

# Spigelian Hernias

## Treatment and diagnosis in our experience



Ann. Ital. Chir., 2014 85: 610-612  
pii: S0003469X14021484

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### Spigelian hernias: treatment and diagnosis in our experience

**AIM:** *Spigelian Hernia (SH) is a rare ventral hernia with a high incarceration and obstruction risk. The purpose of this study is to present our experience in diagnosis and treatment of this rare hernia entity.*

**MATERIAL AND METHODS:** *The retrospective demographic characteristics, diagnostic tools and the surgical techniques of 17 patients who were treated between 2000-2010 are included in the study.*

**RESULTS:** *All patients had swelling and pain. All patients underwent preperitoneal mesh repair. No mortality or morbidity were recorded postoperatively. No recurrence was detected at the end of a 73 (13-115) month follow-up period.*

**CONCLUSIONS:** *Spigelian Hernia is a rare entity with a wide clinical spectrum and difficulties in preoperative diagnosis. Surgical mesh repair seems to decrease the complication and recurrence rates.*

**KEY WORD:** Hernia repair, Spigelian hernia, Surgery

### Introduction

Spigel Hernia (SH) occurs from a congenital or acquired defect in spigelian aponeurosis. This region lays between the lateral edge of the rectus muscle and the medial edge of the Spiegel's line, including the transversus abdominis muscle turning into its own aponeurotic tendon<sup>1,2</sup>. SH was first described by Klinkosch in 1764, and dedicated to Adrian Van der Spiegel who had described the spigelian region<sup>3</sup>.

The symptoms are variable and non-specific in SH. The most common symptom is pain and the swelling cor-

responding to that location<sup>1,2</sup>. High suspicion is needed for the clinical diagnosis. Palpable swelling at its typical location and pain should be warning signs. Delayed diagnosis causes emergency surgery and an increase in complication rates<sup>4-6</sup>. Surgical treatment is crucial in these clinically rare hernias once they are diagnosed<sup>1,5</sup>.

The purpose of our study is to indicate the factors that affect the morbidity and mortality.

### Material and Methods

The treatment modalities and results of 17 patients with SH who were operated at Şişli Etfal Training and Research Hospital General Surgery Clinic between 2000 and 2010 were analyzed retrospectively. The age, gender, diagnosis modality, performed surgery and postoperative complications were recorded from the patient files. Fifteen of 17 patients were reached and called for control to the outpatient clinic. The patients were evaluated for complications and recurrence.

The abstract has been presented in: Hernias International Congress of European Hernia Society, October 6-9 2010 Istanbul  
Pervenuto in Redazione Maggio 2013. Accettato per la pubblicazione Agosto 2013  
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## Results

The mean age of the 17 patients that were operated was 58 (32-84); of 17 patients, 5 were male and 12 were female (Table I). All patients had swelling and pain corresponding to that location. The mean period of symptoms was 6 (3-8) years. The diagnosis was confirmed with abdominal ultrasonography in 5 cases, and with abdominal tomography in 12 cases who had swelling and pain at linea semicircularis. The mean defect diameter was found to be 6 (2-12) cm. Primary hernia repair with prolene mesh was performed in all patients. The prolene mesh was placed preperitoneally in all cases. The mean hospitalization period was 4 (3-6) days, with no postoperative complications. In one patient with primary repair and preperitoneally polypropylene mesh patching, mortality happened due to hepatic impairment at 9th month postoperatively. The follow-up period was found to be 73 (13-115) months. Other patients who showed up for control had no recurrence at their follow-up.

## Discussion

Spigelian hernia is a rare type of hernia <sup>1</sup>. The evaluation of 17 cases that were operated in the last 12 years in our clinic showed that the surgery of these hernias whether with mesh or not has no effect on recurrence, morbidity or mortality. In the literature, there are not so many techniques that were described <sup>4</sup>. The special localization of SH complicates the diagnosis, and is more difficult than the treatment <sup>7,8</sup>. Most of the patients are diagnosed incidentally with their non-specific symptoms <sup>8</sup>. The differential diagnosis include rectus sheath hematoma, abdominal wall abscess, seroma, fibroma, lipoma, sarcoma and hemangioma at the same location <sup>9</sup>. The goal at diagnosis is to show the orifice or the pouch of the hernia <sup>7</sup>. In the first years, whereas showing the intestines in the pouch with the Barium graphy was the most important diagnostic tool, ultrasonography (USG) and a more certain diagnostic tool, computed tomography are used in the present for more accurate diagnosis <sup>10</sup>. Morenilla et al. recommended USG and CT as the most accurate diagnostic tool in their study with 162 patients with SH <sup>11</sup>. In our study, 5 of our patients were visualized with USG, and 12 of them were visualized with CT, and the diameters of the defects were measured preoperatively. The radiological imaging provided advantage in differential diagnosis, the measurement of the diameter of the defect and showing the intestines in the pouch. The one and only choice of treatment is surgery after diagnosis, and complete cure can be obtained <sup>5</sup>. Primary repair with open surgery, and repair with mesh for big defects are the surgical choices (7-9). Any ventral hernia repairment technique resulting in tension increases the recurrence rate up to 40%. However in the litera-

TABLE I - Demographic datas

	N
Risk Factor:	
Diabetes mellitus	7
Obesity (BMI>30)	9
Chronic pulmonary disease	8
Multiple pregnancy	12
Mean age	58 (32-84)
Gender (Male/female)	5/12
Location (Right/left)	8/9
Patient presentation (pain/swelling)	17/17

ture, it is reported that the surgical treatment provides very good results <sup>9,10</sup>. Spangan in his review of 876 SH patients stated that only 5 of the patients (0.7%) had recurrence <sup>12</sup>. Montes and Deysine repaired 25 SH in their 18 patients with mesh, and showed no recurrence in 6 years of follow-up <sup>13</sup>. Hsieh et al. in their prospective study with 11 patients (7 without mesh, 4 with mesh), compared the primary repair with mesh repair, and they found no difference in the 8 years of follow-up <sup>14</sup>. In Mouton et al.'s study where they included 35 repairs (24 with mesh, 11 without mesh) in 29 patients, they found radiological recurrence in 3 patients without mesh, and no recurrence clinically or radiologically in patients with mesh repair (15). There are many reports in the literature showing the safety of the laparoscopic surgical approach to SH <sup>16,17</sup>. Moreno-Egea et al, in their first, prospective randomized study that compares laparoscopic and open surgery techniques in SH reported no significant difference in morbidity and hospitalization period, and stated that the laparoscopic approach might be used safely (17). We performed open surgery for all of our patients in our clinic due to our lack of experience. We used preperitoneal mesh in all of our patients. We haven't detected any radiological or clinical recurrence in our patients in the long follow-up term. As a result, after the diagnosis of SH, which is a rare type of abdominal wall hernias, the surgical treatment doesn't require any special feature. However, in the existence of factors that increase the risk for hernia formation such as obesity, collagen vascular diseases and diabetes mellitus, we believe that the repairment with mesh may decrease the recurrence rates as in other abdominal wall hernias.

## Riassunto

L'ernia di Spiegel (SH) è un'ernia rara della parete addominale con elevato rischio di incarcerazione ed occlusione intestinale. In questo studio viene presentata l'esperienza degli autori in termine di diagnosi e relati-

vo trattamento riguardante l'esame retrospettivo di 17 pazienti osservati tra il 2000 ed il 2010, con descrizione delle caratteristiche demografiche, i messi diagnostici e le tecniche chirurgiche adottate.

Tutti i pazienti mostravano una tumefazione accompagnata da dolore, e tutti sono stati sottoposti ad una riparazione protesica, senza mortalità nè morbidità postoperatoria. Nel periodo in media di media di 73 mesi (da 13 a 115) del follow-up non è stata osservata nessuna recidiva.

Questo tipo di rara ernia presenta varibili motivi di difficoltà diagnostica in fase preoperatoria. La riparazione protesica sembra ridurre l'incidenza delle complicanze e delle recidive.

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