

Case Report

Scrotal Abdomen: Case of Giant Inguinal Hernia- A Case Report

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Submitted: 26 February 2017

Accepted: 15 April 2017

Published: 20 April 2017

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Abstract

Introduction: Hernias extending below the midpoint of inner thigh in the standing position are called as giant inguinal hernia. They are rarely seen in common surgical practice. Huge inguinal hernias occur after years of neglect by the patient or in areas which are inaccessible to medical services.

Case presentation: We present a case of 52 year old male, with giant inguinal hernia containing almost whole abdomen with terminal ileum, caecum, appendix, ascending and transverse colon with omentum in the hernia sac which was repaired with a novel Desarda technique.

Discussion: This is an interesting case as Desarda's repair technique is reportedly used first time for repair of a giant inguinal hernia. There are various studies showing successful use of this technique in primary inguinal hernia.

Conclusions: Giant inguinal hernias are uncommon in today's surgical practice. Successful use of Desarda tissue based repair technique for giant inguinal hernia, with no complication needs to be reported in surgical literature.

Keywords

- Giant inguinal hernia
- Desarda repair
- Tissue based repair
- Abdominal compartment syndrome
- Massive hernia

CASE REPORT

A 52 year old male who was are tired security guard by occupation, resident of a remote village came to surgical OPD with complaints of swelling in his right inguinoscrotal region since 6 years. He had a dragging sensation& discomfort at the site of swelling since 4 years with increase in intensity of pain since last months. It was initially small in size, confined to the right inguinal region and used to appear only on exertion and used to disappear on lying down. The swelling gradually increased in size to attain its current dimensions. Patient was asymptomatic initially, but since past 5-6 months the swelling became painful which hampered his daily activities and compromised his quality of life. Unable to bear with it, he came to the surgical OPD. Previously he had been operated for hemorrhoids 15 years back and was also treated for non-tubercular chronic cough around 6 years back. He had no history suggestive of asthma, chronic constipation or urinary complaints. He was not a known case of diabetes mellitus or hypertension.

His general physical examination was essentially normal. On local examination a huge right sided inguinoscrotal swelling of approx. 25x15 cm was noted. Cough impulse could not be elicited. His both testis were palpable. With an attempt to reduce the swelling gurgling sound could be heard. The lower end of the swelling was about 25 cm from the root of scrotum and reached up to the midpoint of inner thigh. Overlying scrotal skin was normal with no features of cellulitis or ulceration over it (Figure

1). Ultrasonography showed presence of small and large bowel inside the hernia sac. A diagnosis of indirect complete partially reducible right inguinal hernia was made and patient was advised surgery. His pre-anaesthetic check-up was normal.

Operative procedure

Under spinal anesthesia, right groin incision above and parallel to inguinal ligament was taken. Sac was identified lateral to the inferior epigastric artery and sac was opened transversely. Sac contained distal ileum, caecum, appendix, ascending colon, transverse colon with omentum (Figure 2,3). Some adhesive bands were present which were separated. Initially it was difficult to reduce the contents hence internal ring was opened laterally. Appendix was identified and it was preserved. Contents of the sac were reduced and the sac was closed. The internal ring defect was closed and posterior wall strengthening was done by Desarda's tissue based hernia repair technique without any tension (Figure 4). Bowel sounds appeared on 2nd postoperative day and he tolerated oral feeds from 2nd post-operative day. He had no surgical site complications. He was discharged from the hospital on 14th postoperative day after removal of sutures and without any complication. After 8 month follow-up his wound had formed a healthy scar and there was no evidence of recurrence.

DISCUSSION

Inguinal hernia forms a major workload in general surgery setup. Giant inguinal hernia which extends up to mid-thigh in



Figure 1 Showing huge right sided inguino scrotal hernia of approx. 25x15 cm, Overlying scrotal skin is normal with no features of cellulitis or ulceration over it.

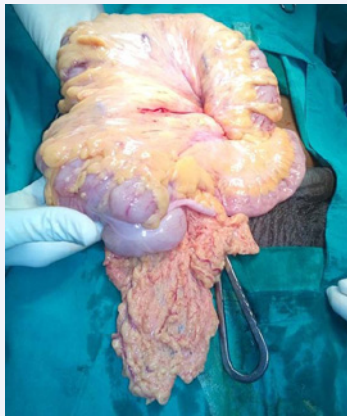


Figure 2 Showing sac contents as terminal ileum, caecum, appendix, ascending and transverse colon with omentum.

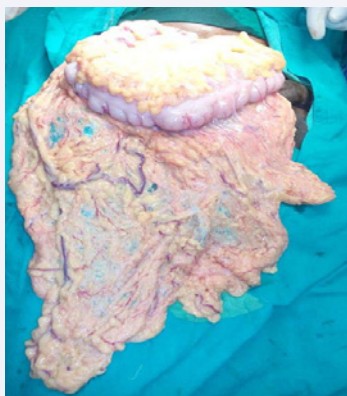


Figure 3 Showing Transverse colon with omentum.

standing position is very uncommon and are a result of primary neglect by the patient [1,2]. Giant inguinal hernia, in addition to the classical symptoms of inguinal hernia, constitutes major complication and impairs quality of life of a person. They interfere with daily work, walking, sitting and other daily activities [3,4].

Presence of edematous scrotal skin, scrotal skin excoriation and scrotal skin ulceration further complicate the healing of wounds and thereby treatment of inguinal hernia. The treatment of giant inguinal hernia are challenging to the surgeon because of various factors. There is a decrease in tidal volume and vital capacity which cause respiratory compromise. The loss of domain within the abdominal cavity makes reduction of the contents difficult. Postoperative increase in abdominal tension heightens the risk of wound dehiscence. When a large hernia is reduced, the risk of recurrence is high, and, the large amount of residual scrotal skin needs excision. In short, the surgical treatment of giant inguinal hernia should be tailored to the individual situation [4-8].

Lichtenstein tension free repair technique is employed by most of the surgeons for the treatment of inguinal hernia. While reducing a massive hernia abruptly into the small peritoneal cavity there is a risk of varied complication. Sudden increase in intra abdominal pressure (IAP) leads to cardio respiratory distress. Large amount of bowel handling leads to postoperative ileus and adhesions which further increase IAP leading to abdominal compartment syndrome (ACS). ACS is a complex of adverse physiologic consequences that occur as a result of acute increase in intra-abdominal pressure. ACS is diagnosed when there is a sustained IAP > 20 mmHg with the presence of attributable organ failure. Various techniques are described in literature for the prevention of ACS. Some of them are creation of serial pneumoperitoneum, reduction of contents with repair of defect and creation of midline abdominal wall defect to accommodate the increase IAP followed by mesh repair of defect, debulking of the hernia contents like hemicolectomy, bowel resection, omentectomy etc [8].

Desarda's Repair technique is a tissue based tension free hernia repair technique where a strip of external oblique aponeurosis is used for posterior wall strengthening. It is a physiological repair since no foreign body is used. It is successfully used for the treatment of primary inguinal hernias. We have been using this repair technique since last 5 years. Use of Desarda repair technique in treatment of giant inguinal hernia is not yet reported in the literature. This was our first attempt to use Desarda technique for treatment of primary giant inguinal



Figure 4 Showing Desarda repair being done.

hernia. It is necessary to identify the patients who are appropriate for tissue based repair. The external oblique aponeurosis even if thinned out as a result of aging or long standing large hernias, can also be used for repair if it is able to hold the interrupted sutures. Desarda repair provides a good movement or improved movement of the muscle arch, after it receives an anchorage to the inguinal ligament through a strip of the external oblique aponeurosis (EOA). Desarda technique is physiologically sound because: A) Absent aponeurotic extensions in the posterior wall are replaced with an aponeurotic structure. B) Additional muscle strength of the external oblique muscle helps the weakened muscle arch to keep the newly formed posterior wall physiologically dynamic. C) Contractions of the muscle arch are improved [9-13].

The most important prerequisite for the use of Desarda repair is presence of the ability to hold interrupted sutures [14-15]. As our patient had a longstanding giant inguinal hernia, the intraoperative condition of external oblique aponeurosis was good and we could easily fix interrupted sutures to it, without any tension. Also as described above no resection or debulking was done of the contents. The newly formed posterior wall was kept physiologically dynamic by the additional muscle strength provided by external oblique muscle to the weakened muscles of the muscle arch. Thus a good tension-free tissue repair without the use of mesh was performed.

We agree that use of an unhealthy, thinned out; weak or divided EOA tissue for repair may lead to recurrence. But our patient had an uneventful stay postoperatively without any complication and the resultant outcome was satisfactory after 8 month follow-up. More such case series needs to be performed to assess feasibility of Desarda repair in treatment of giant inguinal hernia. We thus imply based on a short duration follow-up that Desarda repair technique can be used for treatment of giant inguinal hernias

CONCLUSION

Giant inguinal hernias are uncommon in today's surgical practice. It presents a challenging problem with potentially fatal complications. Successful use of Desarda tissue based repair technique for giant inguinal hernia adds a new weapon in our surgical tissue based armament.

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Cite this article

Bansod PY, Gedam BS, Sadriwala QS, Akhtar M (2017) Scrotal Abdomen: Case of Giant Inguinal Hernia- A Case Report. *JSM Gen Surg Cases Images* 2(1): 1022.