her diaphragmatic hernia repair.

### Discussion

Studies show that abnormalities of connective tissue may be an underlying predisposing factor to the formation of inguinal hernias.<sup>4</sup> A connective tissue disorder (namely of elastin), in association with Williams syndrome, was attributed to being the underlying cause explaining the multiplicity of hernias in the patient of the previously reported right-sided case.<sup>5</sup> In Williams syndrome, a strong genetic link with connective tissue disorders has been identified.<sup>5</sup>

In contrast, there was no recognised genetic syndrome in our patient; she had no learning difficulties, unlike individuals with Williams syndrome. However, our patient gave a history of recurrent ankle ligament problems and rotator cuff tears, suggesting that connective tissue abnormalities

may have played a role in the development of the two hernias, perhaps acting through a different pathway. For instance, abnormalities of connective tissue other than elastin may be at play. It has been found that in otherwise normal people, an imbalance in the ratio of different collagen types is associated with an increased likelihood of developing inguinal hernias.<sup>5</sup>

Early diagnosis and recognition of both hernia types is important since they cause severe morbidity such as strangulation of the bowel. In addition, a Morgagni hernia can have cardiorespiratory complications as a result of herniation into the chest.<sup>2</sup> Diagnosis may not be obvious and in particular, a Morgagni hernia may be missed at laparoscopy unless the diaphragm is inspected. Careful assessment is necessary, which entails looking past the falciform ligament and observing the area for several minutes to appreciate the presence of bubbles of air exiting the sac. This sign led to the laparoscopic diagnosis in the case we describe. Other signs include the characteristic folds of the

hernia edge and movements of the pleura during diaphragmatic movements.

These features are demonstrated in the accompanying video, which also provides a 360° view with evidence of the association of the two hernia types. To our knowledge, this is the first left-sided case reported in the literature.

## References

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