Case Report

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A Case Report of Giant Inguinoscrotal Hernia Managed by Modified Iliopubic Tract Repair

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Abstract

Introduction: Inguinal hernia is one of the commonest cases to be dealt with in surgical practice. Giant inguinal hernia on the other hand is a rather distinct and rare entity. Not only they pose special problems in management, but also they reflect the ignorance and neglect among general population in developing countries. *Presentation of Case:* A 50 year old male patient presented with a left sided inguinal hernia extending upto just above the knee joint without any complications. The hernia was explored using a combination of pre-peritoneal approach with intra-peritoneal manipulation. Omentectomy , left orchidectomy and caecopexy was also performed. Defect was closed by performing Ilio-pubic tract repair using a polypropylene mesh. *Discussion*: Treatment of giant inguinal hernias requires adequate consideration regarding the approach to be chosen as well as thorough preoperative preparation as post-operatively patient may develop abdominal compartment syndrome which may lead to a series of unwanted complications. *Conclusion:* The appropriate management of such hernias require detailed knowledge of anatomy of inguinal region along with good pre and postoperative care in order to achieve the desidered outcome.

Keywords: Giant Inguinal Hernia; Treatment; Ilio-Pubic Tract Repair.

Introduction

Inguinal hernia is one of the commonest cases to be dealt with in surgical practice. Various treatment options have been devised since time immemorial. Giant inguinal hernia on the other hand is a rather distinct and rare entity. Giant Inguino-scrotal hernias are defined as hernias that extent below the midpoint of inner thigh in standing position [1] . There is lack of consensus on a standardized procedure for the management of a giant inguinal hernia. It poses a challenge to the surgeon as each case requires management tailored to the specifications of the case. Complications like intestinal obstruction, incarceration, strangulation are fatal as there are high chances of developing bowel ischaemia and perforation. Sometimes penis can be found buried inside the scrotum causing urine to dribble over the already stretched out scrotal skin. This can result in excoriation of the skin. We report a case of a Left sided Giant Inguino-scrotal hernia reaching almost upto the knee joint with no other complications.

Case Report

A 50 year old patient presented to the outpatient department of Dr.D.Y.Patil Medical College , Hospital and Research centre, Pune with history of an irreducible left inguino – scrotal swelling since 10 years (Figure 2). He complained of discomfort in lower abdomen and a dull dragging pain which performing his daily activities. There were no bowel and or any symptoms of prostatic enlargement. He complained of dribbling of urine over the swelling due to his penis being buried within the swelling. He was a chronic bidi smoker since 20 years consuming almost 2 packs per day.

He was detected to have an irreducible, non tender left inguino-scrotal swelling with a dimension of

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25 × 20 cms reaching just above his left knee joint. The scrotal and penile skin was stretched and the penis was almost buried in the swelling. The left testis was inpalpable. After a thorough preoperative work up, surgery was planned. Preoperatively respiratory excercises were started by means of incentive spirometry.

The hernia was explored using a combination of pre-peritoneal approach with intra-peritoneal manipulation through a midline infra-umbilical incision. Sac contained loops of bowel & omentum, part of ascending colon and surprisingly the caecum and appendix (Figure-3a/3b). Left testis was atrophic and found at the deep inguinal ring. The internal inguinal ring was widened in order to replace contents into peritoneal cavity after performing omentectomy & left orchidectomy. Caecopexy was also done. A constant check was kept on the intra-abdominal pressure and there was no evidence of raised intra-abdominal pressure. The internal ring was obliterated using 2-0 prolene. The defect was then repaired by using the Modified Iliopubic Tract Repair.

He was closely monitored for any features of abdomen compartment syndrome. However he had uneventful postoperative recovery. Patient has been followed up for a period of one year till date. Scrotal skin has shrunken in size & there is no evidence of any respiratory problem or recurrence.

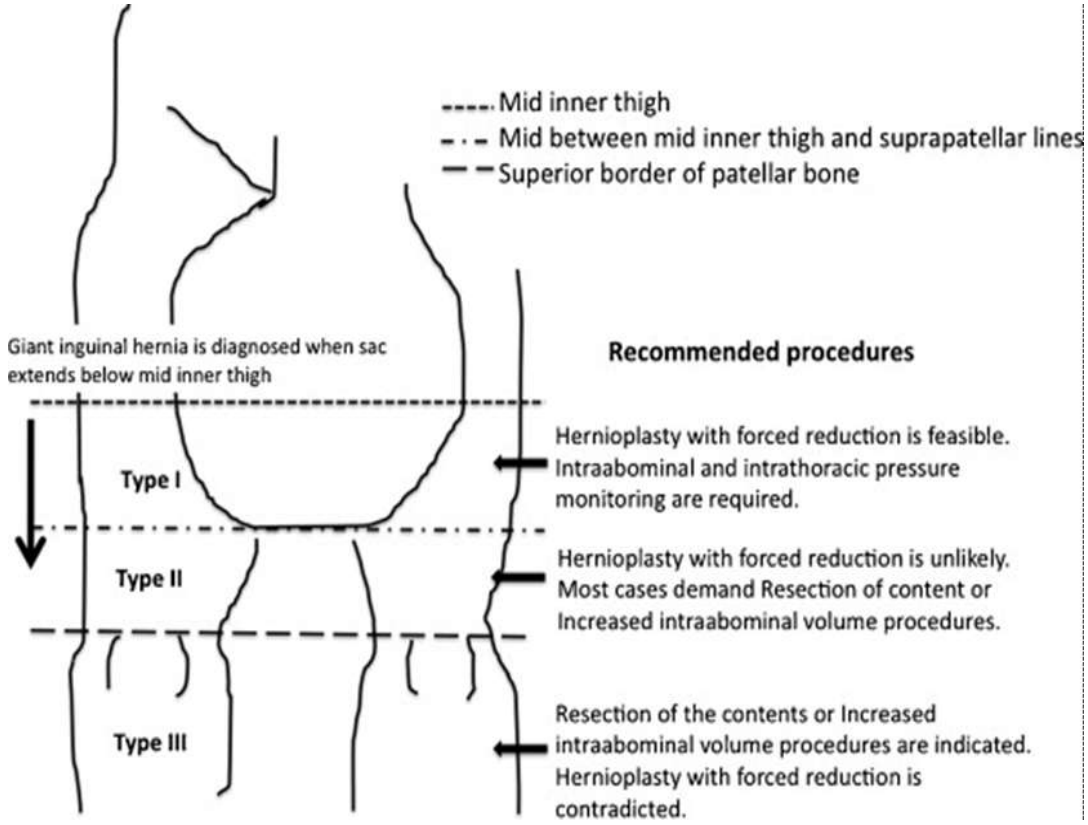

Fig. 1: New Classification Of Giant Inguinal Hernia

Fig. 2: Left Giant Inguino-scrotal Hernia with burried phallus reaching just above left knee

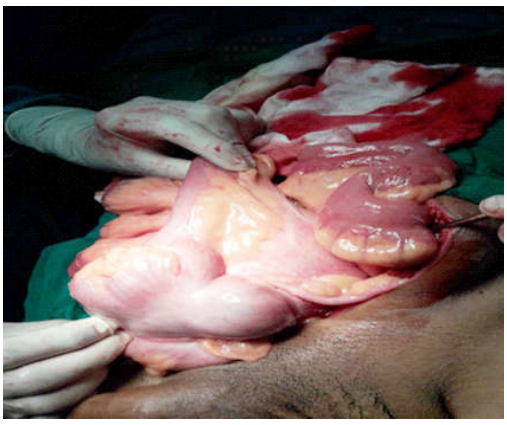

Fig. 3a: Contents of Left Giant Inguino-scrotal Hernia showing caecum, loops of small bowel, mesentery, ascending colon and appendix

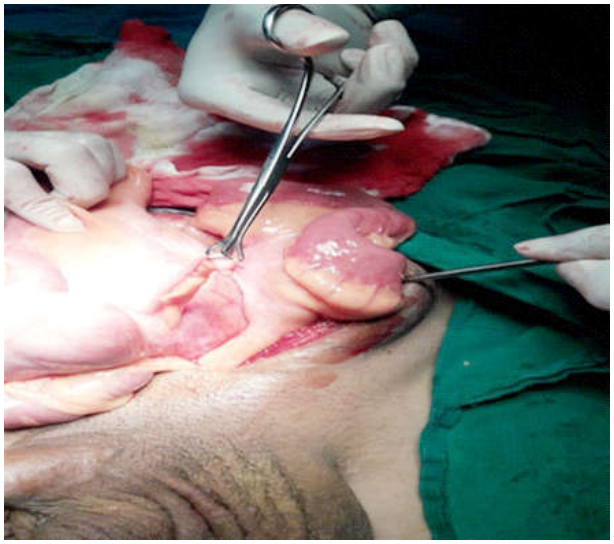

Fig. 3b: Contents of Left Giant Inguino-scrotal Hernia showing appendix as the content

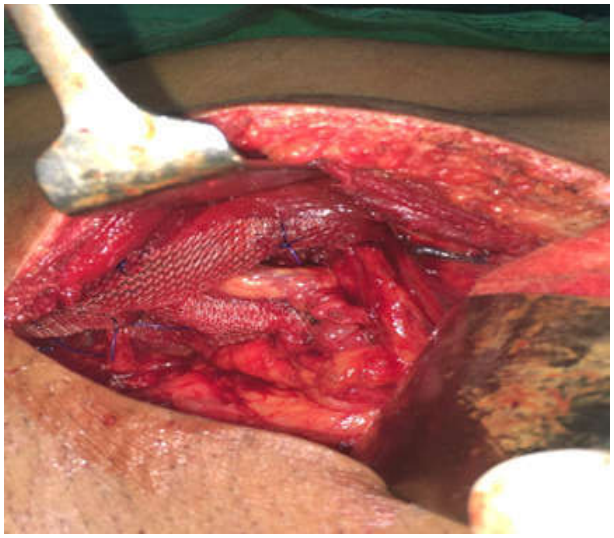

Fig. 4: Intraoperative image showing pre-peritoneal repair done with prolene mesh

Discussion

Giant inguino-scrotal hernias are defined as hernias that extend below the midpoint of inner thigh in standing position [1]. They are uncommon in developed countries.

Based upon the extent of herniation, giant inguinal hernia are broadly classified as: (a) Type I extending upto mid-thigh; (b) Type II extending midway between mid-thigh level and the suprapatellar line; and (c) Type III extending below the suprapatellar line (Figure 1) [2].

Factors predisposing to the development of a giant inguinal hernia include male sex, old age, chronic cough, chronic constipation, premature birth or low birth weight, previous inguinal hernia or hernia repair, etc.

Common hernia sac contents include small bowel and omentum . However, stomach, caecum, appendix, ascending colon, transverse colon, sigmoid colon, urinary bladder & ovaries have also been reported amongst the contents [3]. Rarely GIH is associated with intestinal malrotation [4]. In our case, it was interesting to find the caecum, appendix, ascending colon and ileum in a left sided inguinal hernia.

Another important aspect in terms of management that needs consideration is the approach to be chosen for surgerical reduction and repair. There are several approaches like inguinal, pre-peritoneal and intra-peritoneal. However, each approach has its own drawbacks. In the inguinal approach it is not possible to deal with any intra-abdominal pathologies like adhesions of presence of intra-abdominal tumor. The intra-peritoneal approach allows for correction of any intra-abdominal pathologies but trans-peritoneal repair come with its own set of limitations. Thus a combination of two or more approaches is needed for a better result. In our case we went ahead with a intra-peritoneal approach to achieve complete reduction of contents and then used the pre-peritoneal approach to perform the Modified Iliopubic tract repair.

Giant inguinal hernia predisposes to a whole array of complications both preoperatively as well as postoperatively.

The massive size of the hernia can interfere with walking and doing routine work. The penis is often buried inside the scrotum owing to the larger size of the swelling causing urine to dribble over the scrotal skin, which is already congested by lymphatic and venous edema can cause excoriation, ulceration and secondary infection [5]. Ipsilateral spermatic cord is greatly elongated and prone to torsion. The testis is often atrophic. Other complications include intestinal obstruction, incarceration and strangulation of the contents can also occur. An important issue to be addressed while dealing with cases of giant inguinal hernias is the loss of abdominal domain. The various techniques available to prevent this complication include debulking of abdominal contents like total or hemicolectomy or omentectomy.

Also the forceful reduction of a giant hernia into the abdominal cavity may lead to intra-abdominal hypertension and resultant abdominal compartment syndrome, respiratory compromise, intestinal obstruction, hernia recurrence and wound complications [6]. The treatment options described to avoid abdominal compartment syndrome post-operatively included progressive creation of pneumoperitoneum pre-operatively, lengthening of the abdominal wall, using hernia sac as peritoneal flaps and even elective resection of the hernia contents sometimes [7]. These techniques however have their own benefits and complications.

Rotation of viable tissue is the other technique to increase intra-abdominal volume by increasing

surface of the abdominal wall. Several techniques have been proposed in the literatures. Component separation technique is one used to advanced rectus muscle by freeing external oblique from internal oblique muscle [8]. The advantage of rotation of viable tissue is that it is a single-stage procedure but surgical expertise is required to prevent complications.

Management of reduntant scrotal skin is another Important consideration. Most of the authors agree that the scrotal skin should be left reduntant, as it retracts due to contraction of dartos muscle [9]. It also serves as a safety net , because if the patient develops respiratory compromise post operatively, the bowel can temporarily be returned to the scrotum. In our case too it was left intact & it retracted considerably within a short period of four weeks.

Sahsamanis et al., treated a chronic, neglected giant inguinal hernia of 50-year-old duration via a 'V shaped' incision extending from the right inguinal region and lower mid-line. The contents of the hernia were forcefully reduced into the peritoneal cavity without any debulking [10].

Thus several factors have to be taken into consideration while planning for the management of a giant inguinal hernia.

Conclusion

Giant inguinoscrotal hernia is an uncommonly encountered variant of inguinal hernia which poses a distinct challenge to the treating surgeon. A combination of pre-peritoneal approach with intra-peritoneal manipulation instead of a single approach allows for better outcomes. A detailed knowledge of inguinal region and pre-peritoneal anatomy and physiology of intra-abdominal hypertension in conjunction with close pre and postoperative monitoring and promptness in management of complications associated with giant inguinal hernia is essential to ensure a satisfactory postoperative result without any complications.

Conflict of Interest: Nothing to declare.

Ethics Approval: No Ethics issue involved.

Funding: Nothing to declare.

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