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Recurrent Spigelian hernia: a rare cause of colonic obstruction

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Abstract Spigelian hernia is considered a surgical rarity. Recent articles describe only six recurrent hernias and a scant number of patients with colonic obstruction resulting from incarceration. A patient with intestinal obstruction resulting from recurrent Spigelian hernia with strangulated colon is described. The patient underwent tension-free repair using a prosthetic mesh. Recent literature suggests that the deficiency of connective tissue in patients with hernias justifies the widespread use of permanent mesh for tissue reinforcement and avoidance of recurrences. The rare case presented should be regarded as an illustrative example for application of the tension-free repair principle in the definitive management of recurrent Spigelian hernia.

Keywords Spigelian hernia · Recurrence · Colonic obstruction · Tension-free repair · Prosthetic mesh

Introduction

Spigelian hernia occurs spontaneously through the semilunar line at the lateral border of the rectus abdominis muscle; this line forms and marks the transition from muscle to aponeurosis in the transversus abdominis muscle [21]. Spigelian hernia is considered a surgical rarity, possibly because of the intraparietal position of the sac leading to difficulty in establishing the correct diagnosis. The most extensive recent article on the subject reviewed 876 patients operated on for Spigelian hernia before October 1988. Of these, six had recurrent hernias [22]. An additional 64 articles on Spigelian hernia describe at least 125 patients with the condition. We found no report of a recurrent Spigelian hernia. This prompted us to describe our recent experience with an adult female patient who presented with recurrent Spigelian hernia.

Case report

An obese 65-year-old woman presented to the Emergency Department complaining of crampy abdominal pain and nausea of 2 h duration. She had a recurrent ventral hernia which had become irreducible and extremely tender after heavy lifting about 30 min preceding the onset of complaints.

The patient’s hernia had first appeared at the age of 52 years when a painful, reducible 5.0×3.0-cm bulge appeared to the left and slightly below her umbilicus. The hernia was repaired electively under general anesthesia using the patient’s own tissues; it recurred 1 year later. Elective repair without use of prosthetic material was performed again, and the hernia recurred approximately 4 months after the operation. The patient sought no further surgical attention. Her past medical history was unremarkable except for light, untreated arterial hypertension of 25 years duration and a recently discovered small duodenal ulcer for which regular H2-blocker therapy had been given for the previous 3 weeks.

On physical examination, the patient was in distress but seemed well-nourished and in good overall health. Her abdomen was moderately distended and slightly tender, but soft with intermittent hyperactive bowel sounds. There was an extremely tender and irreducible 6.0×6.0×8.0-cm hernia in the left inguinal region with no peristalsis (Fig. 1). The skin overlying the hernia displayed bluish discoloration and there was an old longitudinal scar over the bulge. Plain film of the abdomen displayed several gas-fluid levels. With the diagnosis of incarcerated hernia, the patient underwent emergency surgery under general muscle-relaxant anesthesia. Surgical exploration of the left inguinal region was carried out via a left pararectus anterior approach. The severely scarred external oblique aponeurosis was opened longitudinally and a huge hernial sac was found. This contained a livid but still viable loop of sigmoid colon and an infarcted portion of the greater omentum. The constricting ring was incised and the hernia released. The omentum was resected. The incarcerated bowel loop was wrapped into a towel soaked in warm saline. It regained color, peristalsis, and pulsations and was returned to the abdomen. Attention was directed toward the defect. It measured 3.0×4.0 cm within the internal oblique muscle, which was severely scarred from previous surgery. There was a well-recognizable 3.0-cm band of internal oblique muscle between the caudal defect margin and the internal inguinal ring, thus distinguishing the hernia from inguinal hernia [21, 22]. Medially, the defect bordered the rectus muscle.
The repair of Spigelian hernia is straightforward in most instances. Since the defect is usually small, simple closure is adequate [21]. The literature suggests that placement of sutures perpendicular to the transversus abdominis fibers results in less risk of incisional hernia formation [18]. This is probably the reason why recurrence of Spigelian hernia is highly unusual. Spangen was able to find only six reported recurrences; none of the patients of his large series presented with this complication [21, 22]. Other appearances of recurrent Spigelian hernia in the literature are rare. The risk factors implicated in hernia recurrence should be considered. The causes of recurrence can be divided into two broad groups: technical failure at the time of surgery and tissue failure in the years after successful surgery [9]. Technical failure includes missed hernia, inadequate tissue restoration, inadequate surgical technique, wrong choice of suture material, and wound sepsis. Correct preoperative hernia localization is essential, since the vast majority of Spigelian hernias have small sacs and are located intraparietally, beneath the external oblique aponeurosis. It is frequently impossible to detect small hernias by means of herniography. Small hernias were found at surgery in a series of 12 patients with negative radiography [24]. Intraoperative ultrasonography alone or in combination with pneumoperitoneum [16] was shown to be valuable for hernia localization in morbidly obese patients. Others proposed digital exploration of the suspected Spigelian hernia site through a mini-laparotomy [4]. Laparoscopy has proved to be a reliable though expensive and operator-dependent tool in diagnosing and repairing hernias [6,1].

Inadequate restoration of disordered anatomy can precipitate failure to restore all layers of the wound and bring together of the defect margins in a longitudinal rather than transverse direction. Spangen stressed the possibility of closing small hernia orifices preperitoneally [21]. Although he did not report recurrences, the preperitoneal repair might be associated with a higher recurrence rate [19], perhaps because all tissue layers cannot be closed through the posterior approach. Using the anterior approach, an excellent anatomic layer-by-layer closure can be achieved [20]. Placement of sutures too close or too far from the defect margin and pulling sutures too tight can result in hernia recurrence.

Although some authors insist that aponeurosis must be closed with a permanent suture material, there are no controlled studies demonstrating the superiority of one suture material over the other. The choice of suture

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**Fig. 1** Preoperative photograph of the patient. Note old scar on convexity of the lump

**Fig. 2** Schematic drawing illustrating: a the multi-tailed mesh screen and b the completed repair with the mesh lying over the peritoneum and beneath the musculopneumotic abdominal wall.