

Case Report

CROSSED TESTICULAR ECTOPIA; A CASE REPORT.

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ABSTRACT:

Crossed testicular ectopia is a rare anatomical anomaly in which both testis descend into the same hemiscrotum using the same inguinal canal. More than 100 cases have been reported in the literature up till now. Our patient was a 7 year old child who presented with the absent right testis and left incomplete inguinal hernia. While undergoing left inguinal exploration, a second testis with a hernia sac was identified at deep inguinal ring. Both testis had a separate blood supply. Herniotomy and fixation of ectopic testis on the opposite side through a suprapubic subcutaneous tunnel was done. TTE should be suspected in patients with inguinal hernia having absent contralateral testis. Ultrasonography and laparoscopy can be helpful in pre-operative assessment of TTE. Long-term follow-up is recommended in all patients of TTE because of risk of malignant transformation and fertility concerns.

INTRODUCTION:

Abnormal testicular descent characterized by localization of the testis out of its normal migration pathway towards the scrotum is known as testicular ectopia. Testicular ectopia has five subtypes: superficial inguinal (interstitial), femoral (crural), perineal, pubo penile and crossed (transverse)^[1]. Crossed testicular ectopia is a rare anatomical anomaly in which both testis descend into the same hemiscrotum using the same inguinal canal^[2,3]. Different nomenclature has been used for this condition like Transverse testicular ectopia (TTE), testicular pseudoduplication, unilateral double testis and transverse aberrant testicular maldescent^[1,3].

Von Lenhossek first described TTE in 1886 based on autopsy findings^[1,4-6]. More than 100 cases have been reported in literature ever since^[5,6].

CASE REPORT:

A 7 year old child presented to us recently with the complaint of absent right testis and left reducible inguinal swelling. Examination

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revealed a left sided incomplete inguinal hernia with left testis palpable in the left hemiscrotum. Right hemi scrotum was underdeveloped with a non-palpable right testis. While undergoing left inguinal exploration for left inguinal hernia, a second testis with a hernia sac was identified along with the normally located left testis (Fig 1).



Fig 1: Left inguinal exploration (Both Testis are visualized separately)

It was located at the deep inguinal ring. Both testis had separate blood supply and processes vaginalis. Herniotomy and fixation of ectopic testis on the opposite side through a suprapubic subcutaneous tunnel was done (Fig 2).



Fig 2: Post-operative picture after fixation of testis.

Associated presence of persistent müllerian duct structures was ruled out using ultrasound pelvis and abdomino-pelvic CT-Scan. Karyotyping confirmed the male gender, 46XY.

DISCUSSION:

Transverse Testicular Ectopia (TTE) is an extremely rare anomaly in which ectopic testis can lie in the hemiscrotum, in the inguinal canal, or at the deep inguinal ring on the contralateral side^[4]. Both testis descend through the same inguinal canal. Suggested theories or causative factors include defective implantation, rupture/tearing of the gubernaculum, obstructed internal inguinal ring, development of adhesions between testis, development of testis from same germinal ridge and late closure of umbilical ring^[3,5]. TTE commonly presents as absent testis on one side with contralateral inguinal hernia^[6-8]. Mean age at presentation is 4 years^[8]. Ultrasound, Magnetic resonance

imaging and magnetic resonance venography have been suggested for preoperative localization of non-palpable testes^[4,6]. However, the diagnosis is often made incidentally during herniotomy or during exploration for undescended testis^[7,8].

TTE is classified into three types based on associated abnormalities: (a) Type I is accompanied only by hernia (40-50%), (b) Type II is accompanied by persistent or rudimentary Müllerian duct structures (30%), and (c) Type III is accompanied by other anomalies without müllerian remnants (inguinal hernia, hypospadias, pseudohermaphroditism, and scrotal abnormalities) (20%)^[4-7].

The treatment of TTE is detection of associated anomalies and placement of ectopic testis into anatomical positions^[7]. Management options include herniotomy with trans-septal fixation of testis (Ombredanne procedure), fixation on the opposite side through suprapubic subcutaneous tunnel and staged procedure^[4,6,10]. Laparoscopy is also being increasingly used for management of TTE^[4,6,9]. Orchidectomy is indicated when testes cannot be mobilized to a palpable location^[11].

The overall incidence of malignant transformation of gonads is 18%^[1,7-9]. There have been reports of embryonal carcinoma, seminoma, yolk sac tumour and teratoma^[8,9]. Therefore, like other forms of ectopic and undescended testis, long-term follow-up is mandatory^[5]. Long-term follow-up is also required for fertility assessment in these patients^[4].

CONCLUSIONS:

Although rare, but TTE should be suspected in patients with inguinal hernia having absent contralateral testis. Ultrasonography and laparoscopy can be helpful in pre-operative assessment of TTE. Careful long-term follow-up is recommended in all patients of TTE because the risk of malignant transformation and fertility concerns.

CONFLICTS OF INTEREST

There are no conflicts of interest.

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