



Urological Emergency: A Testicular Torsion of Undescended Testes in the Inguinal Canal “A Common but Still Uncommon”

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Authors' contributions

This work was carried out in collaboration among all authors. Author SH is the main and corresponding author for this manuscript. Author SS is responsible in supervising and editing the manuscript. Author AA is responsible in further editing of the manuscript. Author HA is responsible in finalizing the manuscript. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Testicular torsion is a urologic emergency that needs immediate attention and treatment. However, the occurrence of torsion of the undescended testis (UDT) is uncommon which make the dilemma of diagnosis of the torsion in undescended testis is challenging. We are reporting a case of a Malay teenager presented with one day history of inguinal swelling and pain. On examination the swelling measured 3 cm x 5cm at inguinal region with erythematous skin changes. However, no testes felt at left hemiscrotum. Provision diagnosis of strangulated right inguinal hernia with differential diagnosis of inguinal abscess or torsion of left undescended testicle was made. We proceeded with left inguinal exploration. We performed orchiectomy in view of non-viable left testes. This case discusses the diagnostic dilemma and the treatment options in a left inguinal swelling mimicking a strangulated inguinal hernia presentation.

Keywords: Cryptorchidism; testicular torsion; undescended testes.

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1. INTRODUCTION

Cryptorchidism or undescended testes is not uncommon and usually present at birth especially in premature newborn [1]. It is a common congenital anomaly affecting 3 % of the genitalia of male. Patient with undescended testes has a higher risk of developing the torsion [2] and most cases will be treated at a younger age as the risk of malignancy and infertility will increase [3].

2. CASE PRESENTATION

A healthy 15-year Malay boy presented to the emergency department with sudden onset of left inguinal pain and swelling for one day. Patient has history of left undescended testes since birth and did not seek any medical attention.

Otherwise, patient denies any fever and no symptoms of intestinal obstruction. Clinically there was a swelling at the left inguinal region measuring 3x5 cm, tender, erythematous and not reducible. Left hemiscrotum was empty. Right testes was normal in size. Laboratory investigation showed slightly leucocytosis with white cell count $12 (10^9/L)$. Abdominal X-ray showed no dilated small bowel. The initial diagnosis was strangulated left inguinal hernia. We then proceeded with left inguinal exploration and performed high orchiectomy. Intraoperative noted gangrenous left undescended testes at the inguinal canal, twisted twice (Fig. 1 and Fig. 2). Patient had a speedy recovery and was discharge home on day two of operation. Histopathology results revealed similar features of ischemic testes with intraoperative operative finding with no evidence of malignancy changes.

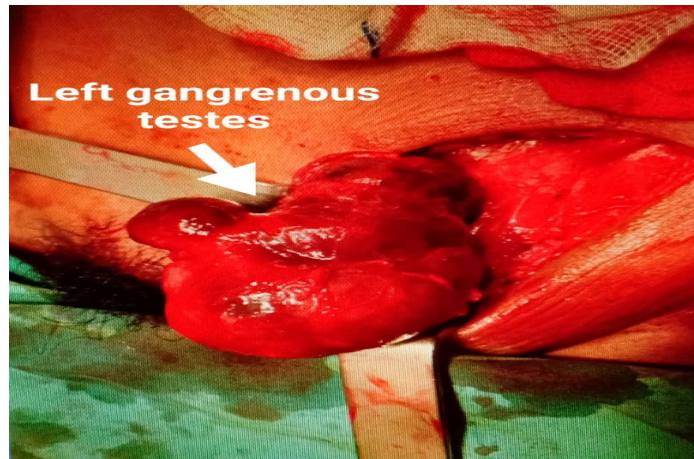


Fig. 1. Intraoperative findings of gangrenous left undescended testes at the inguinal canal



Fig. 2. Specimen of left orchidectomy of cord structure

3. DISCUSSION

Cryptorchidism or undescended testes (UDT) can be found in 8% of term newborns and affected up to 33% of premature newborn [1]. Most cases diagnosed in the first weeks of life either by family or attended person after delivery ie doctors or nurses. Cases will be treated conservatively until 6 months of life as spontaneous descend will occur during this time. Most cases will be treated at a very young age as cryptorchidism has higher risk of malignancy and infertility. Orchidopexy is ideally performed before 1 year of age. Patient may present with acute emergencies as this case with torsion in UDT. Certain studies showed 9.7% of torsion cases are undescended testes with up to 21% incidence in certain literature [2][3]. Thus, risk of torsion reported to be higher in UDT [4]. The presentation may mimic incarcerated or strangulated inguinal hernia. High suspicion and early intervention in cases of empty hemiscrotum with tender and erythematous inguinal swelling is recommended to salvage the testes before it ended up non-viable. The role of Doppler ultrasound may help to identify the causes however it does add little value as surgical exploration is still mandatory. As to this case, the presentation appears to be late with more than 24 hours. The approach was through inguinal exploration and appropriate attempt to salvage the testes has been made before patient end up with orchiectomy.

Reported cases for testicular torsion, the salvage rates are 90% to 100% if exploration is performed within six hours onset of symptoms, further decline to 50% if symptoms are present for more than 12 hours, and less than 10% if symptom more than 24 hours [5]. Other reported cases of torsion in UDT, most patient with late presentation of more than 12 hours is not salvageable [6][4]. To assess the viability of testes, one study has been conducted with few parameters being assessed. The presentation of testicular swelling, imaging such as doppler ultrasound, and the bleeding grade when incising of the tunica albuginea. From these parameters, one may decide whether to salvage by orchiopexy or orchiectomy in unsalvageable testes [7]. Exploring contralateral testes for orchiopexy in UDT is still debatable and one would advocate for orchiopexy on the contralateral site as tunica anomalies was found almost 50% on the contralateral side [8]. Such cases only focus on normal descended testes but not enough data can be supported to advocate such technique in

undescended testes. The reported of malignancy in torsion of UDT remained very rare [9,10].

4. CONCLUSION

High index of suspicious torsion in cryptorchidism should be made in young patient with empty hemiscrotum when presented inguinal swelling. A prompt diagnosis and early surgical intervention should be made to increase the possibilities to salvage the testes. Contralateral orchiopexy is recommended in most cases of torsion however in cases of undescended testes, it is debatable.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard ethical approval has been collected, Patient consent has been obtained and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Virtanen HE, Toppari J. Epidemiology and pathogenesis of cryptorchidism, Human Reproduction Update. 2008;14(1):49–58. Available:<https://doi.org/10.1093/humupd/dmm027>
2. Kargl S, Haid B. Torsion of an undescended testis — A surgical pediatric emergency. Journal of Pediatric Surgery, j. jped Surg; 2019. Available:<https://doi.org/10.1016/j.jpedsurg.2019.06.018>
3. Johnston JH. The Undescended Testis. Archives of Disease in Childhood. 1965;40(210):113–122. DOI:10.1136/adc.40.210.113
4. Zilberman D, Inbar Y, Heyman Z. Torsion of the cryptorchid testis--can it be salvaged? Available:[https://doi:10.1016/S0022-5347\(06\)00329-6](https://doi:10.1016/S0022-5347(06)00329-6)
5. Kapoor S. Testicular torsion: A race against time. Int J Clin Pract. 2008; 62(5):821–827 Available:<https://doi.org/10.1111/j.1742-1241.2008.01727.x>
6. Naouar S, Braiek S, El Kamel R. Testicular torsion in undescended testis: A persistent challenge.j.ajur; 2016.

- Available: <https://doi:10.1016/j.ajur.2016.05.007>
7. Marcello C, Maria RD. Predictors of testicular viability in testicular torsion, j. Jpurol. 2007.
Available: <https://doi.org/10.1016/j.jpuro.2007.01.194>
8. Bolln C, Driver CP, Youngson GG. Operative management of testicular torsion: Current practice within the UK and Ireland, J. Jpurol. 2005.
9. Senthilnathan R, Vivek S. Dermoid cyst of an undescended intra-abdominal testis with torsion: A rare case report. J Indian Assoc Pediatr Surg. 2016;21(1):36-37.
DOI:10.4103/0971-9261.165841
10. Sheldon, Curtis A. Undescended testis and testicular torsion. Surgical Clinics of North America. 1985;65(5):1303–1329.
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