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Research Paper

Challenges Encountered in the Management of Transverse Testicular Ectopia in a Resource-limited Setting.

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Abstract
Background*: Ectopic testis is one that deviates from its normal path of descent. Transverse testicular ectopia (TTE) is a rare form of ectopic testes in which both testes descend along the same inguinal route and are located on the same side. TTE was first described by Von Lenhossek in 1886. Although many cases have been reported in the literature, reports in sub-Saharan Africa are limited.*
Aims*: This report aims to describe TTE and to highlight some of the challenges encountered in management.*
Case report: *A 2-year-old boy scheduled for right inguinal herniotomy for right inguinal hernia, but intraoperatively found to have right inguinal hernia, palpable two ovoid structures in the right hemiscrotum, as well as an empty left hemiscrotum. He was seen at the age of six (6) months with a complaint of absent left testis, where abdominal and scrotal ultrasound was requested, which reported normal examination. Upon examination, his general condition was stable. The abdomen was full, no suprapubic or flank masses, but there was a reducible right inguinal swelling. External genitalia revealed an uncircumcised phallus, an empty hypoplastic left hemiscrotum, a well rugated right hemiscrotum containing two testicles, one at the neck and the other at the bottom. He subsequently had right groin exploration, herniotomy, and trans-septal orchidopexy.*
Conclusion*: TTE is a rare form of ectopic testes; diagnosis should be considered when a unilateral hernia coexists with contralateral cryptorchidism. In case of any diagnostic dilemma, attention of those with expertise, particularly a paediatric surgeon or Urologist, should be sought for.*

Key words*: ectopic testes, transverse testicular ectopia, trans-septal orchidopexy, limited resource.*

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I. INTRODUCTION

An ectopic testis is one that deviates from its normal path of descent. The common sites for ectopic testes include the superficial inguinal pouch, femoral canal, perineum, pubopenile region, and opposite scrotum, and the latter is also called transverse testicular ectopia (TTE)[1]. TTE is a rare form of ectopic testes in which both testes descend along the same inguinal route and are located on the same side[1].

TTE was first described by Von Lenhossek in 1886[2]; since then, many cases have been reported in the literature. It has an estimated incidence of 1 in 1million live births[3] . Reported age ranges from 3 days to 77 years[4] .

Several theories have been proposed to explain the embryogenesis of TTE, including two testes arising from the same urogenital ridge[5], abnormal adhesion between the testes and adjacent structures, as well as a narrow inguinal canal causing obstruction[6]. Other theories are early adherence and fusion of the developing Wolffian duct, causing one testis to descend with the other[7], and defective implantation of the gubernaculum testes[8]. Familial incidence of TTE has also been reported, suggesting a genetic aetiology[9].

Based on the presence or absence of associated anomalies, TTE has been classified into three types: Type I: Associated with inguinal hernia (40- 50%). Type II: Associated with persistent or rudimentary Müllerian duct structures (PMDS) (30%).Type III: Associated anomalies other than PMDS, such as hypospadias, pseudohermaphroditism, and scrotal anomalies (20%)[10]. Another unclassified variant in which the two cords pass through separate inguinal canal had also been reported[11].

Clinical presentation includes an inguinal hernia on one side and a contralateral or sometimes bilateral cryptorchidism[12,13]. Emergency presentation with obstructed hernias had also been reported[14]. Even though a Definitive diagnosis is usually made during groin exploration[13], preoperative ultrasonography, Magnetic resonance imaging and laparoscopy are helpful in arriving at a preoperative diagnosis[15-17]. Patients with TTE are at increased risk of malignant transformation with an overall incidence of 18%[18].

The management goals are orchidopexy, exploring müllerian duct remnants, and long-term follow-up for malignancy and fertility[11]. There is no formal consensus on the management; however, algorithms based on extensive dissection of the cord[19] or none at all[20] have been proposed to guide management based on intraoperative findings. Historically, trans-septal and extraperitoneal approaches were the standard methods of orchidopexy in TTE; however, laparoscopy has now revolutionised the management[11].

This report aims to describe TTE and to highlight some of the challenges encountered in management.

II. CASE REPORT

A 2-year-old boy scheduled for right inguinal herniotomy for right inguinal hernia, but intraoperatively found to have right inguinal hernia, palpable two ovoid structures in the right hemiscrotum, as well as an empty left hemiscrotum. His prenatal history was not contributory, and no history suggestive of other congenital abnormalities. He was seen at the age of six (6) months with a complaint of absent left testis, where abdominal and scrotal ultrasound was requested, which reported normal examination i.e both testicles were seen intrascrotal.

On examination, his general condition was stable. The abdomen was full, no suprapubic or flank masses, but there was a reducible right inguinal swelling. External genitalia revealed an uncircumcised phallus, an empty hypoplastic left hemiscrotum, a well rugated right hemiscrotum containing two testicles, one at the neck and the other at the bottom. (Figure1).

A provisional diagnosis of right transverse testicular ectopia was made. He had right groin exploration with findings of: Patent processus vaginalis containing both testicles, one higher than the other (figure 2), fused cord structure, both testicles are viable, measuring 1cm x 1.5cm with separate vas deferens and vessels, only joined by a fold of tissue at the region of gubernaculum (figure 3). The right internal ring was widened, and the pelvis was inspected; no evidence of Müllerian remnant was found. High ligation of the patent processus vaginalis was done. The testes and cord structures are separated by dividing the fold of tissue joining them (Figure 4). Scrotal incision was made through the median raphe, and lower testes were pulled through the median septum and pexed within the left subdartos pouch (trans-septal orchidopexy), upper testes pexed in the right subdartos pouch (figures 5 and 6).

Patient did well postoperatively and on follow-up without complaints.

III. DISCUSSION

Transverse testicular is a rare form of ectopic testes with an estimated incidence of 1 in 1million live births. Even though many cases were reported in the literature, to the best of our knowledge, this may be the first report from sub-Saharan Africa. According to the classification, our case belongs to type 1 TTE[10]. Mullerian remnants had been ruled out by abdominal ultrasound and intra-operatively by pelvic exploration through the enlarged internal ring, and both methods have lower sensitivity than laparoscopy. We could not use laparoscopy because the diagnosis was made intraoperatively, and it was not easily accessible.

Like most of the reported cases, the diagnosis was made intra-operatively. In our case, early diagnosis was missed when he presented at 6 months of age. This may be attributed to poor clinical acumen. As reported, preoperative diagnosis can be made by Ultrasound[15], but the major limitation is interobserver error, so on either side, i.e both clinician and radiologist, a second opinion should have been sort for. In addition, the diagnosis of undescended testes was also missed for the second time when he presented at 2 years. This could be attributed to the fact that parents did not volunteer the history of absent left testis, and during examination, two testicles might have been palpated within the scrotal sac, not paying too much attention to the fact that they may be located in one hemiscrotum.

Our patient had trans-septal orchidopexy, which is the frequently performed procedure in most of the reported cases; however, Gu et al[21], advocated fixing the testes via respective inguinal canal and hemiscrotum, they cited the limitations for the trans-septal approach, including 1, Mobilization and relocation of the testes may stretch or compress the spermatic vessels, increasing the risk of testicular atrophy. 2, Limited spermatic cord length may result in failure of proper fixation or difficulty in maintaining the position of the testes. 3, Incising the scrotal septum may disrupt the anatomical integrity and appearance of the scrotum, affecting its function. 4, Surgical dissection may lead to damage to the vas deferens, potentially impairing fertility. 5,Locating both testes in the same hemiscrotum complicates monitoring for malignant transformation. However, most of these limitations are due to the proximal location of the testes, and as reported earlier[19,20] the choice of

procedure depends on the findings at exploration. In our patients, the two testes were in the right hemiscrotum with sufficient length of the vas deferens, making it easy for a trans-septal approach.

TTE is associated with increased risk of testicular cancer and infertility; patients with TTE require long-term follow-up.

IV. CONCLUSION

TTE is a rare form of ectopic testes; diagnosis should be considered when a unilateral hernia coexists with contralateral cryptorchidism. We emphasize careful preoperative assessment, particularly in resource-limited settings where diagnostic imaging may be misleading.In case of any diagnostic dilemma, attention of those with expertise, particularly a paediatric surgeon or Urologist, should be sought for.

REFERENCES

[1]. Kumar L, Garg P, Kumar A, Rao A.S.N. Transverse testicular ectopia with bilateral pyocoele: case report and brief review of literature. Journal of Surgical Technique and Case Report 2014; 6(2): 55–57, 2014.
[2]. Von Lenhossek M. N. Ectopia testis transversa. Anatomischer Anzeiger 1886; 1: 376–381.
[3]. Zhou G, Yin J, Jiang M. et al. Clinical Characteristics, Ultrasonographic Findings, and Treatment of Pediatric Transverse Testicular Ectopia: A 10-Year Retrospective Review. Urology 2021; 154:249-54.
[4]. Debnath P, Tripath R, Agarwal L, Malik E, Sharma S. Tuberculosis in transverse testicular ectopic testis: a diagnostic dilemma: case report. The Indian Journal of Tuberculosis 2006;53:27.
[5]. Berg AA. Transverse ectopy of the testis. Ann Surg. 1904;40:223–224.
[6]. Josso N. Development and descent of the fetal testis. Maldescensus testis 1977.
[7]. Gupta RL, Das P. Ectopia testis transversa. J Indian Med Assoc 1960; 35:547-9.
[8]. Paltiĭ NP. Transversal ectopia of the testis associated with pseudo hermaphroditism. Urol Nefrol (Mosk) 1965; 30:63.
[9]. Hismatsu E, Takagi S, Nakagawa Y, Sugita Y. Familial transverse testicular ectopia unrelated to persistent Müllerian duct syndrome. Indian J Urol 2011; 27: 397-8.
[10]. Gauderer MW, Grisoni ER, Stellato TA, Ponsky JL, Izant RJ Jr. Transverse testicular ectopia. J Pediatr Surg 1982; 17:43?7.
[11]. Mbouche L, Tamufor EN, Fossi KG et al. Right transverse testicular ectopia: a nonclassified variant confirmed on laparoscopy. Case reports in urology 2021. https: doi.org/10.1155/2021/409676.
[12]. FeizzadehKerigh B, MohamadzadehRezaei M. Crossed testicular ectopia: a case report. Urol J. 2005; 2(4):222–223.
[13]. Acikalin MF, Pasaoglu O, Tokar B, Ilgici D, Ilhan H. Persistent Mullerian duct syndrome with transverse testicular ectopia: a case report with literature review. Turk J Med Sci. 2004; 34:333–336.
[14]. Vaos G, Zavras N. Irreducible inguinal hernia due to crossed testicular ectopia in an infant. Hernia 2004; 8:397?8.
[15]. Nam YS, Baik HK, Kim SJ, Lee HK, Park HK. Transverse testicular ectopia found by preoperative ultrasonography. J Korean Med Sci. 1998; 13(3):328–330.
[16]. Lam WW, Le SD, Chan KL, Chan FL, Tam PK. Transverse testicular ectopia detected by MR imaging and MR venography. Pediatr Radiol 2002; 32:126?9.
[17]. Gornall PG, Pender DJ. Crossed testicular ectopia detected by laparoscopy. Br J Urol. 1987; 59(3):283.
[18]. Berkmen F. Persistent müllerian duct syndrome with or without transverse testicular ectopia and testis tumours. Br J Urol. 1997; 79(1):122–126.
[19]. Bascuna Jr. R, Ha JY, Lee YS, Lee HY, Im YJ,Han SW. "Transverse testis ectopia: diagnostic and management algorithm". International Journal of Urology 2015; 22(3):330-331.
[20]. Raj V, Redkar RG, Krishna S,Tewari S, "Rare case of transverse testicular ectopia - case report and review of literature". International Journal of Surgery Case Reports 2017; 41:407–410.
[21]. Gu C, Sun J, Ding L, Li B, Zhang Y, Jiang G.Laparoscopic management of transverse testicular ectopia with spermatic cord fusion: a case report. AME Case Rep 2025;9:93 https://dx.doi.org/10.21037/acr-24-288.

FIGURES

Figure 1 shows a hypoplastic empty left hemiscrotum and a rugated right hemiscrotum

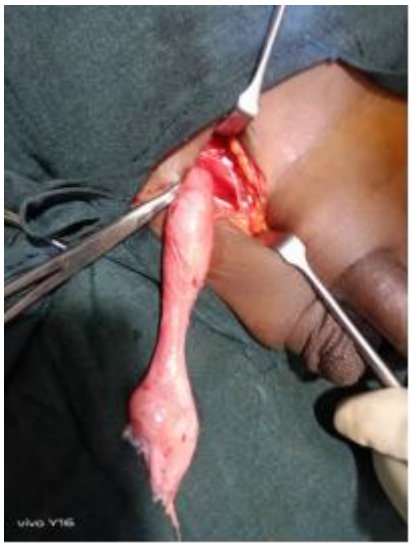

Figure 2 shows the right patent processus vaginalis with two testes.

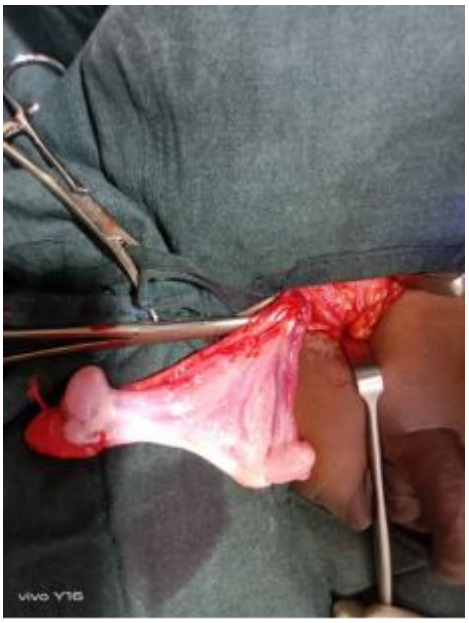

Figure 3 shows two testes with fused cords

Figure 4 shows both testes with a separate cord structure

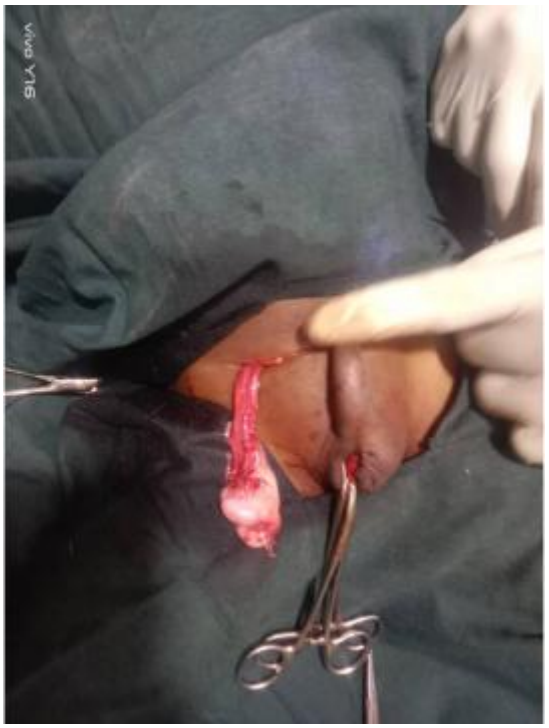

Figure 5 shows lower testes within the left subdartos pouch

Figure 6 shows two testes inside the corresponding subdartos pouch, with right groin and scrotal incisions.