Case Report

DOI: http://dx.doi.org/10.18203/2349-2902.isj20151105

Surgical management of giant inguinoscrotal hernias

Ketan Vagholkar¹*, Suvarna Vagholkar²

¹Department of Surgery, D.Y. Patil University School of Medicine, Navi Mumbai, Maharashtra, India

Received: 20 July 2015 Accepted: 19 August 2015

*Correspondence: Dr. Ketan Vagholkar,

E-mail: kvagholkar@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Giant Inguinoscrotal Hernias continue to pose a technical challenge to the general surgeon. Awareness of all the possible contents prior to surgery is pivotal in avoiding disastrous complications. A case of a giant inguinal hernia with transverse colon as its content is presented to highlight the diversity of contents. The natural history and surgical options for treating giant inguinoscrotal hernias is discussed. Giant inguinoscrotal hernias should be operated upon at the earliest after contrast enhanced CT evaluation for ascertaining the contents. Open surgical approach to such cases is the safest.

Keywords: Giant, Inguinoscrotal, Hernia

INTRODUCTION

Inguinal hernia continues to be the most common hernia. In majority of cases the swelling goes undetected thereby allowing it to assume a bigger size. Huge inguinoscrotal hernias which are traditionally described as giant inguinoscrotal hernias are still encountered in day to day general surgical practice. The contents usually vary from omentum to a significant portion of either the small bowel or even the large bowel. Transverse colon is an uncommon content of the inguinal hernia sac. A case of giant inguinoscrotal hernia containing the transverse colon and omentum is presented in order to highlight the possibility of this rare content in a giant inguinoscrotal hernia.

CASE REPORT

A 40 year old man presented to the hospital with a history of a large right sided inguinoscrotal swelling. The patient first noticed the swelling 10 years back. The swelling was initially reducible but later on became irreducible and

increased in size over a period of time. The patient did not give any history of bowel and bladder symptoms.

He gave history of treatment being taken from a quack with no improvement at all. Patient did not have any comorbid medical disease.

Physical examination revealed a large irreducible right inguinal hernia reaching up to the bottom of the scrotum with extensive enlargement of the scrotum almost reaching up to the mid-thigh level (Figure 1). The right testis could not be palpated in the scrotal sac. However the consistency of the swelling was soft all over. Examination of other systems did not reveal any abnormality.

Patient underwent surgical intervention through the right inguinoscrotal approach. The sac was opened which revealed omentum, few small bowel loops and a major portion of the transverse colon (Figure 2). The entire area of the posterior wall had given way. The sac was direct in nature. The surrounding musculo-aponeurotic structures were grossly attenuated best described as almost

²Department of Gynaecology, Dr. Vagholkar Hospital, Thane, Maharashtra, India

membranous. The contents were reduced with great care to ensure that the inferior epigastric vessels were not damaged. A herniotomy was done at the level of the inferior epigastric vessels after transecting the sac .The entire posterior wall was plicated with 2-0 prolene. The cremaster was excised in order to skeletonize the cord. The deep ring was narrowed by taking a prolene stitch medially after having retracted the cord laterally. A polypropylene mesh was placed over the posterior wall extending 1 inch beyond the limits of the post wall all around. That is one inch overlap over the conjoint tendon superiorly. Inferiorly it was fixed to the upturned edge of the inguinal ligament. Laterally it extended one inch beyond the deep ring and medially it was fixed to the lateral border of the rectus sheath almost skirting the midline. A closed negative suction drain was placed over the mesh and brought out through a separate incision. A corrugated rubber drain was placed in the scrotum and brought out through a separate scrotal incision. Drains were removed on the third post-operative day. Suture removal was done on tenth post-operative day. Postoperative recovery was completely uneventful.



Figure 1: Giant right sided inguinoscrotal hernia with burial of the penis.



Figure 2: The contents of the sac were transverse colon marked by the black arrows and the greater omentum marked by green arrows.

DISCUSSION

Neglect of an inguinal hernia on the part of the patient is a common occurrence even in urban India. Patients fail to realise that hernia has to be repaired by surgical intervention only and at the earliest. Such patients usually seek advice and even treatment from quacks leading to an exponential increase in the magnitude of complications. Such hernias pose a great technical challenge to the surgeon. The natural history of hernia disease is usually elaborated in the physical form in such patients.¹

With time the hernia sac expands accommodating more and more abdominal contents in the scrotum. The scrotum in fact assumes the physical role of an annexe to the abdomen. The first abdominal content to find its way into the scrotal sac is the omentum along with a few loops of the small intestine. The volume of omentum in the scrotal sac increases over a period of time thereby widening the neck of the sac especially in direct hernias. Adhesions develop rendering the hernia irreducible. Persistent exposure to straining caused even by activities of daily living aggravates the problem thereby squeezing more of the abdominal contents into the scrotal sac.² After the small intestinal loops it could either be the ascending colon and caecum in a right sided inguinal hernia or the sigmoid colon in a left sided hernia. The presence of the transverse colon in a hernia sac as in the case presented is a rarity. Therefore the surgeon has to be mentally prepared to tackle any content in a giant inguinoscrotal hernia sac. In an elective situation, a contrast enhanced CT scan of the abdomen and scrotum will give a clear picture of the possible contents. A significant loss of domain which is usually a phenomenon encountered in inguinal hernias may well be seen in neglected giant inguinoscrotal hernias.

Only a few patients may exhibit a variety of symptoms depending upon the contents.⁴ In the case presented the patient was devoid of bowel symptoms.

Local complications of giant inguinoscrotal hernias include burial of the penis and skin maceration due to urine. Skin maceration due to urine needs to be treated aggressively prior to surgical intervention. There is no role of laparoscopic surgery in such cases. Formal open approach continues to be the gold standard for such complicated giant inguinoscrotal hernias.

Reduction of the contents at the time of surgery can pose a great challenge. Various strategies can be adopted to meet this challenge both pre-operatively and intraoperatively. Maintaining the patient on a low residue diet for at least a week prior to surgery will reduce the volume of bowel contents significantly. Advising the patient a frequent head low position for resting a week prior to surgical intervention may also help. The role of preoperative pneumoperitoneum to prevent abdominal compartment syndrome in such cases is extremely limited.⁵

Intra-operatively one has to be extremely careful as damage to the contents may necessitate a formal laparotomy. Identifying and defining the boundaries of the neck or the constricting ring is the most important step. The surgical possibility for releasing the constricting ring has to be considered with utmost caution. For an indirect sac a lateral cut will suffice greatly. However for a large direct sac the option of division of the inferior epigastric vessels can be considered. Having released the constricting ring, careful adhesiolysis of the contents from the scrotal sac should be performed. For adherent

omentum, omentectomy usually suffices. Small bowel loops may be safely separated by a combination of sharp and blunt dissection taking care not to damage the mesentery. The colon as a content of the sac is the biggest challenge not only to the technical expertise of the surgeon but also to his clinical acumen in identifying and understanding the concept of a sliding hernia.^{2,3} Usually the caecum on the right side and the sigmoid colon on the left side occupy the most lateral position in the sac. Their attachments to the sac should not be considered as an adhesion. Overzealous attempts at separating such misdiagnosed adhesions can lead to a disastrous complication of a faecal fistula. Such a scenario is usually encountered when the lower abdominal portions of the colon find their way into the sac. In the case presented transverse colon was the content of the sac. Since it was free all around it could be easily reduced back into the peritoneal cavity. Having ascertained and completed the release of all the contents one should commence gentle reduction of the contents back into the peritoneal cavity. A head low position at this stage of the operation can be of great help in achieving smooth reduction. Despite all these measures being taken if the surgeon still encounters difficulty and is just not able to reduce the contents, a lower midline laparotomy is strongly indicated. This will enable safe reduction of contents from above.

Urinary bladder may at times occupy the medial portion of the sac.⁷ It is advisable and a safe practice to catheterise all such patients before commencing the surgical procedure. This ensures that the bladder is kept deep in the pelvic cavity .This reduces the chances of bladder injury during the dissection processes.

The sac needs to be closed meticulously, preferably with a non-absorbable suture material. The level of the herniotomy should always be flush with the inferior epigastric vessels.^{4,5,7} Plication of the sac along with the intervening transversalis fascia with a non-absorbable suture material helps in adding strength to the repair. The cord should be skeletonized by removing the hypertrophic cremaster muscle. This enables the surgeon to narrow the deep ring as much as possible. The placement of a mesh is mandatory in all such cases taking utmost care to ensure that the mesh extends one inch beyond the repair all around. Though the practice of keeping a closed negative suction drain has been deprecated by a few surgeons it is anyway a safe practice to keep a closed negative suction drain to prevent accumulation of tissue fluid and blood. The vacuum created in the space also helps in early and uniform attachment of the surrounding tissues to the mesh.

Dealing with the redundant scrotum in such hernias may at times be problematic.^{4,5} A partial removal of the redundant scrotum may be cosmetically appealing to the patient. However excessive surgical excision of the redundant scrotum may heighten the chances of

haematoma formation and infection. Such attempts may at times jeopardise the successful outcome of the hernia repair due to infection. Leaving behind the empty scrotum may be a viable option. The scrotum will automatically shrink in size over a period of time. The time frame for this process may range from 6 months to 18 months.

CONCLUSION

Giant inguinoscrotal hernias should be operated upon as soon as possible.

Pre-operative contrast enhanced CT is of great help in ascertaining the contents of the sac

Formal open approach is the gold standard for such cases. Laparoscopy has no role whatsoever in such cases.

Variety of intra-operative techniques based on anatomical assumptions should be adopted to ensure a safe and successful surgical outcome.

ACKNOWLEDGEMENTS

We would like to thank Mr. Parth K. Vagholkar for his help in typesetting and proof reading the manuscript.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

REFERENCES

- 1. Serpell JW, Polglase AL, Anstee EJ. Giant inguinal hernia. Aust N Z J Surg. 1988;58:831.
- 2. Leibovitch I, Gutman M, Skornick Y, Rozin RR. Repair of giant inguinoscrotal hernia with ensuing fatal complications. Isr J Med Sci. 1990;26:408-10.
- 3. King JN, Didlake RH, Gray RE. Giant inguinal hernia. South Med J. 1986;79:252-3.
- 4. Moss G. Techniques to aid in hernia repair complicated by the loss of domain. Surgery. 1975;78:408-10.
- 5. Ziffren SE, Womack NA. An operative approach to the treatment of giant hernias. Surg Gynecol Obstet. 1950;91:709-19.
- 6. Vagholkar K. Strangulated femoral hernia: a challenging surgical vignette case report and review of literature. Int J Clin Med. 2014;5(2):72-5.
- 7. Kyle SM, Lovie MJ, Dowle CS. Massive inguinal hernia. Br J Hosp Med. 1990;43:383-4.
- 8. Merret ND, Waterforth MW, Green MF. Repair of giant inguinoscrotal inguinal hernia using marlex mesh and scrotal skin flaps. Aust N J Surg. 1994;64:380-3.

Cite this article as: Vagholkar K, Vagholkar S. Surgical management of giant inguinoscrotal hernias. Int Surg J 2015;2:693-5.