

# GIANT BILATERAL INGUINAL HERNIA- ORIGINAL SURGICAL ATTITUDE: CASE REPORT

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**Abstract:** The term giant inguinal hernia refers to an inguinal hernia that extends below the midpoint of inner thigh when the patient is in standing position. Loss of intraabdominal domain is a major problem that leads to a complex surgical approach of these hernias. We present the case of a patient who was operated for a giant bilateral inguinal hernia. The preferred method was the augmentation of the anterior abdominal wall with auto and alloplastic material, epidural anesthesia being sufficient in successfully conducting this surgery. The surgery was performed in two stages, separate for each side, the first intervention being essential.

## INTRODUCTION

The operations for inguinal hernia became more secure from year to year, because of the reconsideration of the importance of the posterior wall of the inguinal canal and because of the progress in continuous improvement of prosthetic materials and modern suture. Inguinal giant hernias are more rarely encountered and their approach requires special management. Given the very large size, scarcity of cases and surgical attitude that differs from case to case, surgery is difficult and needs a responsible decision. Sometimes, unforeseen situations arise and require technical fireworks meant to ensure a favourable outcome of the surgical act.

## CASE REPORT

We present the case of a 66-year old man, admitted in the Department of General Surgery Clinical Hospital CF-2 Bucharest on 18.03.2010 for bilateral giant inguinal hernia: on the left up to the knee level and on the right below the midpoint of inner thigh (figure no.1). Left inguinal hernia looked like a cylinder with a length of 60cm and a diameter of 25cm., considering the volume to about 3 liters, had clear signs of loss of intraabdominal domain. Physical, sexual and urinary activities were deeply affected, the patient was moving with difficulty, the penis become invisible, concealed in scrotal mass. Scrotal skin was infiltrated, indurated and thickened with a highly developed collateral blood circulation and a skin decubitus ulcer on the left hemiscotum.

**Figure no. 1. Bilateral giant inguinal hernia**



The surgical treatment became a challenge because more so as the patient had respiratory failure caused by a chronic obstructive bronhopatia of being a smoker for over 50 years. The patient had also macronodular liver cirrhosis. The abdominal computed tomography (CT) scan performed preoperatively confirmed the presence of intestinal loops, colonic segments and fluid, bilaterally in the scrotum (figure no. 2). Both scrotal bursas showed diffuse parietal thickening. The spirometry showed serious mixed ventilatory dysfunction. Lab tests were in physiological limits.

**Figure no. 2. CT scan aspect**



It was decided to perform surgery under epidural anesthesia.

In the first phase, the surgery was limited to cure the left inguinal hernia. The approach has been with a left inguinal incision extended vertically through the base of the scrotum. The hernia sac once opened it identified thin intestinal loops, the cecum with the initial portion of the ascending colon, a large portion of the omentum and also the sigmoid. Besides the risk of acute respiratory failure, related to immediate reduction, simple content recovery was impossible because of the enormous visceral volume. At this moment we practiced median laparotomy and under bimanual control we reduced the content of the left inguinal hernia. Once we performed the laparotomy

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we discovered the macro nodular liver cirrhosis with a developed collateral circulation in the great omentum. Initially, we tried a closure of the abdominal wall using a 15x20cm composite mesh. When fixing the mesh, it has reached the point of maximum tension, and this gave rise to a sudden hypotension due to decreased venous return, along with a significant reduction in O<sub>2</sub> saturation from 100% to 70%. These phenomena were perceived by the patient as suffocation and terror. We acknowledged that the prosthesis size was small and we required a revision of the surgery attitude. Having a hernia sac with a considerable size (figure no. 3), we decided to make a biological prostheses on top of which we put a 20x30 cm polypropylene mesh, anchored at the edges of the wound, with no difficulty at all.

**Figure no. 3. Hernia sac**



The exact dimensions of the prosthesis were correlated with both biological cardiopulmonary parameters as well as with the perceptions reported by the patient, moreover cooperating during surgery. The double subcutaneous suction drain and suture of the wound completed this step. Given the size of the hypertrophied testicle but also for a safer plasty of the posterior wall of the inguinal canal, we performed a left orchiectomy. Posterior wall of the inguinal canal plasty was done by Lichtenstein technique. Scrotal excess was ousted by a reduction plasty of the scrotum.

The postoperative evolution was without complications. Later, at an interval of two months, we practiced the left inguinal hernia cure - Lichtenstein procedure (with mesh), which went without incidents. 4 years after the first surgery, the patient presents a good biological condition without relapse signs with normal physical activity and urinary and sexual functions in physiological limits (figure no. 4).

**Figure no. 4. Postoperative result**



## DISCUSSIONS

Inguinal hernias are rarely giant. They are defined as inguinal hernia that extends below the midpoint of inner thigh when the patient is in standing position.(1,2) It belongs to inguinal hernia complications, known as loss of intraabdominal domain. Forfeiture of home occurs when abdominal viscera can no longer be reintroduced into the peritoneal cavity without the arise of respiratory or venous return disorders.(3) Although apparently encountered especially in poor countries, there are rare cases when they meet in developed countries.(4,5) Sometimes, they develop slowly reaching considerable sizes after decades of evolution, or they have a faster development - 6 years in our case. With the evolution of the disease, quality of life suffers, patients end up isolated, resigned, neglected, often a burden to family and society. Giant inguinal hernia causes difficulty in walking, sitting or in supine, the entire inguinal-scrotal area is deformed, creating difficulty in urinating and stopping intercourse. Scrotal skin develops lesions characteristic of elephantiasis with sores and decubitus ulcers, like in our case (figure no. 5).

**Figure no. 5. Decubitus ulcer**



The movement becomes so heavy that patients resort to various improvisations in order to sustain the weight of the hernia. Simultaneously, patients develop visceral ptosis, and expansion of vascular pedicles. The spermatic cord is elongated, the testicle is atrophied or necrotic.(6) In our case, we met a thickened spermatic funicle with a hypertrophied testicle that was removed.

Although surgical treatment is supported by most surgeons, the choice of method is not at all simple, the operative risk being high. Reducing the hernia content increases abdominal pressure and decreases venous return from the lower cava vein, causing abdominal compartment syndrome. Elevation of the diaphragm increases thoracic pressure causing respiratory distress. Most cases require laparotomy for repositioning the viscera and thus, a complementary gesture to prevent these phenomena.(3,7)

Several surgical techniques have been proposed, some abandoned (frenectomy, creating temporary ventral hernia), other accepted but with high sacrifices and risks (large bowel and omentum resections (3,5), increasing the volume of the abdominal cavity by growth of the wall.(8) In fact, all the proposed methods are trying to create a balance between the peritoneal cavity volume and its content, balance that is necessary to avoid acute respiratory failure. The same fact is also observed in the preoperative period when progressive pneumoperitoneum is used.(1,3,9)

Most surgeons consider orchiectomy as being necessary both for ensuring optimal local conditions for a rear wall of the inguinal canal and scrotum plasty, preventing postoperative hematoma or lymphedema, but also considering

## CLINICAL ASPECTS

the reported testicular dysfunction and atrophy.(3,6)

Scrotal plasty is required each time, which is why surgical team composition will take into account the presence of a plastic surgeon.(2,3)

The risk of cardiopulmonary failure is major, and it requires ventilatory prosthesis in the postoperative period. In our case, we decided for epidural anesthesia that allowed a permanent contact with the patient, so we knew that the physiological peritoneal cavity volume was borne by the patient without difficulty.

Use of the hernia sac peritoneum was not a new method (8), but in our case it gave a full satisfaction by adapting exactly to the limits of the laparotomy defect, taking over hernia prosthesis' full functions.

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### CONCLUSIONS

- The management of giant inguinal hernias is difficult and responsible, so teamwork is essential in preparing the operation and assessing the intra and postoperative conditions.
- The major risk in case of surgical treatment of hernias relates to when these herniated viscera are repositioned that can cause abdominal compartment syndrome manifested by cardiorespiratory distress.
- The immediate objective of the intervention is to maintain the balance between intraperitoneal and intrathoracic pressure. This can be achieved by:
  - an increase in volume (plastic augmentation of the abdominal wall);
  - a visceral volume reduction (organ resections);
  - a combination thereof;
  - a progressive increase in abdominal pressure during preparation (preoperative progressive pneumoperitoneum).
- Communication with the patient during surgery and testing the intra-abdominal effect of the increasing pressure over the lungs reserve that epidural anesthesia can provide easy scrolling to the surgical procedure and a postoperative course without complications.

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