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Transverse Testicular Ectopia With Fused Vas Deferens: An Extremely Rare Entity

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Abstract: *Transverse testicular ectopia (TTE) is a rare entity. TTE associated with fused vas deferens is extremely rare. We present a case of transverse testicular ectopia of the right testis with fused vas deferens that presented to our out-patient department with left inguinal hernia. To our knowledge, a fused vas deferens has only been reported seven other times in published report. Clinical examination revealed glandular hypospadias, empty right hemiscrotum, left sided normally descended testis and another structure with testicular feel palpable at left superficial inguinal ring. Left inguinal herniotomy and trans-septal orchidopexy of right testis was done.*
Keywords: *Fused vas deferens, Hypospadiasis, Inguinal hernia, Transverse testicular ectopia (TTE), Trans-septal orchidopexy.*

I. Introduction

Transverse testicular ectopia (TTE) also known as testicular pseudo-duplication, unilateral double testes, crossed testicular ectopia, transverse aberrant testicular maldescent, is an extremely rare congenital anomaly in which both testis descent through same inguinal canal. The clinical findings are usually symptomatic inguinal hernia on one side (to which ectopic gonad has migrated) and an impalpable testis on other side. In most cases, diagnosis is made during an operation for repair of inguinal hernia. Hereby we present a case that came to us with left inguinal hernia and found to be a case of transverse testicular ectopia with glandular hypospadias with fused vas deferens.

II. Case Report

A, 1 year old male child admitted with history of intermittent swelling in left inguinal region since birth. The clinical examination confirmed left inguinal hernia and was also found to be having empty right hemiscrotum (Fig 1), left gonad was normally descended in the scrotum. Another testis like structure was palpable at left superficial inguinal ring. The patient also had glandular hypospadias. Hence clinical diagnosis of transverse testicular ectopia with glandular hypospadias was made. The ultrasonography confirmed the clinical diagnosis of transverse testicular ectopia. There was absence of any mullerian duct remnants on ultrasonography.

Patient was planned for elective surgery. The left inguinal exploration showed ectopic right testis with hernia sac (Fig 2). On further exploration normal testis within left hemiscrotum was found. Each testis was noted to have its corresponding spermatic cord, vascular pedicle and vas deferentia with two cords fused 3 cm proximal to testes. After inguinal herniotomy both testis were separated and fixed to their respective hemiscrotum. The right testis was placed in right hemiscrotum through trans-septal window and fixed in subdartos pouch. The post-operative period was uneventful.

III. Discussion

TTE is rare but well recognized anomaly. The first description of the entity is attributed to Lenhossek [1] who described this form of ectopia as part of autopsy in 1886. Jordan reported a case of an 8 year old boy operated for Left inguinal hernia. The first case published in English literature was reported in 1907 by Halsted and followed by 100 other cases [2,3]

A number of theories have been proposed to explain the etiology of ectopic testis. Gupta and Das [4] postulated that adherence and fusion of the developing wolffian ducts take place early and then descent of one testis causes the second one to follow it. Kimura [5] suggested that if fusion of the ducti is present, it can be assumed that the two testes arose from same genital ridge and that true crossing of the testes occurred only when separate ductus deference reached each testis.

Based on presence of various associated anomalies TTE can be classified into 3 types: Type 1, associated with Inguinal hernia alone (40-50%); type 2, associated with persistant mullerian duct structures (30%); type 3, associated with other anomalies without mullerian remnants (inguinal hernia, hypospadias, psuedohermaphroditism and scrotal abnormalities) (20%). According to the classification our case is type 3 TTE, associated with glandular hypospadias. Our case had fused vas deferens proximally. TTE associated with

fused vas deferens is extremely rare and this may hinder the placement of the testis into the hemiscrotum [6,7]. To our knowledge, a fused vas deferens has only been reported seven other times in published report. Trans-septal orchidopexy is recommended when vasa deferentia are fused [8].

In our case ultrasonography helped to confirm clinical diagnosis. Little attention has been focused on treatment. Malignant testicular transformation has been reported [3] thus intraabdominal testis should be brought down. A variety of procedures have been described including a staged procedures to bring the ectopic testis into its correct canal [2]. Where both testes are found to lie in the scrotum, herniotomy is the only action required. Where the transverse ectopic testis lies in the inguinal canal or at the external ring, it should be moved into the scrotum with its supplying cord structures. On expert hand it can be managed laproscopically also [9,10].

In some cases where length of spermatic cord is not sufficient, dragging and fixing testes to contra lateral side is also an option, as an example, the right testis can be fixed in the left hemiscrotum, due to shorter funicular elements, and the left can be trans-septally moved to the right hemiscrotum (a modified Ombrédanne operation).

In our case, ectopic testis was located in hernia sac with proximally fused vas deferens. After separation from hernial sac and herniotomy, the attachments of each testis were dissected. This provided of sufficient length for ectopic testis to be brought down to lie in the dartos pouch without tension. Ectopic testis was placed in the right hemiscrotum through trans-septal window and fixed in subdartos pouch. Follow-up after 6 months revealed normal sized both testes present in their respective hemiscrotum.

IV. FIGURES

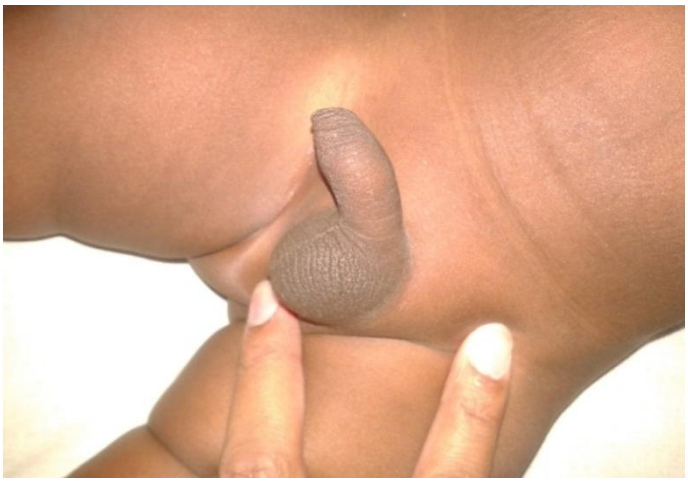

Fig.1: Empty right hemiscrotum.

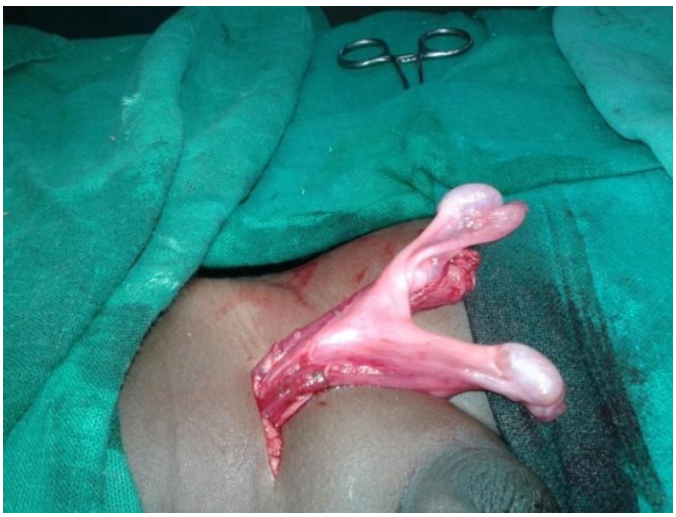

Fig.2: Left inguinal exploration showing right transverse testicular ectopia with fused vas deferens proximally.

V. Conclusion

Transverse testicular ectopia is a rare clinical entity and should be kept in mind, in cases of inguinal hernia with empty opposite hemiscrotum. Surgeons who frequently repair inguinal hernias should be aware of the appropriate surgical management options available when it is unexpectedly identified during inguinal exploration. Trans-septal orchidopexy is recommended for TTE with fused vas-deferens.

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