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Case report

TRANSVERSE TESTICULAR ECTOPIA: A RARE RADIO-SURGICAL DIAGNOSIS

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ABSTRACT

Transverse testicular ectopia although well recognized is an exceptionally uncommon entity. In this, both gonads migrate towards the same hemiscrotum[1,2,3]. The patient most commonly presents himself with symptomatic inguinal hernia on one side and an impalpable testis on the other. In the majority of reported cases the correct diagnosis is usually not made preoperatively, but made on the operation table as the patients are operated for repair of inguinal hernia. In our case, also, we could only raise a possibility of ectopic testicular tissue-like structure in the left inguinal region with absent right testis.
Keywords: Testicular ectopia, Radio-Surgical Diagnosis

CASE REPORT-

A 30 year old male presented with left inguinal hernia and an impalpable testis in the right scrotum. We were informed that the patient had absent right testis since birth. He started having vague pain in the left inguinal region since one month. He has been married since 4 years and has a 4 year old daughter. He had a hearing problem which ran in his family. All four brothers were deaf but none had any other complaint.
On physical examination it was revealed that he had an empty right scrotal sac with a small non reducible left side inguinal hernia. ENT exam revealed bilateral sensor neural hearing loss. No other significant positive clinical test was noted. The patient was then referred to our department for imaging.

On Ultrasound Scrotum an empty right scrotal sac was reported with a normal homogenous left testis and epididymus (Fig1).

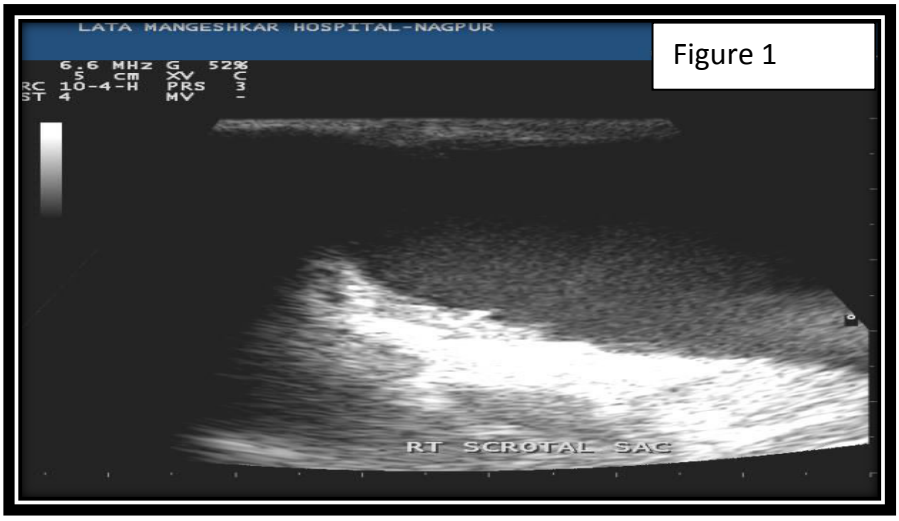

Figure 1

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A small inguinal hernia was seen on the left side in the inguinal region of size 2.3x3.0cm. Bowel loops were seen within it showing normal peristalsis movements.

On Ultrasound abdomen a well defined wide neck diverticulum posterolateral to the urinary bladder, probably congenital in origin (Hutch's diverticulum) was spotted (Figure3 and 4). There were no other signs of cystitis. Rest of the abdomen was normal.

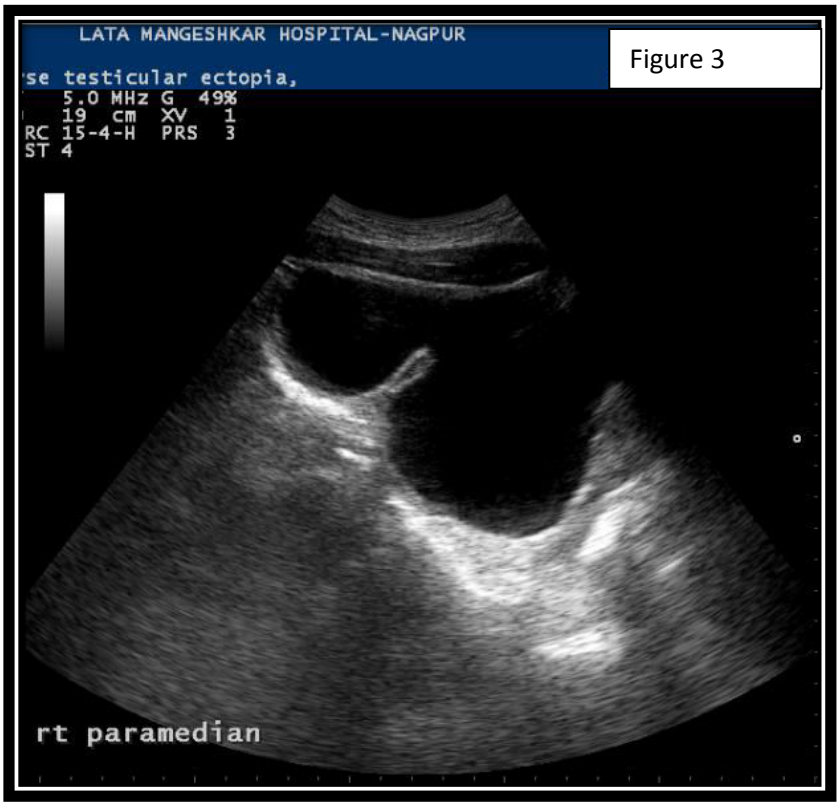


Figure 3

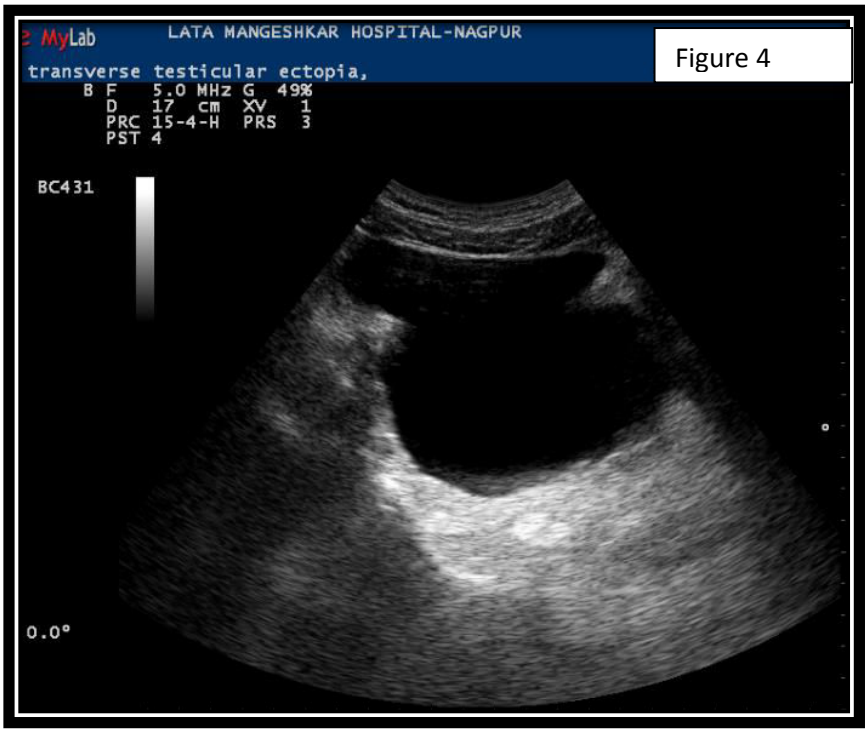


Figure 4

On NECT Temporal bone loss of mastoid air cells on the right side was revealed. The semicircular canals and the internal auditory canal on both sides were normal.

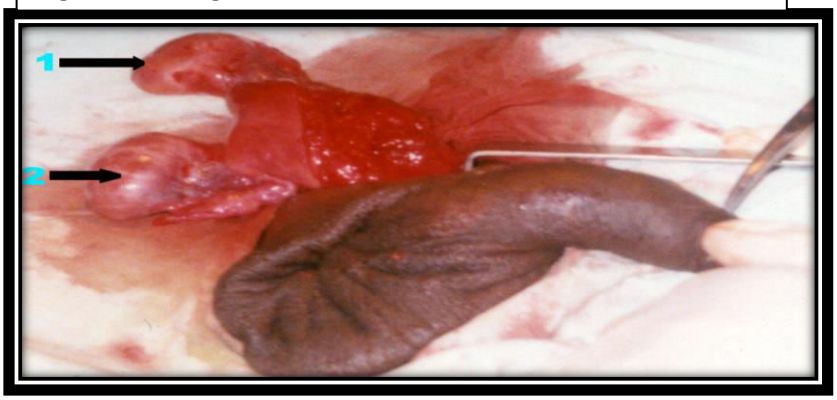
Probable diagnosis given on imaging:

Absent right testis with normal left testis and epididymus. Small left side inguinal hernia with possibility of testicular tissue (atrophied) and bowel loops.

Management:

The patient was posted for surgery. While exploring the pelvic-scrotal region during the operation a normal testis contained in the left scrotum and an associated indirect inguinal hernia was revealed. On further dissection the right testis was seen in the left inguinal canal. Each of the testes had its corresponding spermatic cord and had two vas deferentia which were separated. The right testis was small in size with normal sized left testis. Subsequently a left inguinal herniotomy was performed and the right testis with the long spermatic cord was brought to the left scrotum and anchored through suprapubic subcutaneous tunnel (Figure5a,b).

Figure 5a: 1- right testis and 2- left testis in left hemiscrotum



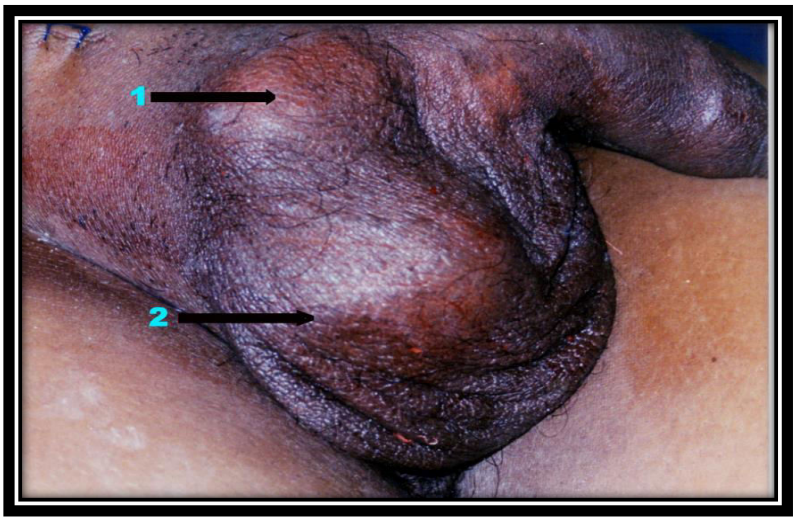


Figure5b

Post-operative ultrasound images revealed normal echotexture of both testes in left hemiscrotum. (Figure 6)

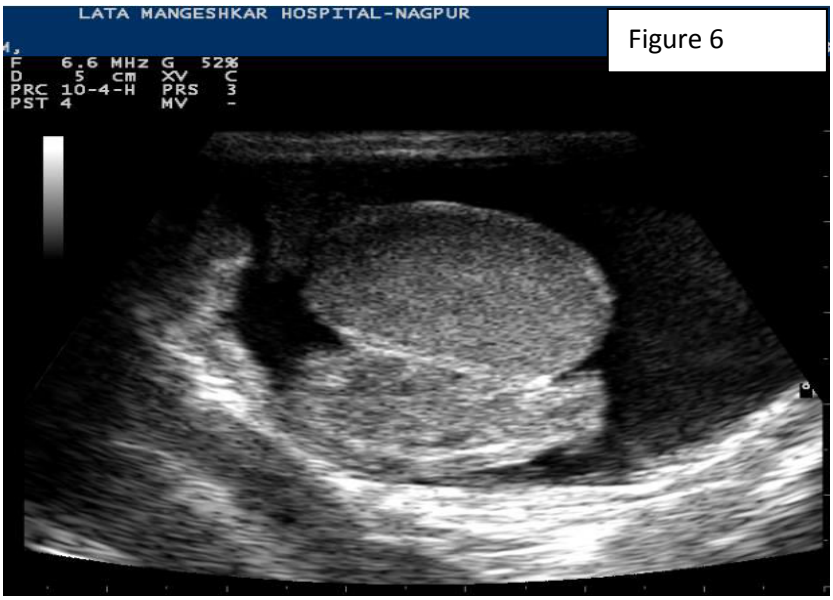


Figure 6

DISCUSSION-

In the normal course the testis is located in the scrotum at birth. Ectopic testis have been reported at different site, including the superficial inguinal pouch, suprapubic, femoral, and perianal areas, and at the base of the penis[4]. Transverse testicular ectopia is when the testis migrate to the opposite side and where both testis pass through the same inguinal canal.

Over a hundred cases of transverse testicular ectopic have been reported[4,5]. Lenhossek[4] in 1886 described this form of ectopia as part of an autopsy performed by his father twenty years earlier. He was the first to describe such an entity. Consequently, Jordan reported a case of an 8 year old boy operated for left inguinal hernia[4]. The first case published in English literature was reported in 1907 by Halstead[4], and followed by a hundred other cases. A number of theories have been proposed to explain the etiology of ectopic testis.

The first serious explanation with this multiple insertion theory was courtesy Lockwood when he reported that the gubernaculums testis terminates in 5 tails that are attached to the bottom of the scrotum, the front of the pubis, the perineum, the scarpa triangle in the thigh, the region of the inguinal ligament just medial to the anterior superior iliac spine[4,5]. It was further postulated by Gupta and Das[4] that adherence and fusion of the developing Wolffian ducts takes place early and that descent of one testis causes the second testis to follow it. Gray and Skandalakis[4] believed that given that in most cases both ducts are separate, a crossing over must have occurred later . Kimura[4] recommended that if fusion of the ducts is present, it can be assumed that the two testis arose from the same genital ridge and that true crossing of the testis occurred only when a separate ductus deferens reached each testis.

Transverse testicular ectopia has been classified into 3 types: (1) associated with inguinal hernia alone (40-50%); (2) associated with persistent mullerian duct structures(30%); and (3) associated with other anomalies without mullerian remnants (inguinal hernia, hypospadias pseudohermaphroditism and scrotal abnormalities) (20%)[4]. This is based on the presence of various associated anomalies.

Testicular ectopia comes to the surgeon's consideration mostly when there is a symptomatic inguinal hernia on the side to which the ectopic testis has migrated. In most reported cases the diagnosis was only made during operation and not pre-operatively.
Our patient was found to have transverse testicular ectopia on radiological examination (findings described above) and was further concurred subsequently by a herniotomy. During the operation the ectopic testis was located in the inguinal canal. After separation from the hernia sac, the right testis was brought to the left scrotum and anchored through a suprapubic subcutaneous tunnel.

Recently, MRI has been suggested for preoperative location of impalpable testis[4]. Adams Baum et al[4] have recommended routine pelvic and inguinal area ultrasonography in bilateral cryptorchidism patients and in patients with inguinal hernia of unusually hard consistency.

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