

Ectopic Testis: Pubo-Penile – A rare entity

Abstract

Background

Pubo-penile ectopic testis is a rare congenital anomaly in which the testis is situated along the penile shaft or along its root. We are reporting a rare case of penile testicular ectopia whose etiopathogenesis is poorly understood. We describe one case of Pubo-penile ectopic testis in a Eleven-years-old child. The diagnosis was made on physical examination alone. The condition was present since birth but child presented late and successfully treated

Clinical Description

9yrs old male child presented with swelling along base of penis since birth. On examination, left hemi-scrotum was empty with poorly developed scrotal sac. External genitalia was normal and appropriately developed. There was a single, firm, well defined, non-tender, mobile, oval shaped swelling of size 3.5 X 2.5cms, palpable at the base of the penis. Right sided testis was normally placed in scrotum. Testicular sensations were intact.

Management

Ultrasound abdomen and inguino-scrotal region was done & it confirmed the ectopic location of the testis. Incision was given over the swelling at the base of penis to

mobilise the testis along with spermatic cord and it was taken through the superficial ring in to the scrotum by small inguinal incision. Orchidopexy was done & testis was anchored in the left extra dartos pouch. Postoperative period was uneventful and child was doing good in follow-up.

Conclusion

Pubo-penile ectopic testis is rare. Examination of a child with an empty scrotum should include examination of all potential ectopic sites. The diagnosis is based on physical examination. Treatment is surgical and long-term prognosis is excellent.

Keywords

Pubo-Penile ectopic testis; penile testicular ectopia; Gubernaculum.

Introduction

Pubo-penile ectopic testis is a rare congenital anomaly where testis is situated along the penile shaft or along its root. An undescended testis is most common genitourinary anomaly with an overall incidence of 1% and 5% of these undescended testis are ectopic making it relatively rare entity.[1,2] Ectopic testis is deviation from normal route of testicular descent into the scrotum. So, the testis is not found along the path of usual descent but situated in different aberrant locations.[3] Of the 5 sites described for ectopic testis (i.e., superficial inguinal

pouch, femoral, perineal, transverse [contralateral hemiscrotum], and penopubic), the penopubic testis is the rarest, with an incidence of 0.6%.[4,5]

Case Report

Eleven years old male child presented to the out-patient with a history of swelling at the base of penis and absence of left testis in the scrotum. Absence of testis in left hemiscrotum was noticed by parents two years ago when the attention was centred to progressively increasing swelling along the shaft and root of penis but couldn't seek medical care due to poor socio-economic status and poor accessibility to medical facility due to remote location of their village. On general examination, musculoskeletal system, gait, penile development and secondary sexual characteristics were normal. On local examination right testis was placed in the normally developed scrotum with rugosities and it was normal in size and shape. Left hemi-scrotum was empty with poorly developed scrotal sac and less rugosities. External genitalia was normal and appropriately developed. There was a single, firm, well defined, non-tender, mobile, oval shaped swelling of size 3.5 X 2.5cms, palpable at the base of the penis (Figure 1). Skin over the swelling was normal and free. No signs of inflammation.

Child had normal testicular sensations after pressing the testis on right side and similar sensations were felt upon pressing the ectopic swelling at base of penis. Ultrasound abdomen and inguino-scrotal region was done & it confirmed the ectopic location of the testis. Incision was given over the swelling at root of the penis. Well-developed testis was present and attached to spermatic cord. Testis along with cord

structures mobilised and taken through the external ring in to the scrotum by a small inguinal incision. Orchidopexy was done & testis was anchored in the left extra dartos pouch.[Figure 2] Postoperative period was uneventful and child got discharged from hospital. He was later followed up in outpatient and doing well.

Discussion

The etiopathogenesis of ectopic testis is poorly understood.[1] The gubernaculum and testosterone play an important role in the descent and normal positioning of the testis.[5,6] Ectopic position of testis may result from abnormal migration during inguinoscrotal phase. Weakness of gubernaculum or abnormality in androgens and cGRP (calcitonin gene related peptide) with resultant abnormality ingeno-femoral nerve could be the cause of aberrant testicular ectopic positions. The genito-femoral nerve plays an important role in traction and guidance of the gubernaculum.[5] Gubernacular tail theory provides simple explanation and widely accepted. Site of the ectopic testis is probably decided by the strength of the tail of gubernaculum. Normally scrotal tail force is strongest hence testis directed into the scrotum [2] Another explanation of Pubo-penile ectopic testis may be due to a mechanical obstruction at the level of the scrotum results in aberrant deviation of the testis towards a zone of less resistance.[3] An ectopic testis can be found at superficial inguinal pouch which is the most common site, the root of penis (Pubic type), at the perineum (Perineal type), at the upper and at the medial part of the femoral triangle (Femoral type).

The diagnosis of Pubo-penile ectopic testis is essentially based on physical examination. For some authors, an ultrasound scan can be performed to confirm the

diagnosis and help in localization. Ultrasound with Doppler study can demonstrate testicular vascularization. The undescended testis is relatively smaller as compared to normally descended testis in the scrotum [7] but an ectopic testis is always well developed. Treatment is surgical and long-term prognosis for Pubo-penile ectopic testis is excellent.

Conclusion

Pubo-penile ectopic testis is rare. Examination of a child with an empty scrotum should include examination of all potential ectopic sites. The diagnosis is based on physical examination. Treatment is surgical and long-term prognosis is excellent.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

References

1. Hutcheson JC, Snyder 3rd HM, Zuñiga ZV, et al. Ectopic and undescended testes: 2 variants of a single congenital anomaly? *J Urol* 2000;163(3):961-3.
2. Nounla J, Tröbs RB, Rolle U. Perineal ectopic testis: a rare cause of empty scrotum. *Urol Int* 2001;67(3):246-8.
3. Kaufman DR. Ectopic testis pubopenile type. *Am J Surg.* 1943; 62(2): 272-276. doi: 10.1016/S0002-9610(43)90261-2
4. Gaurav G, Prateek S, Sangeeta G, Sonam A, Prabhjyot BS, Sameer S. Pubopenile ectopic testis: A rare entity. *Anatomy PhysiolBiochem Int J.* 2017; 2(2): 31-33. doi: 10.19080/APBIJ.2017.02.555582
5. Mathers MJ, Sperling H, Rübber H, Roth S. The undescended testis: Diagnosis, treatment and long-term consequences. *DtschArztebl Int.* 2009; 106: 527-532. doi: 10.3238/arztebl.2009.0527
6. Sylla C, Ndoeye A, Gueye SM, Mensah A. Penile ectopic testis. *Br J Urol.* 1996; 77: 762.
7. Hegde DK, Lal SS, Shilotri PP, Patkar AN (1987) Penile ectopic testis. *Indian J Urol* 3(2):85-86

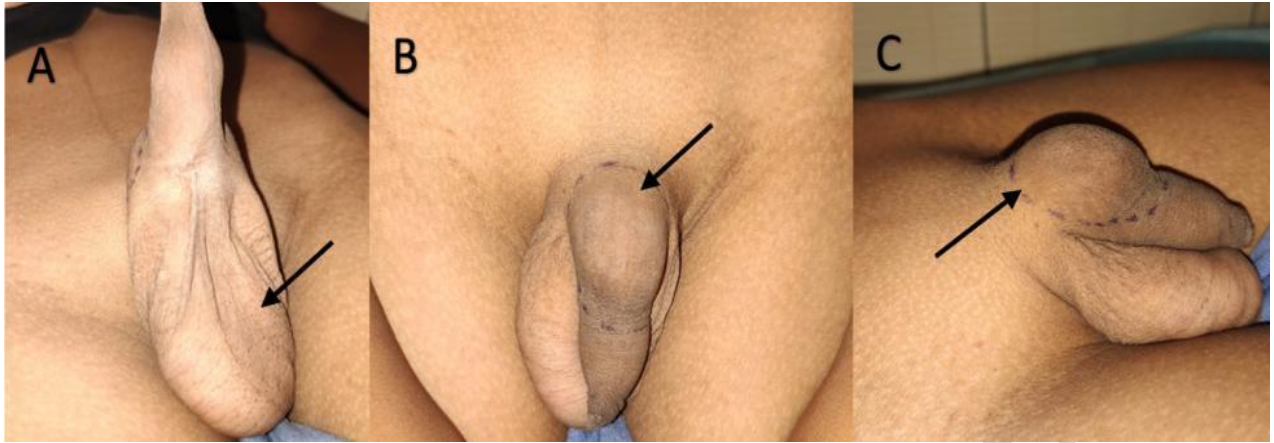


Figure 1: A) Empty left hemiscrotum; B & C) Pubo-penile location of ectopic testis

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Figure 2: A & B) Testis explored through an incision over the swelling at the base of penis; C) Testis along with cord structures mobilised and taken through the external ring by a small inguinal incision

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