



Case report

Simple repair of a giant inguinoscrotal hernia

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ABSTRACT

We present a case of a giant inguinoscrotal hernia that extended almost to the patient's knees. Operative repair was through a standard transverse inguinal incision. No debulking or abdominal enlargement procedure had to be performed. The repair was done with a tension-free, onlay, prosthetic mesh repair.

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1. Case report

A 46-year-old male from Cape Town, presented at the surgical out-patients department with a large scrotal swelling that was gradually getting bigger. He noticed it two years prior to presentation, but thought it would disappear over time. His main complaint was difficulty in walking. He had no abdominal, gastrointestinal or urinary complaints and had no history of any medical conditions. He also did not have any significant family history.

Examination revealed an irreducible giant, left-sided, inguinoscrotal hernia that extended to his knee level. Systemic examination was normal (Figs. 1 and 2).

Operative repair was approached through a standard transverse inguinal incision. The hernia sack was opened and the contents eviscerated (Figs. 3 and 4).

The sac contained most of the small bowel, the cecum and appendix, ascending and transverse colon as well as omentum.

The internal ring had to be enlarged in order to reduce the contents into the abdominal cavity. Monitoring of airway pressures was done to assess the need for compartment enlarging procedures, but was deemed not to be necessary.

The hernia sac was tied off proximally and the cord structures and testis were spared. The distal part of the sac was left in the scrotum. The previously enlarged internal inguinal ring was closed with interrupted non-absorbable monofilament sutures (Fig. 5) and the hernia repair was done with a tension-free onlay prosthetic mesh repair (Fig. 6).

The patient did not need any post-operative mechanical ventilatory support and was discharged on the third postoperative day.

At follow-up visit on day 10, the patient only complained of early satiety. The scrotum was not markedly swollen and the hernia repair was intact.

2. Discussion

Giant inguinoscrotal hernias have been defined as those that extend below the midpoint of the inner thigh when the patient is in the standing position.¹

The size of the hernia often causes difficulty in walking, sitting or lying down. The penis is often buried inside the scrotum causing urine to dribble over the already stretched out scrotal skin. This can lead to ulceration and secondary infection. Patients can also complain of difficulty in voiding.²

Other complications may be incarceration leading to bowel obstruction as well as strangulation of bowel contents.

Small bowel and omentum is commonly found in the hernia sac though stomach, cecum, appendix, sigmoid colon, urinary bladder and ovaries have been described.³ A case of herniation of the kidney and ureter has been described.⁴

In our case, as was described in a case report by Tahir et al., the ileum, cecum, appendix, ascending and transverse colon was found in a left sided inguinal hernia together with most of the small bowel.³

There are three specific problems with management of these giant inguinal hernias.

1. Loss of domain.
2. High risk for recurrence.
3. Residual scrotal skin and scrotal haematoma.

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Fig. 1. Patient in standing position.



Fig. 2. Patient supine.

2.1. Loss of domain

In patients with giant inguinoscrotal hernias the abdominal viscera is outside the abdominal cavity and often the abdominal cavity has become adapted to being empty. Reduction of the herniated viscera leads to a sudden increase of intra-abdominal and intrathoracic pressures that can lead to respiratory compromise. This is associated with a high mortality.⁵

Several techniques have been described to address this loss of domain including debulking of abdominal contents or enlarging the abdominal cavity. Extensive bowel resections, for example total or hemicolecotomy as well as omentectomy and even small bowel resections, have been described.⁶ Progressive, artificially induced pneumoperitoneum has been attempted, but usually causes enlargement of the hernia sac, rather than the abdominal cavity and is therefore not very effective.⁷

Post operative bladder pressures and airway pressures were monitored to confirm that there was no need to enlarge the abdominal compartment (Fig. 7).

Enlargement of the abdominal wall has been described using marlex mesh and scrotal skin flap, after creating an anterior abdominal wall defect.⁸ Several musculocutaneous flaps have been used and component separation techniques have also been described.^{2,5,9}

In our case, none of these techniques were necessary.

2.2. High risk for recurrence

The risk for recurrence is much higher in giant inguinoscrotal hernias than other inguinoscrotal hernias. Mesh repair using a tension free technique should be used wherever possible.¹⁰ We used the tension-free onlay mesh repair as described by Lichtenstein.¹¹ Some surgeons will sacrifice the spermatic cord and testis and close the defect without the need to reconstruct an inguinal canal.¹²



Fig. 3. Abdominal viscera from hernia sac.

2.3. Residual scrotal skin and scrotal haematoma

When the scrotal skin is not used for abdominal wall reconstruction after mesh hernioplasty, most authors agree that the scrotal skin should be left redundant, as it retracts due to the dartos muscle.^{2,3} We therefore did not offer this patient scrotal reconstructive surgery.

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.^{2,3}

A firm compression bandage with adequate drainage must be used to prevent the development of a large scrotal haematoma.² We left the distal hernia sac and placed a suction drain in the scrotum to prevent a large scrotal haematoma. The drain was removed on the second post-operative day.



Fig. 4. Reducing abdominal viscera.

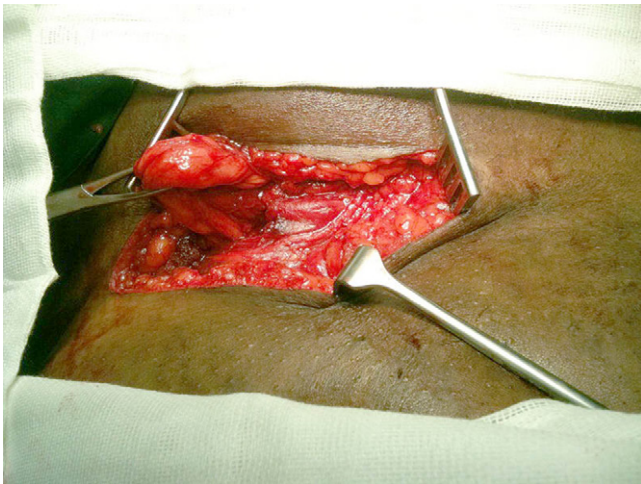


Fig. 5. Abdominal viscera reduced.

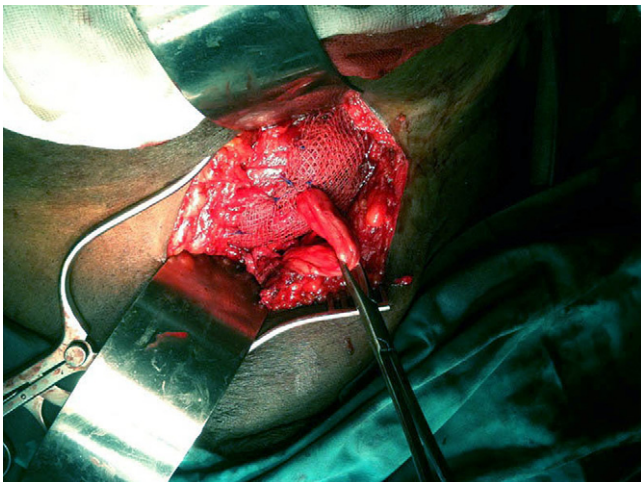


Fig. 6. Tension-free onlay mesh repair.

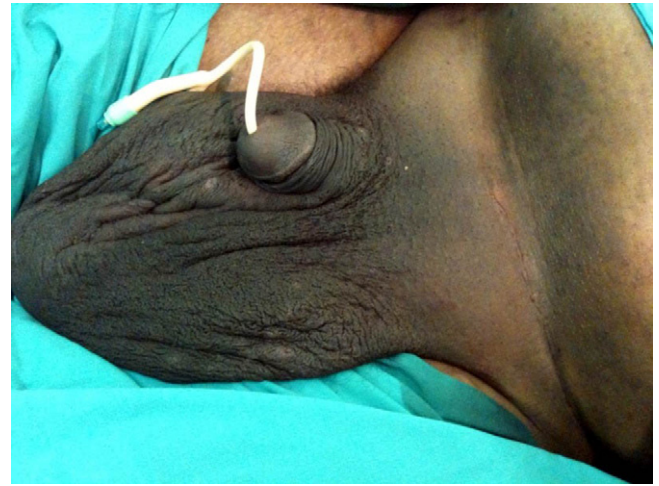


Fig. 7. Post operative result.

3. Conclusion and recommendations

Giant inguinal hernias are uncommon in modern surgical practice, but can present a challenging problem to the treating surgeon, as they can lead to potentially fatal complications.^{3,5} Adequate pre-operative planning as well as intra-operative and postoperative monitoring is essential. Close cooperation between the surgeon, the plastic surgeon and the anaesthetist will result in improved outcomes.

We recommend that:

- Informed consent for several repair options, with or without orchidectomy, must be obtained.
- Adequate intra- and postoperative monitoring be used to measure intra-abdominal and respiratory pressures. Abdominal cavity enlargement procedures or sacrificing of visceral contents should be avoided in patients who maintain acceptable abdominal and airway pressures.

Conflicts of interest statement

None declared.

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Ethical approval

Informed consent was obtained from the patient to publish this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

No alterations were made.

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