



Scrotal Abdomen: A Case Study of Huge Inguinoscrotal Hernia

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ABSTRACT:

Giant inguinoscrotal hernias are defined as those extending below the midpoint of the inner thigh in the standing position. In a developing country like India, due to lack of adequate awareness patients neglects medical attention, which leads to development of giant inguinoscrotal hernia. Here we discussed about three cases managed in our hospital.

Case1:

A 53 yrs old male who was a known diabetic and hypertensive presents with left giant inguinoscrotal hernia for past 7 years. All basic routine investigations were normal. Pre optimisation was done. Under GA, left open hernioplasty with left orchidectomy was done. Contents- transverse colon. Postoperatively patient went to respiratory compromise which was well controlled by o₂, nebulization, chest physiotherapy and incentive spirometry. Patient recovered well.

Case2:

A 65-year old male who was a known Bronchial asthma presents with right giant inguinoscrotal hernia for past 10 yrs. All basic routine investigations were normal. Pre-optimisation was done. Under Epidural anaesthesia, right open hernioplasty with right orchidectomy was done. Contents- ileum, ileocaecal junction, appendix and caecum. Postoperatively patient went to respiratory compromise which was well controlled by o₂, nebulization, chest physiotherapy and incentive spirometry. Patient recovered well.

Case3:

A 35 year old male presents with B/L giant inguinoscrotal hernia for past 10 yrs. All basic routine investigations were normal. Pre-optimisation was done. Under Epidural anesthesia, B/L open hernioplasty was done. B/L direct sac presents. Postoperative period unremarkable.

Giant inguinoscrotal hernias are rare, and managing them effectively involves several key strategies. Preoperative evaluation is essential to anticipate potential cardiorespiratory compromise. Additionally, attentive care after surgery helps to reduce risks of Pulmonary compromises. These measures contribute to better overall patient outcomes.

1. Introduction

“A hernia is defines as protrusion of whole or a part of a viscus through the wall that contains it. Giant inguinoscrotal hernia are defined as those extending below the midpoint of the inner thigh in the standing position”[1].In a developing country like India, due to lack of adequate awareness patients neglects medical attention, which lead to development of giant

inguinoscrotal hernia. Some common risk factors that leads to giant inguinoscrotal hernias are chronic bronchitis, chronic smokers, connective tissue disorders, chronic heavy weight lifters especially manual laborers. Giantinguinoscrotal hernia occur due to ignorance by the patient for years or in areas where medical services not available [3]. Management of Giant inguinoscrotal hernia has many challenges.



Adequate preoperative preparedness and postoperative care plays a major role in managing giant inguinoscrotal hernia. Here we discussed about three cases managed in our hospital.

2. Case details

CASE 1:

A 53 yrs old male came with swelling over left groin for past 7 years, associated with pain over swelling, insidious in onset, gradual in progression, and swelling attained about 20 x 15 cms of size (Fig.1). Swelling size increased and reached till mid thigh. Swelling size was increased by straining & coughing & partially decreased in size at rest. Patient had a pain over swelling on prolonged standing. Patient has underwent an open hernioplasty on right side. Buried penis present inside swelling. His pre-op routine blood investigations, PFT, CXR PA view & ecg was found to be normal. Patient was a known case of SHTN and Type 2 diabetes mellitus on regular medications. Preoperatively incentive spirometry along with foot end elevation for 7 days given. Patient was kept on a liquid diet for 48 hrs before surgery. T.dulcolax 20mg stat given previous night before day of surgery. Under general anesthesia, Left open hernioplasty with Left open orchidectomy was done. A large indirect sac present. Contents found to be transverse colon(Fig.2).Dense adhesions noted between the contents and sac. Adhesiolysis was done and the contents were reduced. After removal of testis, sac was plicated over posterior wall. The posterior wall strengthening was done with using 1-0 prolene and a prolene mesh of size 15 x 15 cm was fashioned over the defect and anchored over pubic tubercle, Inguinal ligament and conjoint tendon using 2-0 prolene. External oblique aponeurosis was sutured using 2-0 vicryl. CRD kept in left scrotal region. Scrotal skin allowed to shrink on its own, so Scrotoplasty was not done. After surgery, scrotal skin shrunken to 1/4 of it which was present before surgery. After surgery, Patient shifted to ICU and observed. Patient maintained in a face mask with 8L of O₂ till POD 2 and then weaned off. Postoperative chest physiotherapy was given. Incentive spirometry was started. Oral fluids were given on POD 1. On POD 3, He was shifted to male surgical ward. Regular cleaning and dressing were done. Scrotal edema not present till discharge. Patient discharged on PoD 8. CRD and Suture removed on POD 15.Patient

was on regular follow up for past 30 months with no evidence of recurrence.



FIGURE 1 showing Preoperative Image of complete Left Inguinoscrotal hernia



FIGURE 2 showing Intraoperative image of Transverse colon as content of sac

CASE 2:

A 65-year old male came with swelling over right groin for past 10 yrs, insidious in onset, gradual in progression and swelling attained about 20 x16 cms of size(Fig.3). Swelling size increased on Straining & decreased partially in size at rest. The patient had Bronchial asthma for past 10 years. Before surgery, all basic blood investigations, PFT & ecg were done and found to be normal. Pre-optimisation done by Incentive spirometry and foot end elevation for a week. Adequate nebulization given before surgery. Patient was kept on a liquid diet for 48 hrs before surgery. T. Dulcolax 20mg stat given previous night before day of surgery. Under epidural anesthesia, Right open Hernioplasty with right orchidectomy was done. A large indirect sac present. Contents found to be ileum, ileocaecal junction, caecum & appendix(Fig.4). Dense



adhesions noted between contents & sac and between interbowel. Right orchidectomy was done. Contents was reduced. Sac was plicated over the posterior wall. A 15 x 15 cms size of Prolene mesh was fashioned over the defect and anchored over pubic tubercle, Inguinal ligament and conjoint tendon with 2-0 Prolene. CRD kept in scrotal region. Hemostasis was achieved and secured. Skin closed in layers. Scrotoplasty was not done. Postoperatively patient was transferred to ICU. Patient was maintained in a face mask with 10L of O₂. Post-operative chest physiotherapy was given. Adequate nebulization given. Oral fluids were given on POD 1. Patient discharged on PoD 9. Suture and CRD removed on POD 16. Patient is on regular follow up for past 2 years with no evidence of recurrence.



FIGURE 3 showing preoperative image of Right inguinoscrotal hernia



FIGURE 4 showing intra operative image of ileum, ileocaecal junction, appendix, caecum as content

CASE 3 :

A 35 year old male came with complaints of swelling over B/L groin for past 10 years which was insidious in

onset and gradual in progression and the swelling attained a size of 15x10 cms on right side and 12x8 cms on left side (Fig.5), swelling size increased on straining and not decreased at rest. History of Pain on and off over right groin side. Preoperatively all routine blood investigations, PFT, ECG were normal. Pre-optimisation Done by Incentive spirometry and foot end elevation for a week. Under epidural anesthesia, B/L open hernioplasty was done. B/L Lockwood incision made. External oblique Aponeurosis opened. Direct sac present on both sides. Contents reduced and posterior wall strengthening was done. Cord structures preserved. 6x11 cm prolene mesh fashioned over defect and anchored (Fig.6). CRD kept in B/L scrotal region. Patient shifted to Postoperative ward. Postoperative incentive spirometry and chest physiotherapy was given. Adequate nebulization was given. Oral fluids were given on POD 0 and soft solid foods on POD 5. Patient discharged on PoD 7. Suture and CRD removed on pod15. Patient is on regular follow up for past 8 months with no evidence of recurrence.



FIGURE 5 shows preoperative image of B/L inguinoscrotal hernia



FIGURE 6 shows intraoperative image showing mesh fixation after reducing content into abdominal cavity.



3. Discussion

GIHs are indeed less common in modern surgical practice, particularly in developed regions with advanced medical facilities. However, their prevalence remains a significant concern in underdeveloped countries. Factors contributing to this include limited access to surgical services, financial constraints preventing timely intervention, and mistrust or fear of surgeries. GIHs Management presents with many issues. Patients with voiding difficulties and urinary retention often face multiple complications. One specific concern is the potential for the penis to become buried within the scrotum, leading to urine dribbling that irritates the already compromised scrotal skin due to lymphatic and venous edema. This can result in excoriation, ulceration, and secondary infections. Additionally, these physical challenges can have significant psychological effects, contributing to social isolation and affecting the patient's overall quality of life. Addressing these issues holistically is crucial for improving patient outcomes and mental well-being.[4]. Other severe complications are Obstructed hernia, incarcerated hernia and strangulated hernia[5]. Contents of a sac typically include structures such as the small intestine, Appendix, cecum, Omentum and large intestine. Less commonly, the sac may contain the Stomach, Sigmoid colon, kidney, urinary bladder and ureter.[6,7]. Repair of gastrointestinal hernias (GIHs) can indeed lead to several complications. Increased abdominal pressure following reduced content can elevate diaphragm, potentially resulting in respiratory depression and failure. Additionally, there is a risk of wound dehiscence and hernia recurrence.

Another significant concern is the presence of excessive residual scrotal skin, which may complicate healing and necessitate further surgical intervention. Managing these complications effectively is vital for optimizing patient outcomes and recovery. [8,9]. Improved prognosis in hernia repair is often associated with reducing the bulk of contents preoperatively. One effective strategy is the use of soft diets, which help minimize feces and GI secretions. Additionally, removal of the contents may be performed to further decrease intra-abdominal contents, facilitating a smoother surgical procedure and potentially reducing complications. These approaches contribute to better surgical outcomes and recovery. [10,11]. Postoperative abdominal compartment syndrome can be avoided by

progressive pneumoperitoneum administration before surgery[12,13]. Reoccurrence is common due to large defect. Some authors recommend against scrotal reconstruction as a precautionary measure, allowing for the possibility of temporarily reverting the hernia contents in case of postoperative respiratory failure. This approach helps manage intra-abdominal pressure and reduces the risk of complications, providing flexibility in postoperative care. [14]. Techniques like phrenectomy, iatrogenic abdominal wall defect& Musculoskeletal flaps were outdated.[15]. Moreno.et.al. proposed the preoperative progressive pneumoperitoneum purpose in abdominal wall hernias[16]. Merret.et.al. managed GIH by making a defect in the anterior abdominal wall over midline artificially, then repairing the midline and GIH defect by polyethylene meshes. Mesh placed by a rotational flap using the skin over inguinoscrotal region[17]. Mehendale.et.al. had managed a Scrotal abdomen by doing small bowel resection, right hemi colectomy as debulking contents and abdominal wall reconstruction done by using polyethylene meshes&musculoskeletal flap [9]. In lower socioeconomic settings, considerable mortality and morbidity can arise for common surgical cases due to delayed diagnosis and management. The Study in Guatemala highlights that many incarceration hernia patients do not seek surgical interventions due to family issues& a lack of formal education. This suggests that emergent hernia cases are often influenced by patient-related factors rather than solely limitation in healthcare facilities[18]. In this case report, all three patients had ignored the treatment of hernia due to lack of adequate awareness that progresses to giant inguinoscrotal hernia.

Conclusion

Giant inguinoscrotal hernias are rare, and managing them effectively involves several key strategies. Preoperative evaluation is essential to anticipate potential cardio respiratory compromise. During surgery, careful manipulation of the hernia contents is important to minimize complications. Additionally, attentive care after surgery helps to reduce risks of Pulmonary compromises, local wound infection or dehiscence and reoccurrence rate. These measures contribute to better overall patient outcomes.



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