

Case Report

Laparoscopically Guided Repair of Spigelian Hernia with a Ventralex™ Hernia Patch : Report of a Case

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ABSTRACT

Spigelian hernias are rare, and the hernial orifice is often difficult to identify. We report a spigelian hernia whose orifice was identified with diagnostic laparoscopy and which was repaired with a Ventralex™ hernia patch and a minimal skin incision. To our knowledge, this is the first report of laparoscopic-guided spigelian hernia repair with a Ventralex™ hernia patch.

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Key words : spigelian hernia, laparoscopy, Ventralex™

INTRODUCTION

Spigelian hernia is a rare type of hernia that is generated on the spigelian aponeurosis and limited laterally by the semilunar line and medially by the lateral edge of the rectus abdominis muscles. Spigelian hernias account for 2% or less of all ventral hernias^{1,2}. Spigelian hernias are diagnosed most often in patients aged 40 to 70 years and show neither a sex difference nor laterality^{1,3}. Suggested risk factors are obesity and previous abdominal surgery⁴. Many reports have described the difficulty of accurate preoperative diagnosis and the efficacy of laparoscopic surgery³⁻¹³. Tension-free mesh repair has become the standard operation for a variety of hernias, including spigelian hernia. Various types of mesh, such as polypropylene and composite prosthesis, have been recommended for the repair of spigelian hernias^{3,4,6-11,13}. The Ventralex™ hernia patch (Davol Inc., C.R. Bard, Inc., Murray Hill, NJ, USA) is a circular bilayer prosthesis consisting of polypropylene monofilament mesh on the peritoneum side and expanded polytetrafluoroethylene surface on the bowel side, and is used as an

intraperitoneal onlay patch for repairing small ventral hernias. The Ventralex™ patch is delivered through a 2- to 3-cm minilaparotomy and does not require intraperitoneal fixation. We describe the use of Ventralex™ patch for the laparoscopically guided repair of a spigelian hernia.

CASE REPORT

A 79-year-old woman visited our hospital because of a protrusion and pain in the left lower quadrant of the abdomen for 1 year. The past medical history included a lower midline incision for hysterectomy 40 years earlier. The patient was 149 cm tall, weighed 52 kg, and had a body-mass index of 23.4 kg/m².

A protrusion, which was accompanied by a dull pain, the size of a chicken egg was palpable at the left lateral edge of the rectus abdominis muscle with the Valsalva maneuver. Because of thick subcutaneous fat, the hernial orifice was difficult to identify on palpitation. Computed tomography of the abdomen demonstrated the small intestine herniating from the left lateral edge of the rectus ab-

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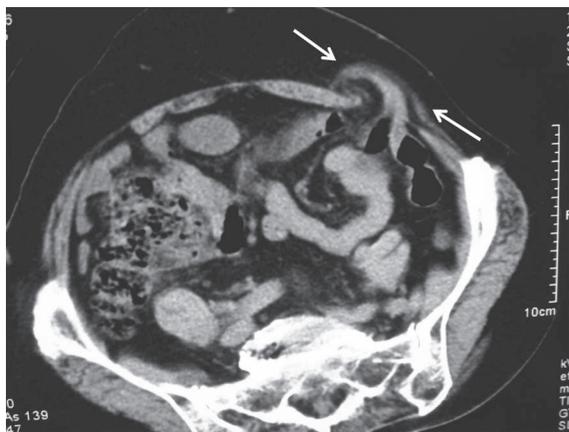


Fig. 1. Preoperative computed tomogram. The small intestine can be seen herniating through the left lateral edge of the rectus abdominis muscle (arrow).

dominis muscle (Fig. 1).

A spigelian hernia was diagnosed, and surgery was performed. With the patient under general anaesthesia, a 12-mm trocar was placed via Hasson's technique in the right upper quadrant of the abdomen for diagnostic laparoscopy. Pneumoperitoneum was maintained with CO₂, and a 30° laparoscope was inserted. A well-defined orifice measuring 15 × 20 mm was easily recognized adjacent to the lateral edge of the left rectus abdominis muscle, and the diagnosis of spigelian hernia was reconfirmed (Fig. 2).

To place a minimal skin incision just above the hernial orifice, the light source was advanced into the hernial orifice to transilluminate the orifice through the skin. A 2-cm skin incision was then made. Without an incision in the obliquus externus abdominis aponeurosis, the sac was identified in the subcutaneous fat layer and dissected circumferentially. The hernial orifice consisted of the transverse muscle of the abdomen and the obliquus internus abdominis. The aponeurosis of the obliquus externus abdominis was indistinct. A Ventralex™ patch (small, 4.3 × 4.3 cm) was folded double and inserted with Pëan forceps through the orifice directly into the abdominal cavity, while traction was applied to the positioning strap to hoist and position the mesh against the abdominal wall to cover the defect. The edge of the hernial orifice and the straps were fixed with 2-0 Prolene suture, and the excess strap was excised. Laparoscopic observation confirmed the complete coverage of the hernia orifice by the Ventralex™ patch (Fig. 3). The patient did not require any postoperative an-

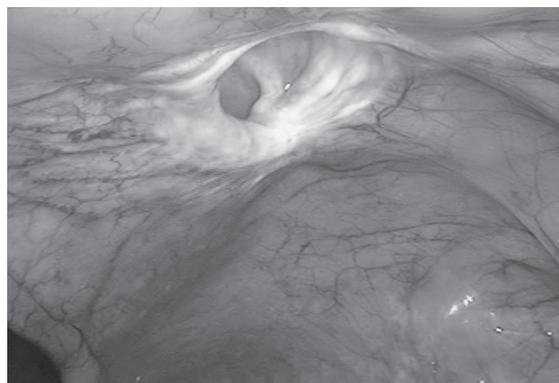


Fig. 2. Through a laparoscope, a 15 × 20-mm round defect is seen in the left lower quadrant.

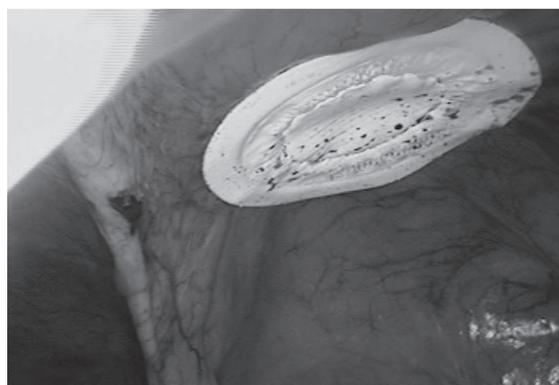


Fig. 3. The hernial orifice is fully covered with the Ventralex™ patch.

algescics and was discharged on postoperative day 2.

DISCUSSION

Spigelian hernia can be difficult to diagnose because there are no characteristic or consistent symptoms or clinical findings. Computed tomography and exploratory laparoscopy have been suggested to be useful for diagnosis^{4,8}. In the present case, because the hernial orifice was difficult to identify on preoperative physical examination, laparoscopy was used for both diagnosing the hernia and determining the site of the skin incision.

The standard method for repairing spigelian hernia was previously direct anatomical closure. Recently, however, tension-free mesh repair has become the standard operation for ventral hernias, even small ones, and has been performed via the open, totally extraperitoneal, or intraperitoneal approach with a laparoscope; good results have been obtained with each approach. Koehler et al. have reported

that of patients who had previously undergone incisional hernia repair, adhesion to implanted expanded polytetrafluoroethylene mesh was absent or minimal in 91%¹⁴. Because of the margin of mesh overlap, the Ventralex™ patch can be used for only small hernias, such as port sites and umbilical, small incisional, and spigelian hernias. A prospective randomized trial of surgical treatment of spigelian hernia has shown that laparoscopic surgery is superior to open surgery in terms of morbidity and hospital stay¹⁵. However, because repair with a Ventralex™ patch requires an incision of 2 cm or smaller, we believe this method of open repair can be recommended for small ventral hernias. Hadi et al. used Ventralex™ patches to repair ventral hernia in 51 patients and reported easier procedures and minimal complications¹⁶. So far, we have used Ventralex™ to repair hernias in 33 patients (15 incisional hernias, 14 umbilical hernias, 2 midline hernias, 1 sliding hernia of the urinary bladder, and 1 spigelian hernia). Although the mean follow-up period was short (24 months), clinically significant complications or recurrence did not develop in any patient.

Authors have no conflict of interest.

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