



## CASE REPORT

# GIANT STRANGULATED NEGLECTED INGUINAL HERNIA; IS ORCHIDECTOMY STILL NEEDED?

By

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### Abstract

**Aim:** Giant inguinal hernia is a rare presentation; it is challenging issue for both physician and surgeons, especially if it is strangulated and neglected. In such circumstances it needs a special management and judicious surgical interference with major gut resection, in addition to orchidectomy to perform obliteration repair of inguinal canal in such infected field.

**Case presentation:** An old blind male 60 years age presented to the casualty department Assuit university hospitals complaining of two weeks history of intestinal obstruction symptoms on top of a longstanding giant inguinal hernia that was progressing since 20 years. Examination revealed neglected strangulation of Lt. inguinal hernia in a high risk patient, with patches of scrotal skin gangrene. Urgent preparation and control of the risk factors was done, followed by surgical interference through inguino-scrotal and abdominal incisions for resection anastomosis of the strangulated intestine, Lt. Orchidectomy, and obliteration repair of the Lt. inguinal canal. Gangrenous infected scrotal skin was resected prior delayed primary closure.

**Conclusion:** In spite of the advancement of medical care and hospitals, still neglected cases may be seen in surprisingly huge sizes, usually complicated, that needs a special care and wise decision especially if associated with other risks. Unilateral orchidectomy still may be a solution in such old feeble patient, with infected surgical field, with obliteration repair of inguinal canal.

**Keywords:** Mega hernia, complicated hernia, orchidectomy.

### INTRODUCTION

Hernia is a common surgical problem, more than 600,000 hernia repairs every year in the United States.<sup>(1)</sup> Inguinal hernia repair may be performed as anterior open-suture<sup>(2,3)</sup> or anterior-open-mesh,<sup>(4,5)</sup> posterior-open<sup>(6)</sup> or laparoscopic as trans abdominal pre peritoneal repair (TAPP) or as total extra peritoneal repair (TEP).<sup>(7)</sup> However the treatment of inguinal hernia is a cause for constant debate among surgeons.<sup>(8)</sup>

In case of a long-standing hernia, there may be massive adhesions contributing to the difficulties in dissection. Diminished fibrin degradation is a common pathway for

the formation of adhesions.<sup>(9)</sup> High friction,<sup>(10)</sup> inflammatory reaction,<sup>(11)</sup> and ischemic tissue<sup>(12)</sup> have been found to cause adhesions. These changes have significant effects on the surgical treatment. Postoperative complications and co-morbidity may increase the relative risk for re-operation after hernia repair.<sup>(13)</sup>

A strangulated hernia is a complication of a hernia. The overlying pathogenesis is the damage of the bowel which needs to be resected if not viable.<sup>(14)</sup> Older age, severe coexisting diseases and late hospitalization are main causes of unfavorable outcomes. The overall complication rate may be 19.5%, of which major

complications were 15.1%.<sup>(15)</sup>

The gold standard for the repair of inguinal hernia is the Lichtenstein repair (anterior approach). However when multiple recurrences or giant hernias are present, it is necessary to choose different approaches because the incidence of poor results increases.<sup>(16)</sup>

Although orchidectomy is rarely required during inguinal hernia repair, it is frequently a topic of preoperative concern,<sup>(17)</sup> as an aid in completely closing the inguinal canal in patients with high potential recurrence rates,<sup>(18)</sup> this ideal repair of the inguinal region offers the only possibility of reasonably good repair in some cases, and the advisability of orchidectomy must be weighed against the desirability of increasing the chance of permanent cure, and should be reserved for elderly patients with poor structure.<sup>(19)</sup>

The risk of orchidectomy was greatest in patients with incarceration (22 times), and only 41% of procedures performed for specifically recorded testicular or spermatic cord abnormalities,<sup>(17)</sup> but the testis itself was diseased in about 21% of cases, and the major causes for testicular resection were complicated and large inguinal hernia and hydroceles. These two conditions are a source of socio-economic hardship and considerable morbidity in a farming population.<sup>(20)</sup>

In our case presentation we will emphasize the management of such surprisingly giant strangulated neglected inguinal hernia in such old feeble patient with associated co-morbidity.

## CASE PRESENTATION

A 60 years old blind male was presented to our casualty department, Assuit university hospital with multiple referral from many hospitals and centers in upper Egypt to our hospital as High Risk Patient with a huge neglected strangulated left inguinal hernia, presented with intestinal obstruction symptoms as persistent vomiting, colicky abdominal pain, distension, constipation, and locally it was very painful and tender with patches of gangrene over the ipsilateral stretched scrotal skin, with failure to apply urethral catheter as external genital mail organ was inaccessible. The hernia was enormously very large that it needs to be holed by an associated person with the patient; otherwise the patient dropped down by its heaviness and associated tenderness (Fig. 1).

History taking reveals a 60 years old blind male with long standing history (20 years) of Lt. side inguinal hernia progressively increasing in size and recently (2 weeks) developed complication. It was associated with multiple co-morbidities as in compliance hypertension and diabetes, and a suggestive history of cardiac ischemic attacks.

Examination reveals mild tachycardia (pulse: 100/ min.), mild fever (temperature: 38°C), mild hypertension (pressure: 140/95), normal respiration, abdominal

distension with scattered tenderness especially at the pelvic region; other hernia orifices are intact irrespectively to weak abdominal musculature, with no history of previous surgery of any kind.

Investigations reveal normochromic normocytic anemia (HB was 9.5gm/dl), with high leucocytic count (27,000/dl), multiple gas fluid level in abdominal x-ray film in favor of a distal small bowel obstruction and mild central colonic distension, abdominal sonar reveals mild free intra-peritoneal collection of sero-purulent exudates content as evident by sonar guided aspiration, while scrotal sonar reveals distended hernia content by gas and fluid, wit failure to delineate the testis within this thickened infected severely edematous scrotal skin.

Pre operative assessment and preparation with anesthesia and ICU consultation Preparation for urgent surgical treatment was done by naso-gastric suction tube, iv line with fluid, antibiotic administration, and written high risk consent (ASA-5) for surgery and unilateral orchidectomy was signed.

**Surgical treatment:** Under general anesthesia, inguino-scrotal incision was done to explore the scrotum with suction of around 2 liters of offensive pus and feculent content from the hernia sac around gangrenous terminal ileum, ascending colon, and gangrenous perforated sigmoid with descending colon (Figs. 1,2), so another RT paramedian abdominal incision was performed with subsequent total colectomy to resects all gangrenous parts and fashion one anastomosis at the ileo-rectum (Figs. 3,4). Then orchidectomy with complete obliteration with no mesh repair due to infected field of the Lt. inguinal canal in layers was done (Fig 5), followed by resection of the gangrenous scrotal skin leaving small area to close the ipsilateral scrotal compartment that was approximated by few stitches prior delayed primary closure (Fig 6), lastly abdominal closure with a drains was done for post-op. follow up.

**Follow up:** The patient was transferred post-operatively to ICU for 4 days then to the regular ward after.

Post operative follow up treatment was prescribed including parenteral hyper alimentation treatment through central feeding line and close monitoring with the fluid chart, with daily calculation of the in and out according to serum electrolytes. Antibiotics was given in combination (Ampicillin 500 mg. vial / 8 hours, gentamycine 80 mg amp. / 8 hours, metronidazole 500 mg infusion / 12 hours, and local gentamycine ointment for scrotal skin daily), also non-steroidal anti-inflammatory drugs was added as pain killer plus local dressing on daily basis, and care of associated co-morbidity problems.

Delayed primary scrotal sutures stitches were done 5 days after initial operation under local anesthetic infiltration in the edge of the wound.

The patient was discharged from the hospital 12 days post-operatively, for outpatient follow up.



*Fig 1. The giant strangulated hernia.*



*Fig 2. The incision and suction of toxic collection around strangulated gut.*



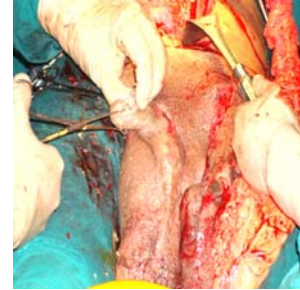
*Fig 3. Intestinal resection.*



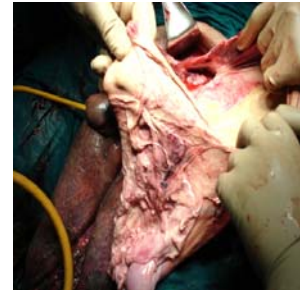
*Fig 4. Ileo-rectal anastomosis and urinary catheter application.*



*Fig 5. Lt. Orchiectomy and obliteration of the inguinal defect.*



*Fig 6. Abdominal incision and scrotal wound during dressing exchange (after resection of gangrenous scrotal areas with approximation stitches).*



## DISCUSSION

Presentation after a long standing history of hernia is unusual nowadays, and this may be considered a precursor for complications as it is associated with massive adhesions contributing to the difficulties in dissection,<sup>(21)</sup> with significant effect on surgical treatment,<sup>(8)</sup> superadded by the significant effect of other aggravating factors as the complex hernia injury (size, degree of sliding, multiplicity), patient characteristics (age, activity, respiratory disease, dysurea, obesity, constipation), or special surgical circumstances (difficulties, infection risk).<sup>(22)</sup>

Diagnosis of the case was as simple as it was evident clinically,<sup>(1,21)</sup> so that investigations were needed only to assess the patient general condition and assess its associated co-morbidity, as the outcome of a hernia repair may be influenced by local and systemic co-factors.<sup>(8)</sup> Moreover it may increase the relative risk of post operative complications and recurrence.<sup>(23-27)</sup> Unfortunately, many of these aggravating co-factors were found in our case as old age, diabetes, hypertension, late admission, emergency repair, raised abdominal pressure by distension, intestinal obstruction, coexisting infection in the groin, and risky anatomical characteristics of the hernia.

The size of the hernia was enormously huge reaching below the patient's knees, with complete disappearance of external genital organ within the oedematous scrotal hernia coverings that makes urinary catheter deployment impossible till intra-operative applications; this huge size has its negative impact on hernia repair outcome.<sup>(8)</sup> In association with the long history of herniation without medical consultation for about 20 years may be a possible factor for a detrimental outcome.<sup>(28)</sup>

Strangulation was also another risk factor in our case,<sup>(29)</sup> in addition to late hospitalization that can cause unfavorable outcomes in the management of such hernia.<sup>(15)</sup>

Treatment was decided via open surgical approach as it may need intestinal resection anastomosis, which is not feasible in emergency department through laparoscopic rout, however differentiation between open versus laparoscopic approaches was a matter of debate in literatures among surgeons.<sup>(21,30-32)</sup>

The technique included exploration of the inguinal region through inguino-scrotal incision, with additional abdominal incision for intestinal resection anastomosis, as these giant hernias may require special consideration and judicious surgery.<sup>(33,34)</sup>

Resection of the strangulated intestine (the entire colon and part of the ileum) was carried on through the additional abdominal incision, with primary ileo-rectal

anastomosis, followed by complete obliteration repair of the left inguinal canal after orchidectomy procedure.

Orchidectomy was needed in presence of this massive infection, strangulated ruptured intestine, to help in obliteration repair of Lt. inguinal canal especially in this old patient with the previously mentioned circumstances. In agreement with previous data stated that Orchidectomy allow the ideal repair of inguinal region, and may be the only possibility of reasonably good repair in some cases, however it should be reserved for elderly patients,<sup>(19)</sup> with special consideration in complicated and large hernia.<sup>(20)</sup> The decision of Orchidectomy must be taken pre-operatively with a written consent after detailed explanation to the patient, with detailed documentation in the operative record.<sup>(17)</sup> Other authors may use the technique of spermatic cord resection only as an aid in completely closing the inguinal; canal, but the propensity of consequent testicular atrophy is very high.<sup>(18)</sup>

In conclusion In spite the rigor of medicine, and extensive medical assurance, still we can encountered such long history of medical problem, without consultation that was complicated to a risky condition aggravating the case and may interfere with the hopeful sound outcome. So early consultation and wise treatment is mandatory to guard against unwonted complications especially in association with other co-morbidity.

Complete obliteration repair of inguinal canal after orchidectomy may be considered in such case circumstances without harmful impact on the patient.

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