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Case Report on Crossed Ectopia Testis

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Abstract: *Undescended testes can be found in the inguinal canal or in the abdomen. Rarely, undescended testes can present with transverse testicular ectopia (TTE). Crossed testicular ectopia or transverse testicular ectopia is a rare entity.About a little more than 100 cases are reported in literature. It is one of the well-known congenital anomalies, in which both gonads migrate toward the same hemiscrotum, usually associated with some other abnormalities such as persistent Mullerian duct syndrome (PMDS), true hermaphroditism, inguinal hernia, hypospadias, pseudohermaphroditism, and scrotal anomalies. We report a case of transverse testicular ectopia in an23-months-old boy who presented with right inguinal hernia and nonpalpable left testis. On ultrasound it was reported as both the testicles are in a unified sac near the right inguinal region at the deep ring. On exploration, both testes were present in the right inguinal region. Bilateral orchiopexy was performed by crossing the left testis in the extra-peritoneal space and ipsilateral scrotal orchiopexy. The diagnosis could not be made preoperatively in most of reported cases.*

Keywords: *testis, undescended testis, cryptorchidism, testicular ectopia*

I. Case presentation

The patient was a 23 months old boy, who admitted for nonpalpable testis both sides and right inguinal hernia. The patient was born with normal vaginal delivery, with a normal Apgar score. There was no history of illnesses or poor feeding or failure to thrive (FTT). General physical examination was unremarkable. Hematological examination and biochemistry lab data was normal. In external genitalia examination, the right testis was palpable inguinallyat the deep ring with an evident hernia and the left hemiscrotum was empty.Ultrasonography was done showed both the testis are seen in a unified scrotal sac at the level of deep ring on right side with small dilated right inguinal hernia. The patient was posted for synchronous bilateral orchiopexy and right inguinal herniotomy. Firstly, right inguinal incision was given. The right testis with its overlying tunica vaginalis was found at the deep inguinal ring and after opening of the tunica, the fluid inside of it drained and the testis was found. At the proximal part of the cord another testis was found (Figure 1 (Fig. 1)). After releasing of cords and dissection of the hernia sac bilateral orchiopexy were done. Two cords were found separate for about 5 to 6 cm. Finally, the left testis was transferred with its cord to the left hemiscrotum easily and extra-peritoneally. Both testes were fixed in the sub-dartos pouch.

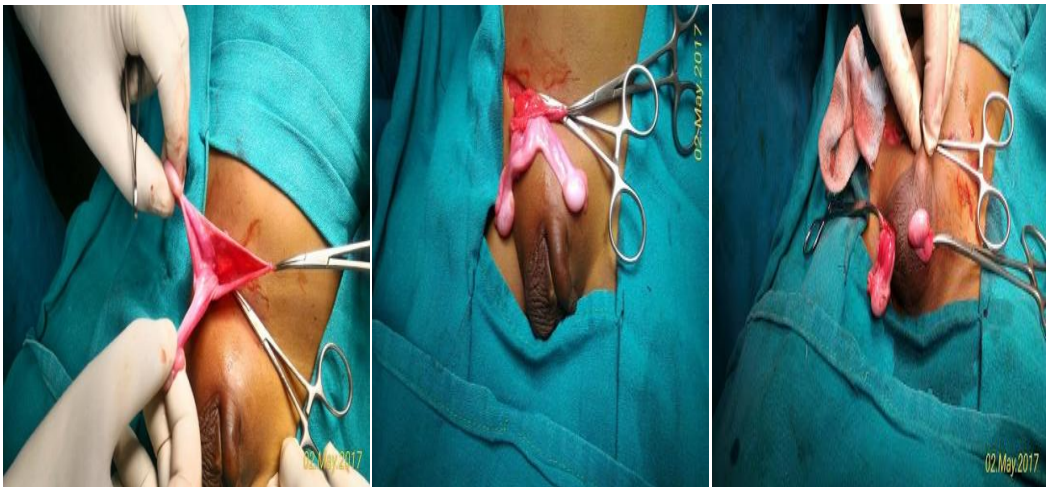

Fig 01 both testis seen in single sac **Fig 02** the cords are separate. **Fig 03** bilateral orchiopexy

II. Discussion

Crossed testicular ectopia is a rare form of testicular ectopia. It was first reported by Von Lenhossek in 1886 . More than 100 cases have been reported in the literature . Several theories have been reported to explain the genesis of TTE. Berg proposed the possibility of the development of both testes from the same genital ridge. Kimura concluded that if both vasa deferentia arose from one side, there had been unilateral origin but if there

was bilateral origin, one testis had crossed over. Gupta and Das postulated that adherence and fusion of the developing Wolffian ducts took place early, and that descent of one testis caused the second one to follow.
It is also named testicular pseudoduplication, unilateral double testis, and transverse aberrant testicular mal-descent. On the basis of the presence of various associated anomalies, TTE has been classified into 3 types: Type 1, accompanied only by hernia (40% to 50%); type 2, accompanied by persistent or rudimentary Mullerian duct structures (30%); and type 3, associated with disorders other than persistent Mullerian remnants (inguinal hernia, hypospadias, pseudohermaphroditism, and scrotal abnormalities) (20%). According to that classification, our case was type 1 TTE. TTE associated with fused vas deferens is extremely rare. This condition may hinder the testis from being placed into the scrotum during orchiopexy. An inguinal hernia is invariably present on the side to which the ectopic testis has migrated.

Once diagnosis of TTE is made by clinical examination and supported by ultrasound findings, a conservative surgical approach in the form of orchiopexy is recommended for the preservation of fertility . Laparoscopy is useful for both diagnosis and treatment of TTE and associated anomalies . Management for testicular ectopia is either trans-septal or extra-peritoneal transposition orchiopexyand a search for Mullerian remnants and other anomalies, and long-term postoperative follow-up. There were two options for left orchiopexy in our case: extra-peritoneal orchiopexy and trans-septalorchiopexy. In the extra-peritoneal technique the testis is brought to the contra-lateral hemiscrotum after its passing near the root of penis. In the trans-septal technique the testis should traverse the scrotal mediastinum to be fixed in it. In the case of fused vas deferens, unlike our case, a trans-septalorchiopexy is recommended. It may be misdiagnosed as an inguinal hernia and intersex or present as an irreducible hernia, requiring urgent surgery .

III. Conclusion

In conclusion, TTE is a rare condition and should be suspected in patients presenting with inguinal hernia on one side and cryptorchidism on the other side. As PMDS and TTE are usually discovered incidentally during surgery for undescended testis or inguinal hernia, the optimal surgical approach should include testicular biopsies, herniotomy, orchidopexy and excision of MD remnants without risking the vas deferens. A long-term follow-up will be needed for assessment of the fertility in these patients.

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