

Conservative Surgical Management of a Giant Inguinal Hernia of Long Evolution Without Intestinal Resection: Case Report

Jose Angel Rodriguez Diaz¹, Diego Armando Fabela Martínez², Paloma Gálvez Sánchez³, Maria Paulina Jimenez Flores⁴, Miguel Ángel Paz Terrazas⁵, Gonzalo Octavio Aguirre Martínez⁶, Alondra Correa Valtierra⁵, Irlanda Dení Morales Oserin⁵, Pedro Emmanuel Sánchez Delgado⁷

¹Hospital General Dr. Nicolás San Juan IMSS Bienestar.

²Universidad Michoacana de San Nicolás De Hidalgo.

³Universidad Autónoma de Guadalajara.

⁴Universidad Autónoma del Estado de México.

⁵Universidad Nacional Autónoma de México.

⁶Universidad Autónoma de Nuevo León.

⁷Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud

ABSTRACT

Giant inguinal hernias represent a rare and challenging condition, generally resulting from years of progressive growth of an untreated hernia. They are more common in elderly male patients and are associated with significant anatomical and physiological changes of the abdominal cavity. The present case describes a 74-year-old man with a giant inguinal hernia of 15 years' evolution, successfully managed through conservative surgical repair without intestinal resection or anastomosis. Preoperative evaluation confirmed the viability of the herniated viscera, allowing controlled reduction and reinforcement of the posterior wall with a polypropylene mesh. The postoperative course was uneventful, with no recurrence during follow-up. This case highlights that proper preoperative planning, meticulous surgical technique, and individualized management can achieve satisfactory results even in complex cases of long-standing giant inguinal hernias. Early diagnosis and timely intervention remain essential to prevent advanced presentations of this pathology.

KEYWORDS: Giant inguinal hernia, long evolution, conservative surgical repair, anatomical reduction, non-resection technique, geriatric patient, case report

ARTICLE DETAILS

Published On:
15 December 2025

Available on:
<https://ijmscrs.com>

INTRODUCTION

Inguinal hernias are among the most common surgical conditions, accounting for up to 75% of all abdominal wall hernias and representing one of the leading causes of general surgical intervention worldwide. It is estimated that approximately 27% of men and 3% of women will develop an inguinal hernia during their lifetime, with advanced age being one of the most important risk factors due to progressive loss of muscle strength, collagen alterations, and increased intra-abdominal pressure secondary to chronic respiratory diseases, constipation, or prostatic hypertrophy. Despite their high incidence, giant inguinal hernias are rare and considered an extreme variant of the disease,

characterized by a hernial sac extending below the midpoint of the thigh when the patient is standing.¹

Giant hernias typically result from a prolonged evolution, often spanning several years or even decades, during which patients gradually adapt to the progressive increase in scrotal volume. This gradual growth produces a chronic alteration in the anatomical relationship between the abdominal cavity and the hernial sac, leading to a phenomenon known as "loss of domain," in which a significant proportion of the abdominal viscera permanently reside outside the peritoneal cavity. Consequently, the abrupt reduction of herniated contents during surgery can cause a sudden increase in intra-abdominal pressure, compromising respiratory and

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cardiovascular function, and potentially resulting in life-threatening abdominal compartment syndrome.^{2,3}

The pathophysiology of giant inguinal hernias includes progressive elongation of the spermatic cord, atrophy of the abdominal wall musculature, enlargement of the deep inguinal ring, and formation of a voluminous hernial sac that may contain small bowel loops, colon, greater omentum, or even the urinary bladder. Many patients report a long history of increasing scrotal size, difficulty walking, abdominal discomfort, or a sensation of heaviness, yet remain partially reducible, delaying medical consultation. Most are elderly men who have adapted functionally to the deformity until discomfort or mechanical limitation prompts surgical evaluation.⁴

From a surgical perspective, the management of a giant inguinal hernia poses considerable challenges. The surgeon must contend with distorted inguinal anatomy, difficulty identifying normal tissue planes, and an increased risk of vascular or visceral injury during dissection. Furthermore, the decision to perform intestinal resection must be based on the viability of the herniated contents, carefully assessed after reduction. In the absence of ischemia or necrosis, preservation of intestinal loops and cautious anatomical reduction are preferred, avoiding unnecessary resections or anastomoses that significantly increase morbidity, especially in elderly patients with comorbidities.⁵

The surgical approach may vary depending on the size and extent of the hernia. In many cases, repair is performed using conventional open techniques such as Lichtenstein hernioplasty with polypropylene mesh reinforcement to strengthen the posterior wall and reduce recurrence rates. However, in giant and long-standing hernias, reintegration of the herniated contents into the abdominal cavity may require additional maneuvers such as resection of the redundant sac, neoperitoneum creation, or staged abdominal decompression. In selected cases, conservative surgical management focusing on progressive reduction, visceral preservation, and meticulous reconstruction of the inguinal canal may achieve successful repair without intestinal resection or diversion procedures.^{6,7}

The prognosis of these patients depends largely on preoperative planning, which should include imaging studies such as computed tomography to evaluate the extent of the hernial sac and the proportion of displaced abdominal contents. Anesthetic evaluation must also consider the risk of respiratory collapse following reduction; in some cases, mechanical ventilation or postoperative intensive care monitoring may be indicated.⁸

In this context, we present the case of a 74-year-old man with a giant inguinal hernia of 15 years' evolution, who presented with progressive scrotal enlargement and difficulty walking. During surgery, careful reduction of the herniated contents was achieved without evidence of intestinal ischemia, allowing a conservative approach without resection or anastomosis, complemented by anatomical repair of the inguinal canal with prosthetic reinforcement. This case highlights the importance of individualized assessment, comprehensive preoperative evaluation, and safe surgical techniques in the management of large, long-standing hernias, demonstrating that a conservative approach can lead to favorable outcomes even in complex scenarios.

CASE REPORT

A 74-year-old male patient from a rural area, with a history of controlled systemic arterial hypertension, presented with a 15-year history of progressive right inguinoscrotal swelling, initially reducible and painless. Over time, the mass increased in size, extending beyond the midpoint of the thigh when standing, causing gait difficulty, discomfort when sitting, and limited daily activities. He denied pain, vomiting, intestinal obstruction, or episodes of irreducibility.

Physical examination revealed a well-nourished patient with stable vital signs. Inspection of the right inguinoscrotal region showed a large, smooth, non-tender mass measuring approximately 35 cm, extending to mid-thigh, with thin, non-inflamed skin. Palpation revealed soft, compressible content with a positive Valsalva impulse, partially reducible in the supine position. The right testicle was displaced inferiorly but showed no signs of vascular compromise or atrophy.



Figure 1 and 2: Preoperative images.

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Ultrasound demonstrated a large right inguinoscrotal hernia containing small bowel loops and omentum without signs of incarceration. Abdominopelvic CT confirmed a posterior wall defect with a large hernial sac containing viable jejunal loops and mesentery, without obstruction or wall thickening. After multidisciplinary evaluation, elective surgery was performed under regional anesthesia. A right inguinal incision exposed a large, thin-walled hernial sac adherent to surrounding tissues. Careful dissection allowed identification and release of adhesions without visceral injury. Upon opening the sac, viable omentum and small bowel loops were

observed, with no ischemic changes, so resection was deemed unnecessary.

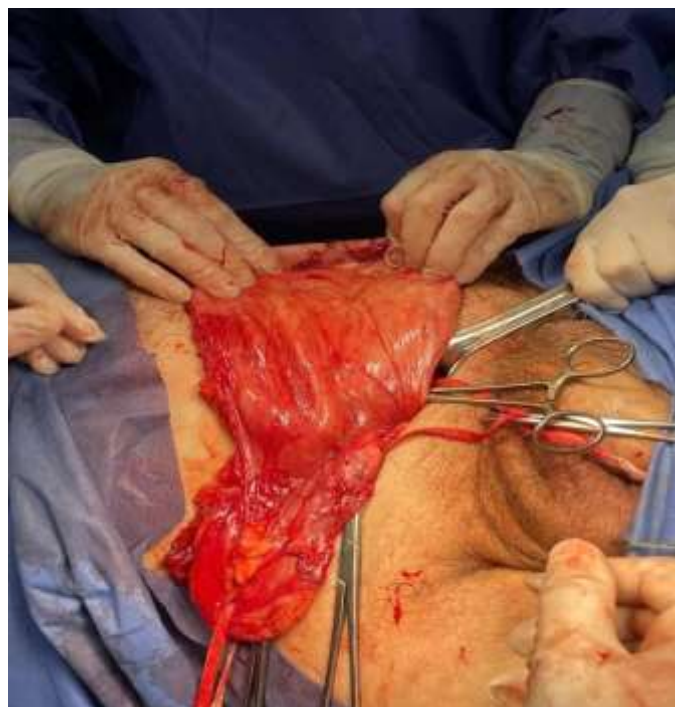
Controlled reduction of the herniated contents into the abdominal cavity was achieved gradually with manual compression and coordinated anesthetic assistance to prevent abrupt pressure increases. Partial sac resection and high ligation were performed, followed by posterior wall reconstruction using a tensionfree Lichtenstein technique with polypropylene mesh. The spermatic cord was repositioned anatomically, ensuring proper testicular perfusion. Layered closure and a subcutaneous drain were placed, removed after 48 hours.



Figures 3 and 4: Hernial contents.

Postoperative evolution was favorable. The patient tolerated visceral reintegration well, with no respiratory distress or abdominal distension. He was discharged on the fifth postoperative day with scrotal support and scheduled follow-up. At three months, he demonstrated complete recovery, absence of recurrence, and improved mobility and comfort.

This case exemplifies successful conservative management of a long-standing giant inguinal hernia without intestinal resection or anastomosis, emphasizing the importance of preoperative planning, meticulous technique, and careful postoperative monitoring, especially in elderly patients.



Figures 5 and 6: Hernial sac.



Figure 7: Postoperative image.

DISCUSSION

Giant inguinal hernia is an uncommon entity representing an extreme variant of untreated or inadequately treated inguinal hernias. It is clinically defined as a hernia whose sac extends below the midpoint of the thigh in the standing position. This condition is more frequent in elderly men and typically results from years of gradual enlargement accompanied by adaptive remodeling of the abdominal wall and loss of

muscular tone. Despite its rarity, its surgical management remains challenging due to chronic anatomical distortion and physiological risks associated with reintegration of large abdominal volumes.⁸

The pathophysiology involves progressive adaptation of abdominal viscera—mainly small bowel loops and omentum—to an extraperitoneal environment, leading to loss of abdominal domain. This condition refers to the inability of

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the abdomen to accommodate the herniated contents without generating excessive intra-abdominal pressure. Sudden reintegration can cause severe complications such as abdominal compartment syndrome, respiratory compromise due to diaphragmatic elevation, and hemodynamic instability. Therefore, gradual and controlled reduction under close anesthetic supervision is essential.⁹

In this case, the 15-year evolution without incarceration or obstruction demonstrated the remarkable adaptability of the abdominal contents. Preoperative CT imaging excluded complications and guided a safe operative plan. Imaging assessment is critical to determine the viability of herniated organs and the need for adjunctive procedures such as intestinal resection or abdominal wall expansion.¹⁰

Surgical strategies must be individualized based on defect size, sac volume, and patient condition. Various techniques have been described, from standard Lichtenstein repairs to complex approaches involving preoperative progressive pneumoperitoneum or component separation. In this case, conservative repair with direct reduction was successful due to preserved intestinal viability and careful intraoperative technique.¹¹

Polypropylene mesh reinforcement using the Lichtenstein method remains the gold standard for inguinal hernia repair, providing a tension-free reconstruction and minimizing recurrence. Its application in giant hernias is effective when the mesh is properly anchored and the field is tension-free.¹² Postoperative care is crucial to monitor for abdominal compartment syndrome or respiratory difficulty. Adequate analgesia, respiratory physiotherapy, and close observation are key to recovery. In our patient, outcomes were excellent, with no recurrence or postoperative complications.¹²

The incidence of complications in giant hernia repair ranges from 10% to 30%, most commonly seroma, infection, or recurrence. Risk increases with advanced age, muscle atrophy, and comorbidities, but elective repair under optimal conditions yields favorable results.¹²

This case also highlights the social and psychological dimensions of the disease. Many patients with giant hernias live in rural or underserved areas, delaying treatment due to limited access to healthcare. The resulting deformity severely impacts mobility, hygiene, and social interaction, leading to isolation and reduced quality of life. Surgical correction not only restores anatomy and function but also improves self-esteem and emotional well-being.¹³

In conclusion, the successful management of giant inguinal hernias depends on comprehensive preoperative evaluation, precise surgical technique, and vigilant postoperative care. When the herniated contents are viable, conservative repair without intestinal resection reinforced with mesh is a safe and effective alternative, even in elderly patients. This case reaffirms that well-planned, skillfully executed surgery can achieve functional and aesthetic results while avoiding the complications of more aggressive interventions.¹³

CONCLUSION

Giant inguinal hernia is a rare and challenging condition resulting from prolonged evolution that profoundly alters abdominal anatomy and physiology. Its surgical approach requires individualized planning, comprehensive assessment of the patient, careful evaluation of herniated contents, and appropriate technique selection to achieve a successful outcome. This case demonstrates that, even in long-standing hernias in elderly patients, effective repair can be achieved through controlled reduction and mesh reinforcement without the need for intestinal resection or anastomosis, provided the viscera are viable.¹⁴

The conservative approach minimized surgical risks, reduced morbidity, and allowed functional recovery without recurrence. It underscores the importance of surgical expertise, proper field exposure, and biocompatible prosthetic materials to ensure durable, tension-free repair. On a broader scale, this case highlights the need for early hernia management, particularly in resource-limited settings, to prevent the progression to giant forms that carry higher surgical risks.¹⁵

Ultimately, the repair of a giant inguinal hernia not only represents a technical challenge but also an opportunity to restore the patient's quality of life, mobility, and psychological well-being. Properly planned surgery, based on sound anatomical principles and a thorough risk-benefit assessment, can yield excellent outcomes even in complex and uncommon scenarios.¹⁵

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