Intestinal adenocarcinoma as unexpected content of Spigelian hernia: when CT-scan it’s not enough

Chiara Eberspacher  
Domenico Mascagni  
Elena Pietraforte  
Gianmarco Grimaldi  
Daniele Pironi  
Stefano Pontone  
Simone Vetere  
Pavlos Antypas  
Angelo Filippini

Department of Surgical Sciences, “Sapienza” University of Rome, Italy

Corresponding Author:  
Stefano Pontone  
Department of Surgical Sciences, “Sapienza” University of Rome, Italy  
E-mail: stefano.pontone@uniroma1.it

Summary

Spigelian hernias are only 1-2% of all types and are considered a very uncommon condition: it develops through a weaker area between the semilunar line and the lateral edge of rectal muscle. There is an association with female sex, obesity, prior surgery, chronic obstructive pulmonary disease, abdominal trauma or coexistence of other wall defects. The content is intraperitoneal fat or omentum, sometimes small bowel or colon. Symptoms, like abdominal pain, lateral lump and altered bowel habits are linked to the most common complication: incarceration. The CT scan can be useful in confirming the abdominal wall defect and in discriminating the content and can help in the choice of the best surgical procedure, especially if there is an ischemia. In literature are described some case of atypical content, such as testicle in association with cryptorchidism in children or appendicular abscesses or abdominal wall tumor, especially in adults. We report a very unusual finding in a 81-year-old patient: a well-differentiated intestinal adenocarcinoma of left colon as content of a left Spigelian hernia. The patient was admitted to our Department because of abdominal pain, left abdominal lump and altered bowel habits. The preoperative CT-scan showed a large defect in lateral left abdominal wall and a content of sigmoid colon with abscesses and diverticula, but there were not signs of ischemia. It was chosen an anterior direct approach, performed an adhesiolysis, isolated the left colon and identified the abdominal wall defect. Despite the absence of CT or clinical signs of ischemia, the colon was included in necrotic tissue and partially twisted. It was performed a left hemicolectomy through the hernia defect and side-to-side colonic anastomosis reconstruction. After the bowel replacement, the abdomen wall was reconstructed without mesh or other devices in order to reduce the infection risk. The diagnosis of well differentiated (G1) intestinal adenocarcinoma, necrotic, infiltrating the bowel up the subserosa was performed only after histological examination. The CT-scan was not able to differentiate the neoplasm from diverticular abscess, and even during the operation there was no a definite suspect, probably because the loss of normal anatomy due to the chronic inflammatory process. According to some studies the CT-scan has an importance in distinguishing the type of Spigelian hernia, but it is not so clear in discriminating the content, as it happened in our case, when the correct diagnosis of colon cancer concomitant with diverticula and abscess was possible only with the later microscopic examination.

KEY WORDS: Spigelian hernia, adenocarcinoma, abdominal pain, diverticulitis, CT-scan.

Background

Among all abdominal wall defects, Spigelian hernia may be considered a very uncommon kind. According to literature, only 1-2% of all hernias appears as antero-lateral mass due to a weaker area between the semilunar line and the lateral edge of rectal muscle, as described for the first time by Adrian van der Spieghel (1). Even if the Spigelian hernia content is frequently represented by intraperitoneal fat or omentum, in several cases, the small bowel or colon are unusual findings. Most of Spigelian hernia are acquired and they are classically associated with female sex, obesity, prior surgery, chronic obstructive pulmonary disease, abdominal trauma or coexistence of other wall defects (2). Usually, the lateral abdominal lump, pain (described as sharp, constant or intermittent) and sometimes nausea, vomiting or altered bowel habits are symptoms that only appear after the most common complication: the incarceration. The clinical diagnosis is quite difficult (3) and the use of CT-scan can be useful to confirm the abdominal wall defect and to analyze the hernia content (4). We report a case with a very un-
usual finding as content of Spigelian hernia: an adenocarcinoma, correctly diagnosed only after histological examination, despite the use of CT-scan in the preoperative time.

Case Report

An 81-year-old Caucasian patient was admitted to our surgical department because of abdominal pain, left abdominal lump and altered bowel habits. His clinical history was characterized by chronic ischemic heart disease, hypertension, hyperlipidemia, chronic obstructive pulmonary disease, obesity and diverticular disease. In the past he was submitted to coronary stenting for heart stroke, right hip replacement and bilateral inguinal hernia repair. He took a therapy with thiazide diuretics, platelet antiaggregants, beta blockers, calcium antagonists, gastric protectors and alfa-zosin for prostatic hyperplasia. At the admission the patient had remittent mild fever and was dyspneic, he complained about nausea and inappetence. Blood exams showed neutrophilic leukocytosis, with 18.000 white cells per milliliter and 80% of neutrophils, an high PCR level, with a 17.83 mg/dl value and a decrease in albumin, with 2.6 g/dl. The abdominal mass well defined, with a 30 cm maximum diameter and a hard parenchymatous consistency, slightly painful, covered by normal skin, that could not be reduced in abdomen. There were no clinical signs of obstruction and perforation, only feces were diarrheal: abdomen could be palpable without pain except the lump and digital rectal examination has not revealed blood or other abnormal conditions. He underwent an abdominal CT-scan (Figs. 1-2) who revealed a large defect (94 mm) in the left lateral abdominal wall, in correspondence of Spigelian line, with a content characterized by sigmoid-colon. There were no signs of ischemia, but the incarcerated bowel sections were studded with abscesses and diverticula (Fig. 2). After the CT diagnosis of diverticular abscess herniated as content of a Spigelian hernia, systemic antibiotic therapy with metronidazole was performed in order to reduce fever and create the ideal conditions for the surgical treatment. After three days of hospitalization he had a pulmonary edema basically due to urinary retention, treated with diuretic therapy and placement of a foley catheter. After two weeks the patient underwent surgical treatment through a direct anterior approach under general anesthesia. It was performed a transverse incision over the abdominal mass; after a accurate adhesiolysis the left colon was isolated and the abdominal wall defect was identified: the maximum length of the abdominal gap was about 10 centimeters (Fig. 3). Despite the absence of CT or clinical signs of ischemia, the colon was included in necrotic tissue and partially twisted. A left hemicolectomy through the hernia defect and side-to-side colonic anastomosis reconstruction were performed. After the bowel replacement, the abdomen wall was reconstructed without mesh or other devices in order to reduce the infection risk. Histological examination revealed a well differentiated (G1) intestinal adenocarcinoma, necrotic, infiltrating the bowel up the subserosa, with no peritoneal or lymph node invasion. Resections margins were tumor-free. The patient needed a clinical stabilization in the Intensive Care Unit especially because of the heart and respiratory preoperative conditions. He had a slow recovery of the bowel function, with episodes of vomiting: in the fifth postoperative day the execution of abdomen radiography showed a distension of all colon tract and gastrectasia, but no signs of perforation or obstruction. He was treated with prokinetic agents until the complete recovery of bowel function in the tenth postoperative day. There were no complications linked to the surgical site and the sutures were removed in the tenth postoperative day. The patient was dismissed on twentieth post-operative day in order to achieve a good respiratory and cardiac performance upon returning home.

Discussion and Conclusions

Despite the suggestive clinical presentation and the typical CT scan images, the definition of Spigelian hernia can be difficult, and in some cases the content can be only investigated with a postoperative histological examination. As described, Spigelian hernia can be congenital with a mean age of presentation is 2.7 years. In their review Moles Morenilla et al. (5) report the close association with cryptorchidism, in which the usual content is testicle, and with inguinal and umbilical hernia, in which omentum and bowel are often found. In acquired types the most common content is bowel and abscesses, but there are some cases in literature of atypical content. There are some reports of appendicular abscesses: Demetriou et al. (6) described an appendicular abscess with appendicolitis which appeared as a caecal volvulus in CT images. As in our case the real diagnosis was clear only after the surgical treatment. Allevart et al. (7) reported a case of primary serous papillary carcinoma of the peritoneum. Before the surgical procedure the images
showed only an heterogeneous that extended from umbilicus to the right groin, even if associated with cystic pelvic masses and peritoneal masses. Only the histological examination of the herniated omental cake proved its nature of tumor, as well as the peritoneal masses were proven to be tumoral spread. In fact, the atypical content was not the diverticular colon, but the intestinal adenocarcinoma. Neither the clinical examination nor the CT scan were able to differentiate the abscess from a neoplasm. Even during the operation there was no a definite suspect, probably due to the loss of the usual anatomy of the left colon, disrupted by the chronic inflammatory process. There are some studies being published that enrolls CT scan as the instrument to distinguish between the subtypes of Spigelian hernia (8), but it is controversial the real role in discriminate content of this hernia, as shown in literature and in our case (9).

Considering that, especially in case of diverticular disease with abscesses that could be considered a risk factor for concomitant colon cancer (10), even if was difficult to identify a cancer (11), a colon cancer as content of a hernia should never be excluded. This difficulty increases in a bowel squeezed between abdominal wall and subcutaneous tissue, as in our case, and greatly limits the power of definition of CT scan. Thus, our case supports the choice of the anterior open approach as standard surgical treatment when the viability of the bowel is uncertain or bowel incarceration was suspected (12, 13).

We report the case of an intestinal adenocarcinoma, presented as atypical content of a Spigelian hernia. The correct diagnosis was possible only after surgical treatment and subsequent histological examination. This condition represents a CT scan limitation before surgery, probably provoked by bowel and abdominal wall inflammation that, together with abscess, obscures the tumor identification. In this case in which neither the clinical examination nor the CT scan were able to differentiate the abscess from a neoplasm, the anterior open approach should be adopted as standard surgical treatment.

References
