JGPEMN
ISSN 2091-279X
eISSN 2362-1168

CASE REPORT

Management of testicular torsion by a general practitioner in remote Nepal: a case report

Binod Dangal[1] Satish Niraula[2], Vivek Chaudhary[3]

Date of submission: 12 Jun 2024

Date of acceptance: 29 Jun 2024

Date of Publication: 28 Aug 2024

Correspondence:
Dr. Binod Dangal
MDGP, MPH, Medical Director
Tsho-Rolpa General Hospital,
Charikot, Dolakha, Nepal
Email: binod.dangal999@gmail.com

How to cite:
Dangal B, Niraula S, Chaudhary V. Management of testicular torsion by a general practitioner in remote Nepal: a case report. J Gen Pract Emerg Med Nepal. 2024 Dec;11(18):65-67.

Online information
DOI:
https://doi.org/10.59284/jgpeman274

OPEN ACCESS

Abstract

Introduction: Testicular Torsion (TT) is the most common cause of acute scrotal pain in emergency setting in puberty age group. Delay in diagnosis and treatment lead to permanent necrosis of the testis. Rapid diagnosis and early exploration of the scrotum is the major step to salvage the testis.

Clinical Case: A-14-year old male child with no significant comorbidity presented in emergency department with acute right sided scrotal pain and swelling for 12 hours with no history of fever and trauma. On examination, right testicular tenderness and swelling was noted along with positive Deming's sign, negative Phren's sign and absent cremasteric reflex. Doppler Ultrasound showed coarse echotexture with no vascularity in right testis. Emergency surgical exploration was done and the findings were necrotic right testicle with 5 times rotation. Right orchidectomy and left orcheopexy was performed in remote setting by a general practitioner.

Conclusion: Testicular Torsion is the emergency condition of acute scrotal pain leading to permanent loss of testicle. Prompt surgical exploration is the cardinal point in treatment after proper diagnosis with Doppler Ultrasound.

Keywords: General Practitioner, Orchidectomy, Orcheopexy, Testicular torsion

INTRODUCTION

Testicular torsion (TT) is the acute condition of scrotum which results after twisting of spermatic cord and its contents and presents with severe scrotal pain, edema and reddening. Overall, it affects 3.8 per 100000 males younger than 18 years of age and accounts for 10-15% of acute scrotal diseases in children.[1]

TT can be Extravaginal, Intravaginal and mesoarchial types and intravaginal types common in puberty age group. In general, no significant cause have been identified for TT but several factors related to deformity have been described in "bell clapper testis" where there is abnormal adherence of tunica vaginalis to the testicle and this results in increase mobility of the testicle inside the tunica vaginalis for the twisting movement.[1]

We report a case of a spontaneous non-traumatic extravaginal TT and its management with surgical orchidectomy and Orcheopexy of contralateral testis by a general practitioner in resource limited setting of Himalayan region of Nepal where there no access to general surgery and urosurgery specialty.

Case Presentation

A 14-year-old male child with no significant comorbidity presented in emergency department with acute right sided scrotal pain and swelling for 12 hours with no history of fever and trauma. Pain was continuous, sudden onset while running, progressive and was associated with radiating right groin pain and swelling of scrotum. On examination, child looked anxious with tachycardia of 110 beats/min, right testicular tenderness and swelling was noted along with positive Deming's sign (Affected testis lies high up), negative phren's sign (Relief of pain upon elevation of scrotum-indicates epididymitis) and absent cremasteric reflex. The laboratory analysis was done which were unremarkable. His tests for HIV, Hepatitis B, Hepatitis C and VDRL were all non-reactive (Serology done to evaluate association with any sexually transmitted diseases and for infection prevention in surgery) Doppler Ultrasound was ordered and showed coarse echotexture with no vascularity in right testis suggestive of testicular torsion.

The child was taken to Operation Theater with the consent and explanation of the surgery and prognosis. Emergency surgical exploration was done and the findings were non-viable discolored necrotic right testicle with 5 times rotation (shown in Fig 1 and Fig 2). Testicular surface was observed in warm swab for 15 minutes following detorsion. Bell clapper deformity was not noted and the left testis was viable. Right orchidectomy and left orcheopexy was performed in remote setting by a general practitioner. Also, the specimen was sent to a histopathology.

The child was shifted to the post-operative ward. Post-operative laboratory tests were sent which showed 6000 cells/MicroL with 70% neutrophilia and histopathology report showed ischemic changes of the seminiferous tubules. On second day of the surgery, the child was shifted to the general ward and was discharged on 3rd post-operative day with stable hemodynamic status. Follow up was carried out on day 7th, 1 month and 6 months with no symptoms and normal left testis.

Figure 1. Necrotic right testicle

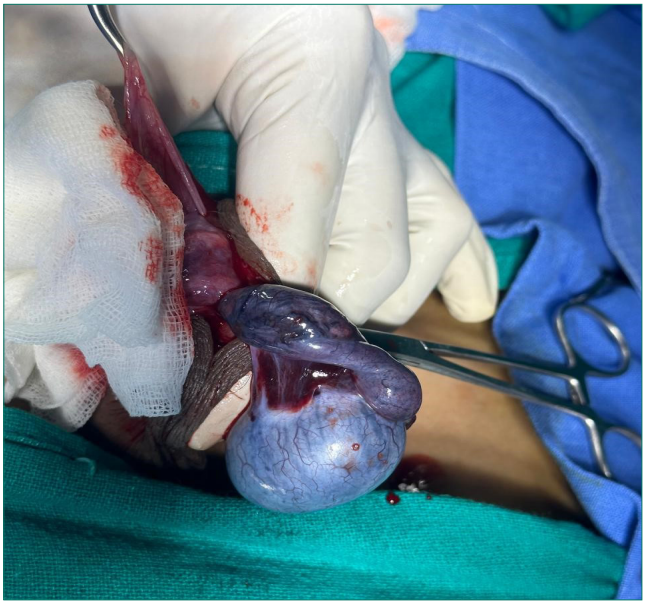

Figure 2. Intra-Operative twisted cord and necrotic testicle

DISCUSSION

Testicular Torsion (TT) is always an emergency condition seen in adolescents.[2] Intravaginal and extravaginal are the common two types of TT, extravaginal type being common

in neonates and intravaginal type more frequent in older children.[3] However, in our case, it was extravaginal type.

Increase in testicular volume, testicular tumors, testicle in horizontal position, history of cryptoochidism, trauma, recent exercise, low temperature and spermatic cord with long intrascrotal section have been identified as other associated factors for TT.[4] Our case was associated with recent history of exercise.

General presentation of TT is sudden onset scrotal pain associated with nausea and vomiting and the involved testis would be tender, high riding and horizontal and absent cremasteric reflex.[5] Generally after 6 hours, testes will have irreversible ischemia if left untreated.[5] In our case, case presented only after 12 hours of the sudden onset pain after exercise.

High index of suspicion is helpful in early diagnosis of TT and prompt management increases testicular salvage. The TWIST scoring system (Testicular Workup for Ischemia and Suspected Torsion) is developed to diagnose TT in clinical backgrounds which includes testicular swelling (2 points), Hard testis (2), High riding testis (1), absent cremasteric reflex (1) and nausea/vomiting (1) and high risk TWIST score has positive predictive value of 100.[6]Intepretation for TWIST score is 0-2 (Low risk), 3-4 (Intermediate risk) and more than 5 (High risk). Our case had TWIST score of 7, which is high likely to be TT.

Doppler ultrasound is considered standard and has high sensitivity in diagnosing TT in setting of acute scrotum.[6] However, early scrotal exploration based on careful physical examination and Doppler ultrasound helps to save testis if presented within 6 hours.

The gold standard treatment for TT is surgical exploration with orchidectomy and contralateral orchidopexy depending on the condition or bilateral orchidopexy if both testis are viable.[2] Our patient experienced testicular pain for 12 hours and the testis was not salvageable (Fig 1), thus underwent surgical exploration with orchidectomy and contralateral orcidopexy. Due to late presentation of patient, we could not salvage the testis but clinical and imaging intervention helped in proper diagnosis and successfully relieved patient's excruciating pain and prevented further complications.

Very often, cases of TT are reported and performed by urosurgeon/general surgeon[7] but in our case, surgery is performed by a trained general practitioner.

CONCLUSION

Testicular torsion is the emergency condition of acute scrotal pain leading to permanent loss of testicle. Meticulous history taking, physical examination and Doppler ultrasound confirms the diagnosis. Prompt surgical exploration is the cardinal point in treatment after proper diagnosis. A trained general practitioner can manage TT in remote resource limited setting where there no urologist and or general surgeon.

DECLARATIONS

Acknowledgement

Thankful to Tsho-Rolpa Hospital Operation Team for quick response in surgery.

Conflict of Interest

None

Funding

None

Consent for publication

Obtained

Patient Consent

Written patient consent was obtained from the patient's guardian (father).

REFERENCES

1. Sharp V, Kieran K. Testicular torsion: diagnosis, evaluation, and management. Am Fam Physician 2013; 88:835–840. [Pubmed]
2. Kapoor S. Testicular torsion: a race against time. Int J Clin Pract 2008;62: 821–7. [DOI]
3. Lorenzo LS, Martínez-Cuenca E, Broseta E. Bilateral testicular torsion in an adolescent: a case with challenging diagnosis. Int Brazilian J Urol 2018;44:393. [Pubmed]
4. Debarbo CJM. Rare cause of testicular torsion in a transwoman: a case report. Urol Case Rep 2020;33:101422. [Pubmed]
5. Chan JL, Knoll JM, Depowski PL, et al. Mesorchial testicular torsion: case report and a review of the literature. Urology 2009;73:83–6. [DOI]
6. Sheth KR, Keays M, Grimsby GM, et al. Diagnosing testicular torsion before urological consultation and imaging: validation of the TWIST score. J Urol 2016;195:1870–6. [Full Text]
7. Basukala et,al. Pubertal extravaginal nontraumatic spontaneous testicular torsion: a case report. Annals of Medicine & Surgery 85(4):p 1022-1025, April 2023. [Full text]