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Transverse Testicular Ectopia Detected During Emergency Exploration for Suspected Incarcerated Hernia in Early Childhood

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Description

A three-year-old boy was brought to the emergency department because of painful swelling in the left groin that had developed suddenly over six hours. His parents reported repeated crying episodes, refusal to walk, and reduced oral intake. No vomiting or abdominal distension was present. The child had been evaluated previously at another clinic for absence of the right testis within the scrotum, although no operative intervention had been performed at that time.

On examination, the patient appeared distressed and irritable. Vital signs remained stable. Inspection demonstrated a tender irreducible swelling extending from the left inguinal region into the upper scrotum. The left hemiscrotum appeared enlarged, while the right side was underdeveloped and empty. Abdominal examination showed no signs of bowel obstruction. Because of increasing pain and concern for incarcerated inguinal hernia, urgent surgical exploration was planned.

Preoperative ultrasonography demonstrated bowel loops within the left inguinal canal together with two adjacent oval structures suspected to represent testes. Doppler evaluation suggested preserved vascular flow to both gonads, although image quality remained limited because of patient discomfort. The unusual findings raised suspicion for transverse testicular ectopia. Both testes appeared healthy with satisfactory color and perfusion. The left testis occupied a relatively normal position near the upper scrotum, whereas the ectopic right testis remained high within the inguinal canal. Careful dissection was undertaken to mobilize the spermatic cords while preserving vascular integrity. The hernia sac was separated and ligated at the internal ring.

Because the ectopic testis demonstrated adequate cord length after mobilization, transseptal orchiopexy was selected. A window was created through the scrotal septum, allowing transfer of the ectopic gonad into the right hemiscrotum without excessive tension. Both testes were secured within subdartos pouches. Final inspection confirmed satisfactory perfusion bilaterally. Postoperative recovery was uncomplicated. The child resumed oral intake on the same day and was discharged forty-eight hours later. Follow-up examination after three months demonstrated both testes located appropriately within the scrotum with preserved volume and consistency. Ultrasonography confirmed adequate blood flow and absence of recurrent hernia.

Transverse testicular ectopia represents an uncommon congenital anomaly in which both testes descend through the same inguinal canal. Most cases are discovered

during surgery for inguinal hernia or undescended testis. The condition may remain unrecognized before operation because clinical presentation often resembles unilateral cryptorchidism accompanied by contralateral inguinal swelling. Embryological explanations for transverse ectopia remain uncertain. Several theories have been proposed, including abnormal gubernacular attachment, fusion of developing Wolffian ducts, or mechanical deviation of one testis during descent. In the present patient, partially fused vas deferens supported the possibility of developmental association between mesonephric structures during fetal growth.

The anomaly frequently occurs on the left side, although right-sided cases have also been described. Inguinal hernia accompanies the condition in many patients because persistence of the processus vaginalis facilitates abnormal migration of the ectopic gonad. Acute presentation secondary to incarcerated hernia, as observed in this child, remains relatively uncommon but requires prompt surgical management to prevent bowel compromise and testicular ischemia. Preoperative diagnosis may prove difficult. Ultrasonography can occasionally identify two testes within the same inguinal canal, but emergency circumstances and patient discomfort often reduce diagnostic accuracy. Magnetic resonance imaging may assist in elective evaluation of nonpalpable testes, although urgent surgery should not be delayed when incarceration is suspected.

Recognition of transverse testicular ectopia during surgery carries important implications for operative planning. Preservation of testicular blood supply and vas deferens integrity remains essential because vascular anatomy may differ substantially from normal patterns. Excessive traction during orchiopexy may compromise perfusion and increase risk of later atrophy. Associated anomalies have been reported in some children with transverse testicular ectopia, including persistent Müllerian duct structures, hypospadias, and disorders of sexual differentiation. Careful evaluation for additional abnormalities remains advisable, particularly in bilateral nonpalpable testes or atypical genital appearance. In this patient, external genitalia and hormonal development appeared normal, reducing suspicion for broader endocrine disorders.

Conclusion

The successful outcome in this patient reflected timely surgical intervention and preservation of gonadal vascular supply. Prompt treatment prevented both bowel injury from hernia incarceration and possible testicular compromise resulting from abnormal cord compression. This report describes transverse testicular ectopia identified unexpectedly during emergency exploration for suspected incarcerated inguinal hernia in a young child. Awareness of this unusual anomaly may assist surgeons confronted with unilateral cryptorchidism accompanied by contralateral inguinal swelling. Appropriate orchiopexy and hernia repair achieved satisfactory postoperative testicular position and preserved gonadal viability in this patient.