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Case Report

CROSSED TESTICULAR ECTOPIA IN A 65-YEAR-OLD MAN

Sharmin Islam[1], SM Amjad Hossain[2], Abdullah- Al- Mamun[3], Syed Masud Reza[3], Tushit Kumar Barua[4]

Abstract

Crossed testicular ectopia (CTE) is an extremely rare anomaly in which deviation of testicular descent results in unilateral location of both testes. It usually presents as an inguinal hernia on the side of a fully descended testis and an impalpable testis with undeveloped hemiscrotum on the contralateral side. Most often the diagnosis of CTE is not made until surgical exploration. Few reports are available regarding CTE in infants or younger children. Though the patients of CTE usually present at a younger age, we report a case of crossed testicular ectopia in a 65-year-old male who was admitted in the department of surgery, Shaheed Suhrawardi Medical College Hospital (ShSMCH) with right sided inguinal hernia.

Key Words: Crossed testicular Ectopia, Cryptorchidism, Orchidectomy.

Introduction

Normally the testes are located in the scrotum at birth. Ectopic testes have been reported in different sites, including the suprapubic region, femoral triangle, perineum and the root of penis[1]. Whereas Crossed Testicular Ectopia is one of the rarest type of ectopic testes in which the descent of both testicles occurs through the same inguinal canal towards the same hemiscrotum. The crossed testis may be found in the opposite hemiscrotum[2], in the opposite inguinal canal[3], or at the opposite deep inguinal ring[4]. The vascular supply to the ectopic testis originates from the same side as the testis[5]. It is usually associated with an inguinal hernia.[6] Crossed Testicular Ectopia is diagnosed in most cases during surgery[7]. We present a case of a 65-year-old man with crossed testicular ectopia presenting with a right sided inguinal hernia, the diagnosis being made after surgical exploration, the first reported case in Bangladesh.

1. Registrar, Department of Surgery, Shaheed Suhrawardy Medical College and Hospital
2. Professor of Surgery, Shaheed Suhrawardy Medical College
3. Assistant Professor of Surgery, Shaheed Suhrawardy Medical College
4. Assistant Registrar, Department of Surgey, Shaheed Suhrawardy Medical College and Hospital, Dhaka.

Correspondence to: Dr. Sharmin Islam, Registrar, Department of Surgery, Shaheed Suhrawardy Medical College and Hospital, Dhaka. e-mail: shafinzaman22@gmail.com.

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Case Report

A 65-year-old man, father of 2 children, was admitted for the surgical management of right sided inguinal hernia of 2 months duration. On examination, the patient had a right sided incomplete indirect reducible inguinal hernia with ipsilateral normally descended testis and contralateral undeveloped hemiscrotum and absent testis since birth. No other genito-urinary abnormality was noted (Figure-1).

Ultrasonogram of whole abdomen was done but there was no indication of the present of left testis elsewhere. The patient was prepared for surgery. On exploration through right inguinal incision under spinal anaesthesia, the hernial sac was identified. It was jumbled up with the cord structures. With careful dissection the sac was opened. A pouch-like structure came out through deep inguinal ring. A testis–like soft structure with cyst over it along with the vas deferens

was found. Scrotum was examined again carefully and it was found that left hemiscrotum was undeveloped and empty and right one is well in the ipsilateral hemiscrotum (Photograph 2 and 3). With the consent of the patient, orchidectomy of the ectopic testis was done. Hernial sac was ligated at the deep ring and distal part was excised. Hernioplasty was done. Removed testis was sent for histopathological examination. Post operative recovery was uneventful. Histopathology report of the removed specimen revealed tubules of variable sizes, tubular hyalinization and thickened basement membrane suggestive of testicular atrophy. Sections made from the cyst was compatible with tunica albugineal cyst. No malignancy was seen.

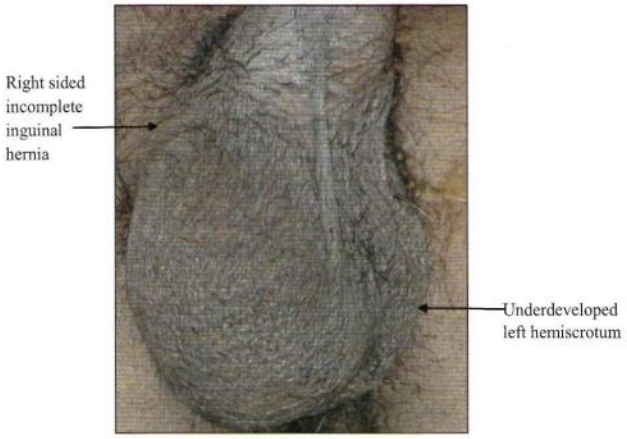

Fig.-1: *Pre operative state showing underdeveloped scrotum on the left side and incomplete hernia on the right side*

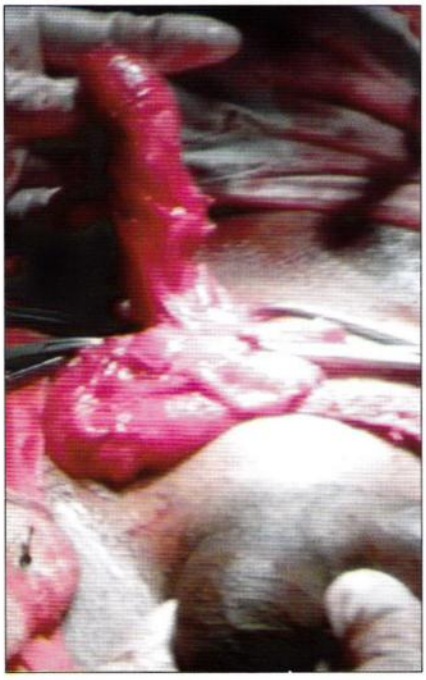

Fig-2: *Intraoperative view showing both testes in the same side.*

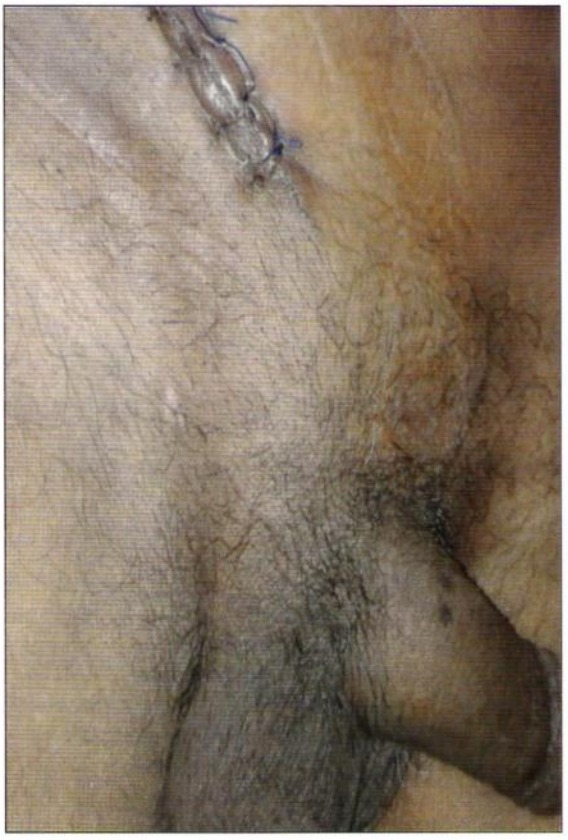

Fig.-3: *Post operative state*

Discussion:

First description of crossed testicular ectopia was made by Lenhossek in 1886 [8]. He presented the case of a 35-year-old man, at whose autopsy both testicles were found in the left hemiscrotum. In 1907 Halstead described another case[9]. Bhat S.et al reported a case of CTE in a 4 year old boy presented with right sided inguinal hernia diagnosed during surgery[6]. Although more than one hundred cases of crossed testicular ectopia have so far been reported in the literature, to the best of our knowledge this is the first case of CTE in a 65-year-old man reported in Bangladesh.

The etiology of this anomaly is still unknown. Lenhossek (1886) was the first to suggest that this type of testicular ectopia is caused by an abnormal gubernaculum testis[10]. Lockwood (1888) developed this theory, describing the 5 parts of the gubernaculum and their points of insertion: the bottom of the scrotum, the front of the pubis, the perineum, Scarpa's triangle in the thigh, the region of the inguinal ligament just medial to the anterior superior iliac spine[11,12]. Berg (1905) suggested that both testicles arose from the same genital ridge[13]. Gray and Skandalakis thought that, since in most cases, each testis has his own deferent duct, the crossing over occurred during testicular descent, each testis arising from the

ipsilateral genital ridge[14] .Many patients with crossed testicular ectopia present also some other genitourinary anomalies[15,16]. Depending on these associations, some experts have proposed the following classification of crossed testicular ectopia[17]: type 1, accompanied only by inguinal hernia (40-50%); type 2, accompanied by persistent Mullerian duct syndrome (30%); type 3, associated with genitourinary anomalies, other than persistent Mullerian duct, (13-20%): hypospadias, pseudohermaphroditism, seminal vesicle cyst, scrotal abnormalities, common deferent duct, horseshoe kidney. Therefore Crossed testicular ectopia should be suspected in patients presenting with inguinal hernia on one side and cryptorchidism on the other side. In most cases reported in the literature the accurate diagnosis was made during surgery for inguinal hernia. The diagnosis can be made preoperatively using ultrasound, MRI[18] ,CT and angiography[19].

There have been reported cases of malignant transformation (embryonic carcinoma, seminomas, choriocarcinoma, teratoma) of the ectopic testis. The risk of malignant transformation is of 5% [3]. Therefore, keeping this in mind, the ectopic testis was removed in this case to make the patient free from the anxiety of developing testicular malignancy for the rest of his life.

Conclusion

We have presented a very rare case of crossed testicular ectopia in a 65-year-old male who presented with right sided inguinal hernia. CTE is a rare anomaly with an unknown aetiology. The ectopic testis can lie in the opposite hemiscrotum, inguinal canal or at the deep inguinal ring. Crossed testicular ectopia, therefore, should be kept in mind as a differential diagnosis, in any case presenting as inguinal hernia with underdeveloped hemiscrotum at any age and should be investigated properly. In suspected cases, ultrasonography, MRI or laparoscopy may be helpful in diagnosing the condition preoperatively. Laparoscopy, specially, is useful for both diagnosis and surgical treatment of CTE in recent years.

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