

CASE REPORTS

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Unexpected huge testicular infarct complicating obstructed adult groin hernia: a case report

Shong Sheng Tan¹ , Mohamed Ashraf Mohamed Daud^{3*} , Siti Rahmah Hashim Isa Merican^{1,3*} ,
Mohd Azem Fathi Mohammad Azmi^{1,3} and Nik Mohd Nurhafizi Nik Anuar^{2,3}

Abstract

Background: Testicular infarction/gangrene is usually caused by testicular torsion. Strangulated inguinal hernia complicated with testicular infarction is unusual in adults in contrast to many reported cases involving pediatric patients.

Case presentation: We report an unusual case of testicular gangrene in an elderly man presented with abandoned right obstructed inguinoscrotal hernia. He had right open hernioplasty with right orchidectomy.

Conclusion: Obstructed adult inguinoscrotal hernia potentially leading to testicular gangrene, despite being uncommon sequelae. The surgeon should always routinely examine the testis during surgery for complicated hernia to prevent missed gangrenous testis behind.

Keywords: Testicular infarct, Obstructed, Complicated groin hernia

1 Background

Testicular infarction/gangrene is usually caused by testicular torsion. Strangulated inguinal hernia complicated with testicular infarction has been reported involving mostly pediatrics population however found to be unusual in adults, with one of the cases requires orchidectomy.

Testicular infarct is a rare complication of adult groin hernia. We report a case of testicular infarction associated with obstructed inguinoscrotal hernia.

2 Case presentation

A 66-years-old elderly man, retired farmer, was admitted to our hospital with complaint of painful irreducible right inguinoscrotal swelling for two days. He has had

right groin swelling for 2 years prior to presentation. His symptoms included constipation and multiple episodes of bilious vomiting. He had no abdominal pain or previous history of scrotal pain. He denied smoking, chronic cough or lower urinary tract symptoms.

Physical examination revealed that he was dehydrated and in painful distress. His blood pressure was 120/90 mm Hg with his pulse was 100 beats per minute. Abdominal examination revealed distended abdomen and right inguinoscrotal swelling with dilated veins over scrotal skin. The mass was irreducible, tender, and warm to touch. The right testis was not identified separately from the mass. (Fig. 1) Digital rectal examination revealed an empty rectum. He was diagnosed with strangulated right inguinoscrotal hernia.

After adequate resuscitation, he had emergency right groin exploration by the general surgery team. Intraoperative findings showed right indirect inguinal hernia with content being part of small bowel measuring about 15 cm, obstructed at the deep ring. The bowel appeared to be viable thus it was reduced and open hernioplasty

*Correspondence: mashrafmdaud@usm.my; sitimerican@gmail.com

¹ Department of Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia

³ Hospital Universiti Sains Malaysia, Jalan Raja Perempuan Zainab II, 16150 Kubang Kerian, Kelantan, Malaysia

Full list of author information is available at the end of the article



Fig. 1 Pre-operative picture show right giant inguinoscrotal swelling with dilated veins over right scrotal skin



Fig. 2 Post-operative specimen of right orchidectomy, weighed about 3 kg and measured 20 cm × 20 cm

performed. Beyond the distal hernia sac, was a palpable firm mass outside the sac. This palpable mass by ultrasound showed homogenous lesion in the right scrotum with absent Doppler signal. Urology team was consulted on table for assessment. Further exploration revealed a right testicular tumor with hard consistency that weighed about 3 kg. Right radical inguinal orchidectomy was performed in view of suspected malignancy. (Fig. 2) Tumor markers taken post-operatively were normal [LDH (Lactate dehydrogenase): 485 U/L; beta hCG (Human chorionic gonadotrophin): <0.1 IU/L; AFP (Alpha fetoprotein): 1 µg/L]. Histopathological examination confirmed diagnosis of right testicular infarction. (Fig. 3).

Patient made good post-operative recovery and discharged home after 1 week of admission. He remained well during our clinic follow-up 6 months later.

3 Discussion

Groin hernia repair is a very common surgical procedure done by general surgeons worldwide [1]. Neglected or delayed repair of groin hernia can cause failure of reduction, obstructed bowel segment(s) and strangulation, with increased occurrence due to late presentation [2, 3].

Complicated groin hernias are still prevalent. Those patients that present late would have complained of at least one symptom before hospital visit which could be delayed due to financial limitation, ignorance or fear of surgery [4].

Testicular infarction is usually caused by testicular torsion, which is usually a surgical emergency among adolescents. This acute condition is often diagnosed



Fig. 3 Gross specimen of right orchidectomy. On cutting the specimen, presence of blood clots and necrotic materials within, no viable mass or solid area seen

clinically however Doppler ultrasound could be useful adjunct diagnostic tool.

Obstructed adult inguinal hernia causing testicular infarction is a very uncommon complication. This can affect in about 3 out of 10 boys with incarcerated hernias [5, 6]. It is often sequelae of impaired blood supply within the inguinal canal. There are 3 reported adult cases, where one of these cases required orchidectomy while other cases had testes spared [7–9]. The diagnosis of testicular infarct can be missed as sequelae of complicated hernia which happened to our patient. Intra-operative Doppler ultrasound revealed homogenous lesion within the right scrotum with absent Doppler signal suggests non-viable testis, thus decision was made for orchidectomy.

Arterial compromise of testis due to obstructed hernia share similar pathophysiology with torsion. To avoid permanent ischemia, attempt of hernia reduction and restoration of blood flow should be in less than 6 h of onset of symptoms [9]. The testis of our patient unfortunately was not salvageable due to late presentation beyond acceptable time limit beyond obstruction and he had right orchidectomy following right open hernioplasty.

4 Conclusion

Obstructed adult inguinoscrotal hernia potentially leading to testicular gangrene, despite being uncommon sequelae. The surgeon should always routinely examine the testis during surgery for complicated hernia to prevent missed gangrenous testis behind.

Abbreviations

LDH: Lactate dehydrogenase; Beta hCG: Beta human chorionic gonadotropin; AFP: Alpha fetoprotein.

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Author contributions

TSS has made substantial contribution in treatment plan and performance, editing the final and modified version of the manuscript. MAMD and SRH have made substantial contribution in treatment of the patient and writing of initial version of the manuscript. MAF and NMH had made substantial contribution in treatment plan and performance, editing the final and modified versions of the manuscript. All the authors have participated in patient treatment and writing the article. All authors read and approved the final manuscript.

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Availability of data and materials

Patient's medical files and operation note are available in Hospital Universiti Sains Malaysia.

Declarations

Ethics approval and consent to participate

The treatment procedure was according to ethical guidelines of our centre. We obtained written informed consent for participation from the participant patient.

Consent for publication

Written informed consent for publication of case report was obtained from the participant patient.

Competing interests

There was no funding for the study and no conflicts of interest to disclose.

Author details

¹Department of Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia. ²Department of Surgery, Faculty of Medicine, Universiti Sultan Zainal Abidin, Kampung Gong Badak, 21300 Kuala Terengganu, Terengganu, Malaysia. ³Hospital Universiti Sains Malaysia, Jalan Raja Perempuan Zainab II, 16150 Kubang Kerian, Kelantan, Malaysia.

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