Capter 137

Malignant neoplasia of sigmoid colon in incarcerated left inguinal hernia: case report

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ABSTRACT
Colon carcinoma in an incarcerated inguinal hernia is an uncommon finding. Few cases are reported in the literature. It usually appears in the left inguinal hernias and includes part of the sigmoid colon. Palpation of a tumor in a previously non-existent hernia and the presence of bowel symptoms help with the diagnosis. An incarcerated inguinoscrotal hernia is noted as a mass in the inguinal and scrotal region, which cannot reduce spontaneously. It is more common in men, infants, and the elderly. The presence of an intermittent mass in the inguinal region is the classic picture of patients with hernia. If it evolves to incarceration, it may present vomiting, colic pain, abdominal distension, and stop in the elimination of feces and gases. The diagnosis of an incarcerated hernia is usually made through palpation on physical examination. However, in some cases, computed tomography of the abdomen with contrast is used, or even ultrasound of the entire abdomen. An inguinal hernia may surprise the surgeon at the time of surgery. The presence of the sigmoid colon, in an inguinal hernia, without associated alterations, is a rare entity, and alterations such as colon cancer or even sigmoid diverticular disease are usually found. A rare case is presented in which the hernial sac contains the sigmoid colon with the onset of ischemic suffering, culminating in a sigmoidectomy with lymphadenectomy and exteriorization of the proximal loop using the Hartman technique.

Keywords: inguinal hernia, incarcerated sigmoid, intestinal obstruction.

1 INTRODUCTION

Inguinal hernias are the most frequent in clinical practice, representing about 75% of all abdominal hernias. It is more common in men, infants, and elderly Caucasians3. Colon cancer as the content of an inguinal hernia is a rare situation4,7. About 10% of inguinal hernias become incarcerated, causing strangulation, bowel obstruction, or infarction. Inguinal hernias may contain small or large intestine, vermiform appendix 1,2, epiploon, ovary, and fallopian tube, among others. These cases are rare and are generally associated with situations in which there is a late demand for Health Services, as their evolution may take a few months to reach this situation. Cases like the one reported are still observed today, either due to insufficient information, the patient's failure to seek a doctor, or an insufficient health service to care for its users.

The content of inguinal hernias varies widely, but in our case, the content of the hernial sac was a portion of the incarcerated sigmoid ansa, probably due to its redundancy. It is rare to come across findings that confirm malignancy in the inguinal hernial sac, which occurs in about 0.5% of cases6,9,14. In most cases, only the clinical examination of the patient is enough to diagnose a complicated inguinal hernia, as in the case presented here. Left inguinotomy was previously performed, followed by exploratory median laparotomy with segmental colectomy, lymphadenectomy, and Hartman colostomy. An inguinal hernia may surprise the surgeon at the time of surgery. The presence of a sigmoid colon in an inguinal hernia, with associated alterations, is a rare entity and usually, there are certain surprises in the intraoperative period, such as malignant sigmoid cancer5.

2 OBJECTIVE

To report the case of a 71-year-old male patient with an inguinal hernia on the left, admitted to the Emergency Room of the Hospital São Lucas in Belo Horizonte-MG, after 8 months of evolution and who underwent surgical correction, in the emergency room, of an inguinoscrotal hernia with the incarceration of adenocarcinoma of the sigmoid colon. In the past pathological history, there was a record of prostatism for more than 5 years and the patient was using doxazosin 2 mg daily.

3 METHOD

The information contained in this study was obtained by analyzing the hospital's medical records and by reviewing the literature in the Medline, Capes, and Scielo journals portals. In a succinct explanation, MEDLINE is the acronym for the term in English Medical Literature Analysis and Retrieval System Online, which means Online System for Search and Analysis of Medical Literature. It is a Health database that concentrates on the collection of the US National Library of Medicine. The CAPES journal portal is a virtual library that brings together more than 30,000 titles of international scientific production, with emphasis on newspapers and periodicals in the most diverse sectors of health. The São Paulo Research Foundation (FAPESP), in partnership with BIREME, conducted a research project that gave rise to SciELO,

which in translation into Portuguese means Online Scientific Electronic Library. The portal brings together a vast collection of academic journals produced in Brazil in the most diverse areas of knowledge, including medicine, physiotherapy, and nursing.

The choice among the available research databases took into account some factors such as the subject used, its relevance, and the addition of keywords.

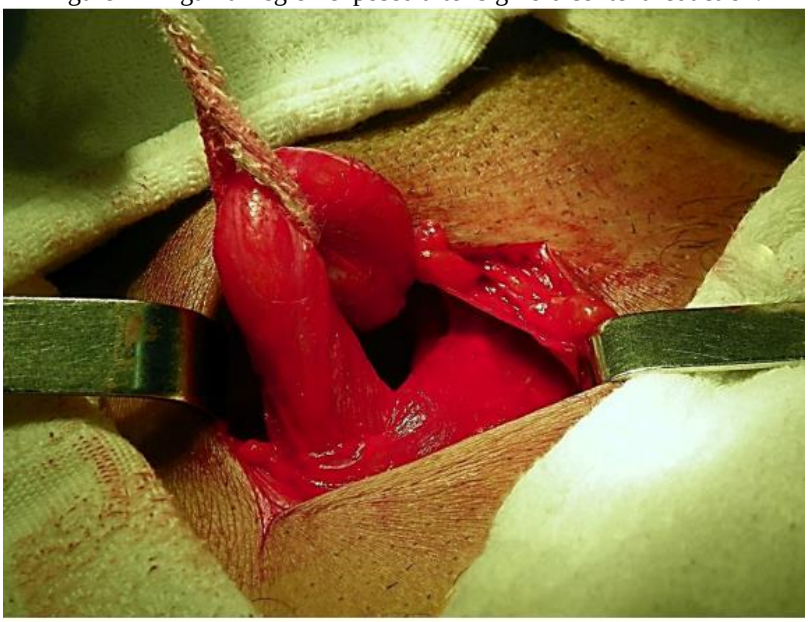
4 CLINICAL CASE

A male patient, 71 years old, with no medical history of significant comorbidity, except prostatic hyperplasia, was admitted to the Emergency Room of Hospital Geral São Lucas in Belo Horizonte -MG, with an 8-month history of unilateral left inguinal hernia, without previous history of incarceration, which began with the appearance of a tumescence over the left inguinal region 12 hours ago from the moment the care was performed (incarceration) with local low-intensity pain not related to physical exertion and with hernial irreducibility, associated with the history of discreet elimination of blood per anus, fatigue and weight loss of 4 kg in 2 months. Concomitantly, he reported a history of alternating constipation and diarrhea. In the last 6 hours, the pain in the inguinal-abdominal region on the left had worsened, colic-like and the cardinal symptoms were pain, nausea, vomiting, stop in the elimination of gases, feces, and abdominal distension. The pain was colic, with a sudden onset, in a cluster, occurring at regular intervals, located in the inguinal region, flank, and left iliac fossa.

On physical examination, the patient's general condition was preserved, with good nutritional status, slightly pale, eupneic, and with slightly reduced perfusion. A large painful irreducible mass was palpated in the left inguinal region. The blood test revealed a white blood cell count of 12,500 cells/mm3 and a hemoglobin value of 9g/dL. The patient underwent elective surgery through a left inguinal incision (Pfilizet incision) and infra umbilical midline laparotomy. The hernial sac contained part of the sigmoid colon that could be reduced to the abdominal cavity after careful tactical maneuvers and techniques (Figures 1 and 2).

Figure 1 - Sigmoid colon that was present inside the hernial sac.

Figure 2 - Inguinal region exposed after sigmoid content reduction.



The reduced sigmoid colon presented a neoplastic tumor without a perforation site but already with focal areas of vascular ischemia. A left colectomy with lymphadenectomy and Hartman colostomy was performed, and the inguinal hernia was repaired using the Lichtenstein technique. The patient evolved without complications and was discharged on the 7th postoperative day. The anatomopathological examination of the tumor revealed a well-differentiated adenocarcinoma with serious invasion. Twelve lymph nodes were examined in the surgical specimen and no neoplastic cells were found.

5 DISCUSSION

Hernia is an abnormal protrusion with peritoneal lining, through a congenital or acquired hole in the muscle-aponeurotic covering of the abdomen, which may result in the inability to keep the visceral contents of the abdominal cavity in its usual place. Many cases of hernia may be related to one or more risk factors, isolated or combined, such as smoking, obesity, professional activities, and collagen deficiency. Anatomical alterations, whether acquired or congenital, promote an increase in intra-abdominal pressure and, for this reason, are factors already established in the literature as participating in the etiopathogenesis of inguinal hernias.

The reported patient had an important history of prostatism with an evolution of more than 3 years. There is a discussion about the genetic predisposition that would determine a worsening in the quality or progressive degradation of the collagen tissue, culminating in a weakening of the wall of the inguinal canal and the transversal fascia, which could lead to the development of the hernia

Inguinal hernia is a common clinical condition that can have varied contents in its hernial sac and the content is constantly increasing2,10,11. Physical examination in the first 24 hours may reveal very few abnormal findings, except during periods of colic, vital signs remain normal, and dehydration and distension are not yet pronounced. There is the defense of the abdominal wall during palpation, and the

discovery of a mass or a restricted area of pain is suggestive of strangulation3. Auscultation is of great value, as the abdomen is silent, except in attacks of colic, in which the noises are loud, high-pitched, and metallic. Around the second or third day, the disease visibly worsens, when dehydration and distension are accentuated and vital signs change, although simple obstruction only leads to shock later on12,13.

The hernia volume of this patient was irreducible and without severe pain on palpation, with the presence of a large intestine surrounded by a hyperechogenic circular area. The ultrasound examination was carried out with a multifrequency convex probe adjusted at 3 and 5 MHz, where a hyperechoic structure of approximately 8 cm in diameter, circular, was verified inside which, immediately below the skin, a structure compatible with a large intestine, with contours and normal echogenicity.

The diagnosis was an incarcerated indirect inguinal hernia and the patient underwent general inhalation anesthesia for a surgical approach through the inguinal region, where the sigmoid was visualized emerging through the external inguinal ring, whose diameter was approximately 10cm. Colon carcinomas in inguinal hernias are classified as intrasaccular and saccular type tumors. Abdominal radiography is essential for diagnostic confirmation and a better understanding of clinical data, as well as helping to elucidate etiologies. The contrast can be used if there is no contraindication (suffering from the loop), thus performing the intestinal transit and barium enema, the first being to differentiate whether it is partial or total obstruction and the other when there is suspicion of bowel obstruction distal small intestine and colon. There are other tests such as angiography, ultrasonography, and laboratory tests, the latter allowing the assessment of the degree and type of metabolic imbalance, which will be fundamental for therapy, defining whether or not there is vascular distress8,12.

The sigmoid presented normal coloration and content, with some foci of ischemia and part of the body of the organ and the mesocolon projected into the inguinal canal going to lodge in the left scrotum, through the internal and external inguinal ring, which were accessed to facilitate the repositioning of the organ within the abdomen.

The inguinal canal is a virtual and flat space, present between the internal and external inguinal rings, through which some abdominal structures pass to lodge in the inguinal subcutaneous region. After antisepsis, a Pfilizet skin incision was made over the swelling in the inguinal region, followed by blunt dissection of the subcutaneous tissue that was formed, cranial to the inguinal ring. A bag measuring approximately 10 cm in size was found. This pocket of subcutaneous tissue was incised and, inside, 60% of the body of the sigmoid and its mesocolon were housed. The proximal part of the sigmoid body was projected into the abdominal cavity, through the internal inguinal ring with a dilation of almost 10 cm.

The herniated part of the sigmoid was without adhesions, with normal color and content, except for some small seromuscular ischemic points and the external inguinal ring was dilated and without signs of inflammation, measuring around 10cm in diameter.

Given the difficulty of reduction, an infraumbilical median laparotomy was chosen to facilitate the reduction of the herniated content without opening the intestinal loop and consequent contamination by

fecal content. To replace the sigmoid in the abdominal cavity, it was necessary to enlarge the opening of the internal inguinal ring by approximately three centimeters, through a blunt incision with Metzenbaum scissors on its cranial edge, increasing its final diameter by approximately 13 cm. After repositioning the sigmoid in the abdominal cavity, respecting its topography, the internal inguinal ring was sutured using the Marcy technique, with polypropylene thread No. 2.0, creating interrupted Halsted stitches. Then, the Lichtenstein technique was performed.

The thread of choice for suturing the internal inguinal ring was polypropylene due to its characteristics of being a little reactive, having good tensile strength and flexibility, being non-absorbable, and stimulating the formation of fibrosis, which, in addition to constituting the same structural characteristic of the ring inguinal, favors the formation of a mechanically resistant tissue, reducing the chance of recurrence. However, the formation of a fibrous scar requires more healing time, which is why it was advised to start work only after 30 days.

We chose to perform the standard Lichtenstein technique originally published by Irving-Lichtenstein (fixation of the 14cm x 7.5cm polypropylene mesh in the inguinal ligament and joint area, with the mesh positioned between the spermatic cord and the posterior wall). due to the great weakness of the fascia transversalis wall (Nyhus type 3 B hernia) and which was performed without difficulties. The treatment for the patient in question implied a greater chance of complications in the postoperative period, both due to his advanced age and also because he was an oncological patient and certainly immunosuppressed, adding to this the risk of evolution with incarceration and the greater difficulty reduction of its contents into the cavity, increasing the chance of local complications in the left iliac fossa and pelvis due to peritonitis or even hernia recurrence. Hence the importance of not delaying the treatment of this condition, seeking to treat it in its early stages so that the correction is effective and less traumatic for the patient. Thus, we opted for a Hartman colostomy after correction of the hernia condition, in which the basic principle was the use of a polypropylene mesh.

6 CONCLUSION

Incarcerated inguinal hernias containing an adenocarcinoma of the colon are uncommon but must be kept in mind in patients who indicate an irreducible mass in the inguinal region. The association of colon symptoms with the irreducibility of a previously reducible hernia may provide a good sign for the presence of neoplasms within the hernial sac.

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