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Treatment of a half century year old giant inguinoscrotal hernia. A case report

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ABSTRACT

INTRODUCTION: Inguinal hernias, although a common medical entity, can on rare occasions present as giant inguinoscrotal hernias, mostly because of the patient's rejection of timely surgical management.
PRESENTATION OF CASE: A 77 year old patient, with a giant inguinoscrotal hernia history for more than 50 years, was advised to undergo surgical treatment due to recurrent urinary tract infections and vague abdominal pain. Physical examination showed a right sided giant inguinoscrotal hernia extending below the midpoint of the inner thigh. Preoperative CT examination confirmed a giant inguinoscrotal hernia containing the whole of the small bowel along with its mesentery.
DISCUSSION: Giant inguinoscrotal hernias are classified into three types based on size, with each one posing a challenge to treat. There are a number of surgical options and recommendations available, depending on the type of hernia. They require close postoperative observation, because the sudden increase in the intra-abdominal pressure can account for a number of complications. Our case was classified as a type II hernia, having longevity of more than 50 years. Despite this, it was treated with forced reduction and no debulking through an extended inguinal and lower midline incision, forming a 'V shaped' incision. Patient recovery was uneventful and he was discharged on the 10th postoperative day.
CONCLUSION: Preoperative management and the correct surgical plan depending on the case are key elements in the successful treatment of this rare surgical entity.

1. Introduction

Giant inguinoscrotal hernias are a surgical entity, rarely encountered in modern clinical practice due to early diagnosis and surgical management. They are usually seen in rural population and account for a number of clinical complications. They can cause difficulties in walking, sitting or voiding. Their surgical repair, apart from technically demanding, may predispose to a number of postoperative complications like respiratory or cardiac distress, or recurrence. We present a rare case of a patient with a giant inguinoscrotal hernia, which had escaped treatment for 55 years, and finally accepted surgical treatment. A description of the different treatments for such entities and our approach to the matter is discussed.

2. Presentation of case

A 77 year old male was admitted to our surgical department regarding surgical treatment of a giant inguinoscrotal hernia. He had a 55 year history of right inguinal hernia, but due to social factors he avoided any surgical management. Increasing abdominal pain over the last few months, along with dyspeptic symptoms and recurrent urinary tract infections, led him to the decision of finally accepting surgical treatment. His past medical history included hypertension and no previous abdominal surgery.

Physical examination revealed a giant inguinoscrotal hernia below the midpoint of the inner thigh (Fig. 1). It was irreducible with no signs of inflammation or ulceration. The patient complained of recurrent urinary tract infections for the previous 12 months. CT examination prior to the surgery revealed an inguinoscrotal hernia containing the whole of the small intestine along with its mesentery.

The patient was admitted to surgery. Under general anesthesia, a right inguinal incision was made. A giant hernia sac was uncovered and separated from a stretched spermatic cord, which contained the whole of the small bowel along with its mesentery. Forced reduction of the bowel through the deep inguinal ring proved to be impossible, so it was decided to perform an extended lower midline incision and connect it with the inguinal incision, in order to allow better access to the abdominal cavity (Figs. 2 and 3). The small bowel was placed back in its original position with no debulking necessary, but unfortunately the right testicle was found to be

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Fig. 1. Giant inguinoscrotal hernia extending below the midline between mid-inner thigh and suprapatellar bone lines.

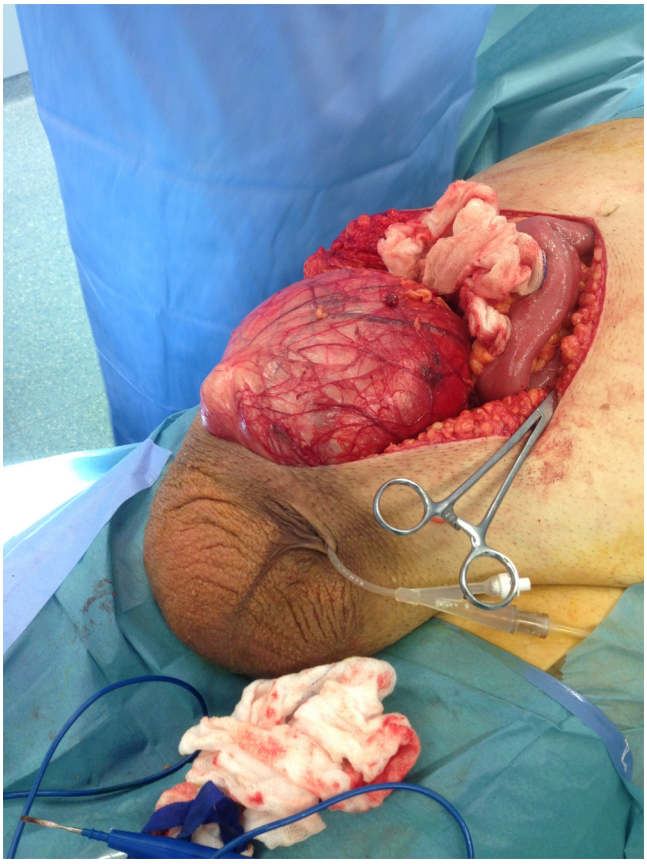

Fig. 2. Giant hernia sac containing the whole of the small intestine along with its mesentery.

ischemic and was resected. A double mesh, sutured on the posterior wall of the inguinal canal and the posterior wall of the rectus muscle was inserted. Finally, a drain was placed in the inguinal canal and the scrotum. The scrotal skin was left (Fig. 4).

The patient was admitted to ICU after surgery for observation. The postoperative period was uneventful, with the patient having no signs of respiratory distress or other complications. The scrotal drain was removed on the 4th postoperative day and he was discharged on the 10th postoperative day. No hematoma or scrotal edema developed and at 6 month follow up he showed no signs of recurrence or further urinary tract infections (Fig. 5).

3. Discussion

Giant inguinoscrotal hernias are usually found in rural populations, since pain in the inguinal region forces the patient to visit a surgeon at early stages of hernia formation. They are defined as hernias which extend below the midpoint of the thigh while standing, and have a detrimental effect on a person's quality of life, with both social and psychological impact [1,2]. They can cause difficulties in walking, voiding or sitting. In addition, patients with giant inguinoscrotal hernias suffer from recurrent urinary tract or skin infections due to irritation by and dripping of urine on the scrotal skin [3]. They can also present with eczema of the scrotal skin or ulcers [3]. The testicles are usually non palpable.

They are easily diagnosed during physical examination, while a CT exam is helpful in identifying the contents of the hernia's sac for better preoperative management and decision making regarding surgical therapy.

A number of techniques have been described for the surgical treatment of giant inguinoscrotal hernias. The aim of surgical therapy is to reduce the sac's contents back in the abdominal cavity. This can be achieved with two ways:

- Forced reduction of the sac's contents in the abdominal cavity (usually through the deep inguinal ring) [4].
- Debulking of the hernia's contents, which usually involves the resection of small bowel, colon or greater omentum [5].

Because of increased intra-abdominal pressure postoperatively, there are techniques that help increase the abdominal space. This can be achieved preoperatively with the progressive creation of pneumoperitoneum by insufflating air in the abdominal cavity for 2 weeks [6]. During surgery, this is feasible by creating an anterior abdominal wall defect by using a mesh and myocutaneous scrotal flap as coverage. Another technique is to use the hernia sac as a peritoneal flap and cover it with a prosthetic mesh [7,8].

Giant inguinoscrotal hernias can be very challenging to treat. One of the major problems concerning surgical management of this entity are the postoperative complications. They are mostly caused by the loss of abdominal domain for a long period of time and the sudden increase in intra-abdominal pressure after replacement of the hernia's contents back in the abdomen. The abdomen adapts to being empty for long periods of time and this causes postoperative complications the longer the giant hernia exists. Increased intra-abdominal pressure can lead to diaphragm dysfunction and respiratory or cardiac distress. It can also lead to reduced venous blood return, bowel obstruction or even wound dehiscence [9].

A recent review from Trakarnsagna et al. classified giant inguinoscrotal hernias into three categories, depending on the length of the scrotum from the mid inner thigh, while recommending an appropriate surgical approach [10].

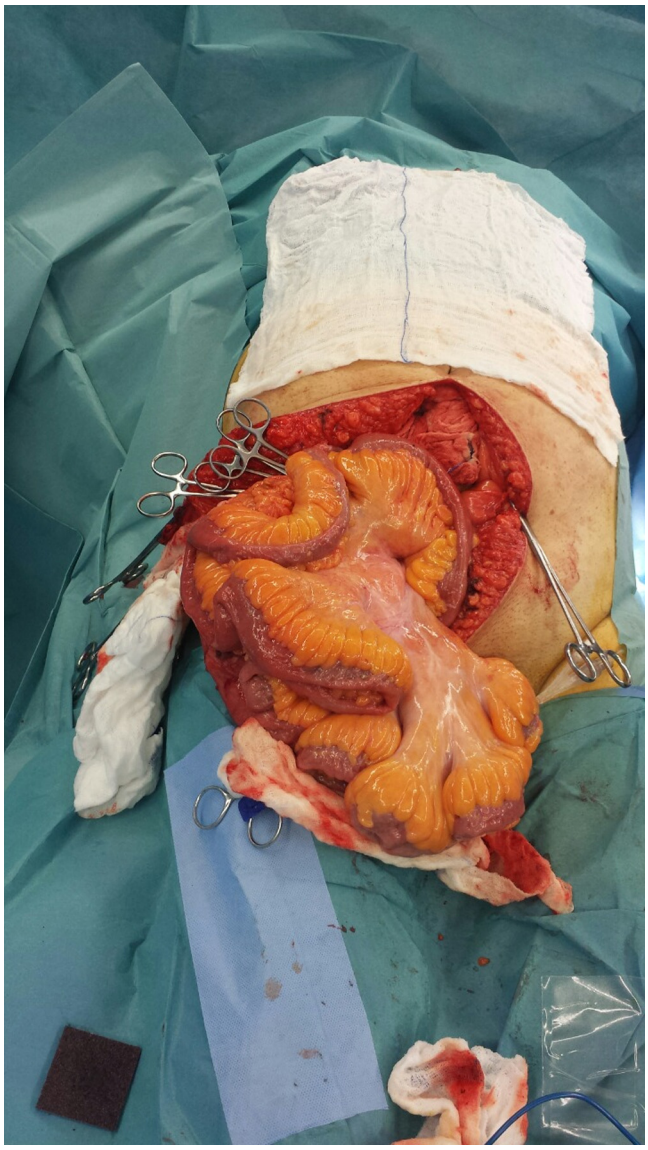

Fig. 3. Giant hernia sac containing the whole of the small intestine along with its mesentery.

Our case was classified as a type II giant inguinoscrotal hernia, since the scrotum was extending below the midline between mid-inner thigh and suprapatellar bone lines. Current medical literature for this type of giant inguinal hernias suggests hernioplasty with possibly debulking and an abdominal wall lengthening procedure [10]. The fact that our patient had giant inguinal hernia for more than 50 years also played a major role in the surgical management and decision making. No intra-abdominal volume increase procedure was performed preoperatively or during surgery, despite the longevity of the hernia. During surgery, we were unable to perform forced reduction of the sac's contents in the abdominal cavity through the inner inguinal ring. As we did not wish to perform a debulking procedure, we performed a lower midline incision up to the penis and connected it with an extended right inguinal incision ('V' shaped). This maneuver provided us with the required access into the abdominal cavity, which ensured the placement of the small bowel in its original place. The spermatic cord was found stretched and the right testicle ischemic, so it was resected.

This maneuver could lead to wound dehiscence, inflammation or recurrence of the hernia, so the scrotal skin was left redundant; to act as a protection net in case there was a recurrence of the

Fig. 4. Successful treatment of giant inguinoscrotal hernia with a drainage placed in the inguinal canal and one in the scrotum.

hernia due to increased intra-abdominal pressure postoperatively [4]. A double mesh was subsequently sutured in the posterior wall of the inguinal canal and behind the rectus muscle. A drain was placed in the inguinal canal and the scrotum to avoid creation of a hematoma. Patient recovery was uneventful throughout the whole postoperative period.

4. Conclusion

Although rare in clinical practice, giant inguinoscrotal hernias can pose a real challenge regarding their surgical management during and after surgery. They require thorough preoperative management in order to facilitate the best plan available from a number of surgical options, and close postoperative observation due to a number of possibly fatal complications. Our case, despite the longevity and size of the hernia, was successfully treated with minimal surgical modalities, an uneventful recovery and no recurrence.

Consent

Written informed consent was obtained from the patient for publication of this case report and corresponding images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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None.

Fig. 5. 6 month follow up showing no signs of recurrence and good wound closure.

Conflict of interest

All authors declare that they have no conflict of interest.

Ethical approval

None.

Author contribution

GD, GS, SS, contributed in the study concept, data acquisition and data analysis. AB and KK contributed in the data analysis. GD, GS, SS and AB wrote the paper. All authors read and approved the final version of the submitted manuscript.

Guarantor

None.

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The work has been reported in line with the CARE criteria.

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