



TRANSVERSE TESTICULAR ECTOPIA: A RARE CASE PRESENTED AS HERNIA WITH HYDROCOELE.

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ABSTRACT

Transverse testicular ectopia (TTE) is a rare congenital condition where both testes are located on the same side of the scrotum, typically with one testis crossing over the midline through the inguinal canal. This anomaly may present with a wide range of clinical manifestations, from asymptomatic to cases involving complications such as hernia hydrocoele, atrophy, testicular torsion, infertility, malignancy. The precise etiology remains unclear, though theories suggest a disruption in the normal testicular descent. Diagnosis is usually confirmed with imaging studies, with surgical exploration often necessary for definitive treatment. This paper aims to review the pathophysiology, clinical features, diagnostic techniques, and management strategies for TTE, emphasizing the importance of early recognition and individualized treatment. This paper provides a thorough overview of transverse testicular ectopia, from pathophysiology and diagnosis to management strategies, highlighting the need for early intervention to optimize outcomes for affected individuals.

KEYWORDS : Transverse Testicular Ectopia, Crossed testicular ectopia, Testicular pseudoduplication ,hydrocoele, hernia.

INTRODUCTION

Transverse testicular ectopia (TTE) is an uncommon urological anomaly, first described by Wathen in 1886, where both testes are found on the same side of the scrotum. Normally, during fetal development, the testes descend from the abdominal cavity into the scrotum through the inguinal canal. In TTE, one or both testes fail to follow this normal trajectory, resulting in an ectopic location. The condition is more frequently diagnosed in childhood but may be asymptomatic until later in life, making early diagnosis challenging. Understanding the mechanisms behind TTE and the latest advancements in diagnostic and therapeutic options is crucial for effective patient care.

Pathophysiology

The underlying cause of TTE remains poorly understood, though several hypotheses exist regarding its development. Some suggest that abnormal gubernacular function, a structure that guides testicular descent, may play a significant role. Additionally, altered intra-abdominal pressure, failure of the inguinal canal closure, or abnormal positioning of the testes during embryogenesis could contribute to the ectopia. The condition may be associated with other abnormalities such as inguinal hernia, cryptorchidism, or hypospadias. There is also an increased risk of infertility, as the abnormal position of the testes can affect spermatogenesis due to altered temperature regulation.

Clinical Features

The clinical presentation of TTE can vary widely. In many cases, patients are asymptomatic, and the condition may be detected incidentally during a routine physical examination or imaging study. In some instances, TTE may present with symptoms such as:

Scrotal swelling: A palpable mass or swelling in the scrotum may indicate one testis being located in the abnormal position.

Inguinal hernia: Often associated with TTE, it may cause discomfort or pain.

Infertility: Due to improper testicular positioning and compromised function, infertility may be a concern in adult patients.

Testicular torsion: Though rare, torsion of the ectopic testis is a serious complication that can cause acute scrotal pain and requires immediate intervention.

Trauma

Malignancy

Case- 61year/male came with complaint of pain in inguinoscrotal region since 7 years swelling increased gradually, now came with painful swelling with inguinal and scrotal region. O/e swelling was pyriform shaped, with dragging pain with fluctuation and transillumination in right scrotal region with left scrotal sac empty. Swelling was non reducible. Findings confirmed with usg whole abdomen. Intraoperatively found that 2 testis in same (right) scrotal sac with gross hydrocoele. Lower (right testis was smaller than left.) and cord structures were highly inflamed. Patient had 3 children with moderate built (thus r/o infertility).

Intraoperatively I had taken biopsy of lower testis showing fibroblasts with sclerosis s/o atrophied testis. (r/o malignancy)



left testis is visible at right side incision site, Right testis is still inside the right scrotum . Around 300ml clear fluid was suctioned.

Diagnosis

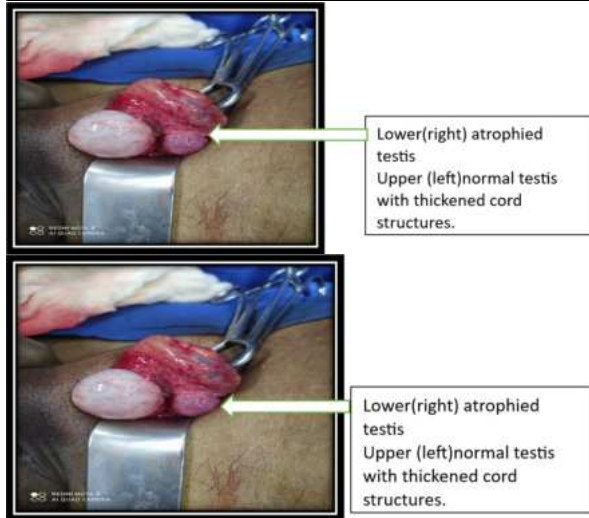
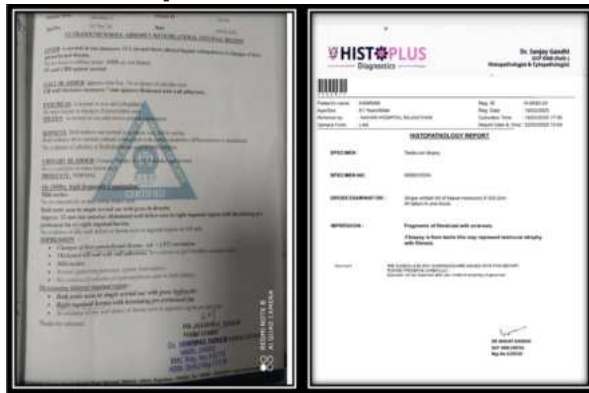
Diagnosis of TTE is typically made through a combination of clinical examination, imaging, and sometimes surgical exploration. The following diagnostic tools are most commonly used:

Physical examination: A thorough clinical evaluation often reveals a palpable mass in the scrotum or inguinal canal, indicative of the misplaced testis.

Ultrasound: Scrotal ultrasound is the most common imaging technique used to evaluate the location and condition of the testis. It helps visualize the testes, confirm their position, and rule out other associated conditions.

Magnetic Resonance Imaging (MRI): MRI may be used in complicated cases to provide a more detailed view of the testes and surrounding structures.

Laparoscopy: In some cases, laparoscopy is used to confirm the diagnosis and assess the location of the testes within the abdominal cavity.



Treatment

Management of transverse testicular ectopia often involves surgical intervention. The main treatment options include:

Orchidopexy:

The surgical repositioning of the testis into the scrotum is the treatment of choice in most cases. Orchidopexy can be performed through inguinal or scrotal approaches, depending on the location of the testes. This is much better option for undescended testis. If patient is having the testis completely descended as in our case can be continued the same scrotum placement after hernia and or hydrocoele surgery. If orchidopexy done for the crossed testis to corresponding scrotum it can undergo torsion due to long cord structures. So we can keep the testis in same position if

patient is elderly and if there is no malignancy or.

Management of associated conditions:

For patients with an inguinal hernia or other anomalies, simultaneous repair of the hernia or correction of related defects may be necessary.

Fertility preservation:

In cases where fertility is a concern, options such as sperm banking should be discussed prior to surgery. The abnormal positioning of the testes may impact sperm production, but early surgical intervention may help prevent long-term fertility issues.

The decision to perform surgery should be based on several factors, including the patient's age, fertility considerations, and the presence of complications like torsion or atrophy.

Complications

Although transverse testicular ectopia is generally treatable, there are several potential complications that can arise if the condition is left untreated or mismanaged:

Testicular Torsion:

One of the most severe complications, testicular torsion involves the twisting of the spermatic cord, which can lead to ischemia and necrosis of the affected testis if not treated promptly.

Infertility:

If the condition is diagnosed later in life, there may be concerns regarding the quality of spermatogenesis, which could impact fertility.

Testicular Atrophy:

Chronic compression or ischemia of the ectopic testis may lead to reduced testicular function and atrophy.

Psychosocial Impact:

Cosmetic concerns, particularly regarding scrotal appearance, may also affect the patient's psychological well-being.

CONCLUSION

Transverse testicular ectopia is a rare but significant urological condition that requires careful diagnosis and management. Early recognition and surgical correction are essential to prevent complications such as infertility and testicular torsion. Advances in diagnostic imaging have facilitated earlier detection, but treatment must be tailored to the individual patient's needs. Clinicians should consider the potential for associated conditions and ensure a comprehensive approach to care. Long-term follow-up is recommended to monitor for any post-surgical complications and address fertility concerns if necessary.

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