

Scrotal abdomen revisited: A case report and review of literature

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ABSTRACT

The giant inguinoscrotal hernia has now become rare. Patients usually undergo surgical treatment of the hernia soon after diagnosis because of the availability of good hernioplasty techniques with mesh placement even in remote areas. Giant inguinoscrotal hernias present a challenging surgical problem because returning of herniated viscera to an abdominal cavity accustomed to being empty for long duration(loss of domain) may be complicated by abdominal compartment syndrome and respiratory distress . Because of the rarity of reported cases and there is no standard surgical procedure in place for their treatment, Surgical management of such cases has to be individualised.

We report a case of giant, hanging inguinoscrotal hernia in a 76 years old man. We have done extended right hemicolectomy, omentectomy, lichtenstein hernioplasty using prolene mesh for right inguinal hernia and finally reconstruction of scrotal skin.

Key Words: Extended right hemicolectomy, Giant inguinoscrotal hernia, Loss of abdominal domain, Surgical challenge

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INTRODUCTION

Giant inguinoscrotal hernias are uncommon. They are defined as hernias extending below midpoint of the inner thigh in the standing position, and if associated with loss of abdominal domain they known as *scrotal abdomen*^[1]. In a developing country, unseeking of medical advice due to lack of awareness lead to gradual enlargement evolving into a such

giant hernia. Usual content is gut; sometimes the entire mesenteric small bowel, the entire colon and omentum or bladder may be present. In 2001 Walgenbach et al. reported a Case of gastric rupture in context with a giant left inguino-scrotal hernia^[2].

These cases are always longstanding, present for years & remain asymptomatic or may present with complications. They

usually present with significant negative impacts to patient's quality of life including restriction in mobility as walking, sitting, lying down and voiding may become extremely difficult for the patient. They may present with retention of urine as the scrotum tightens around the penis. Bowel obstruction and scrotal skin trophic ulceration may also occur. They may also develop fatal tissue expansion of vascular pedicles. On the other hand reduction of hernial contents may produce alterations in intra-abdominal and intra-thoracic pressures; leads to cardiac or respiratory failure (abdominal compartment syndrome) . The risk of wound dehiscence and recurrence of hernia (up to 30%) is also greater with forced closure of such giant hernia^[3]. So, mere reduction of contents via enlarging internal ring for repair of giant inguinal hernia is rarely reported(Coetzee et al. 2011)^[4]. Preoperative management of co-morbidities, counselling of patient and party, proper planning and operation by experienced surgeons thus necessary to

safely treat such patients with available resources.

CASE REPORT

A 76-year-old man presented in our emergency department with a giant inguinoscrotal swelling with an ulcer at the apex of the swelling, which was bleeding profusely. Clinical examination showed a giant right-sided inguinoscrotal hernia that descended to the knees in the standing position (**Figure 1**). Left inguinal canal was found normal and left testis was palpable. Penis was buried in the swelling and right testis was not palpable. Inguinoscrotal swelling had no cough impulse and was irreducible but there was no tenderness over the swelling and no symptoms or signs of intestinal obstruction. We immediately shifted the patient to the operation theatre where we excised the scrotal ulcer and secure haemostasis and after proper resuscitation, the patient was shifted to ward. We did not proceed for repair of his giant inguinal hernia as there was no surgical emergency except for bleeding scrotal ulcer.



Figure 1: Giant Inguinoscrotal Hernia

In the ward, he was thoroughly examined and investigated. He said that the inguinoscrotal swelling was gradually progressive to reach present size over more than 20 years period. He also gave history of breathlessness for which chest x-ray, 2D-echocardiography and lung function tests were done and reports were suggestive of chronic obstructive

pulmonary disease (COPD). He was also found anaemic (Haemoglobin-6.2gm/dl) for which 3 bottles of packed red blood cells was transfused. Serum electrolytes were normal. X-ray and ultrasonography of abdomen were normal. Scrotal ultrasonography revealed thickened gut loops within the inguinoscrotal region.

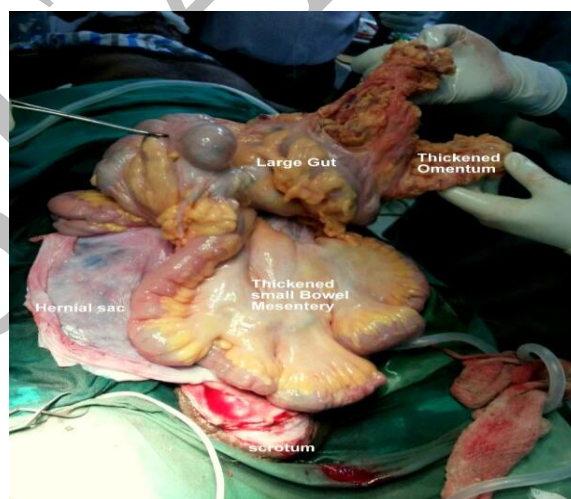


Figure 2: Nearly whole of intestine herniated

After 2 weeks with proper management of his co-morbidities, we scheduled him for

definitive operation after proper counselling and consent. In the elective

operating theatre, after an initial right inguinal incision the hernial sac was opened; contents being whole of small intestine with thickened mesentery, caecum with appendix, ascending colon, transverse colon with part of descending colon and thickened omentum, (**Figure 2**). There were no signs of ischemia. Deep inguinal ring was widened and midline abdominal incision was made through which reduction of contents into abdominal cavity was achieved. Then omentectomy and extended right hemicolectomy was done followed by a ileocolic anastomosis ; offering the extra intra-abdominal space needed for a possible tension-free abdominal wall closure. Finally tension free right inguinal mesh hernioplasty and reconstructive scrotoplasty was done.

DISCUSSION

There are few surgical techniques described in the literature for repairing of such giant inguinoscrotal hernias. The most common technique requires frequent insufflations of air into the abdominal cavity to create space to accommodate herniated viscera and facilitate fascial repair with minimal tension^[5]. This technique, however, is more likely to cause expansion of the thin hernial sac rather

than the contracted abdominal cavity, and since the patient is only ready for his operation approximately 2 weeks after creating the pneumoperitoneum; some patients suffer from severe discomfort, shoulder pain, tachycardia, and dyspnoea, specially with pre-existing cardio-pulmonary disease, which may necessitate gas withdrawal. Laparoscopic component separation technique has been reported by Hamad et al. in 2013 to increase the capacity of the abdominal cavity to facilitate closure and reduce postoperative complications in patients who had loss of abdominal domain^[6]. Merret et al. (2009) advocated a technique for giant inguinal hernia involving the reduction of hernia; the repair of hernial orifices with Marlex mesh and the creation of a midline abdominal wall defect to increase the intra-abdominal capacity followed by covering this defect with Marlex mesh with a rotation flap of inguinoscrotal skin ^[7]. Lichtenstein technique has also been advocated by Bierca et al. in 2013 for repair of giant inguinal hernia ^[8]. Groen et al. in 2011 reported a multistage operation for giant inguinal hernia with scrotal ulcer where insufflation and prosthetic mesh are not available^[9]. Surgical treatment in complicated cases may require debulking

the contents of the hernial sac by performing a right hemicolectomy and a small bowel resection and reconstruction of the abdominal wall using Marlex mesh and a tensor fasciae latae flap as reported by Mehendal et al. in 2000^[10]. In 2001, El-Dessouki described a new way to achieve this by creating a midline abdominal wall defect to increase the intra-abdominal capacity to accommodate the hernia contents. The hernial sac is then pulled up to the abdomen and fashioned as a rotation flap to augment and close the peritoneum over the replaced contents. Lastly, a giant polypropylene mesh is inserted in the preperitoneal space to cover the midline defect created and to buttress both inguinal regions^[11].

In our case as the patient having COPD, we did not plan for pneumoperitoneum. We did extended right hemicolectomy and omentectomy, followed by a ileocolic anastomosis. Finally tension free right inguinal mesh hernioplasty and scrotoplasty was done rather going for planned ventral hernia and two or three stage operation or flap closure of abdominal wall defect in a patient with poor performance status. He is under follow-up for last 6 months without recurrence of hernia.

CONCLUSION

Giant inguinoscrotal hernia cases presents formidable surgical problems and the morbidity and mortality associated with their repair are high. A proper preoperative preparation for surgery in patients with giant hernias is desirable, specially improvement of cardio-pulmonary status. Surgical management options can be broadly grouped into either enlarging the abdominal cavity or debulking the abdominal contents, which depends largely on patient's performance status, co-morbidities, availability of resources and surgical expertise.

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