Case Report

Transverse testicular ectopia with a blind ending vas deferens

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ABSTRACT

Transverse testicular ectopia (TTE) is an uncommon anomaly of testicular descent. Herein, we describe a case of TTE with blindly ending vas and persistent Müllerian duct syndrome in a 2-year-old child. Orchidopexy could be done through the normal orthotopic route after separating it from the Müllerian structure and dividing the peritoneal fold just distal to the blindly ending vas. The report highlights that laparoscopy is useful for identifying subtle anomalies in addition to its therapeutic role.

Key words: Laparoscopic orchidopexy, persistent Müllerian duct syndrome, transverse testicular ectopia

INTRODUCTION

Transverse testicular ectopia (TTE) is uncommon anomaly in which one testis migrates off its normal path of descent to descend alongside the contralateral normal testis. Associated anomalies of vas deferens are very rare and those that are described in the literature include fusion defects,[1] supernumerary vas,[2] discontinuity of vas,[3] and agenesis of vas.[4] Herein, we describe a case of TTE with a blindly ending vas in association with persistent Müllerian structures.

CASE REPORT

A 2-year-old male child presented with right-sided inguinal swelling with an empty left scrotum. The child also had a right-sided inguinal hernia which was completely reducible. TTE was diagnosed on physical examination and confirmed by ultrasonography and magnetic resonance imaging.

Laparoscopy revealed that the right deep ring was widely open and the left testicular vessels were crossing from left iliac fossa toward the right side coursing behind the urinary bladder. The gubernaculum was wrapped within a peritoneal fold and was seen to extend from the closed left deep ring to the open right ring [Figure 1]. Testis was in the right inguinal canal, but it could be pulled back into the abdominal cavity. An elongated cylindrical structure was seen coming from behind the bladder and reaching the right inguinal canal. It was wedged between the two testes and their vascular pedicles. This was the hypoplastic Müllerian remnant. The vas of the left testis was found to end blindly 2–3 cm proximal to the epididymis. The peritoneum over the cleavage plane between this ectopic testis and Müllerian structure was incised and the loose areolar tissue was divided. An incision was made over the Müllerian structure so as to leave a cuff of Müllerian tissue along the left testis and its vessels, and the remaining main bulk was left *in situ*. This freed the testis with its vessels and vas. Further mobilization of the vessels from behind the bladder helped in gaining length, but the left vas was anchoring the

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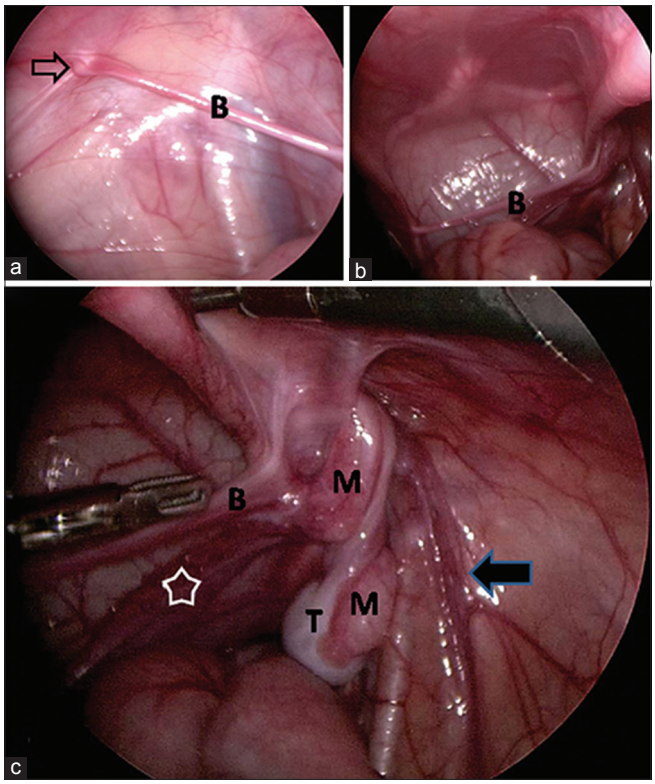

Figure 1: (a) Intraoperative image focused around the left iliac fossa and the closed deep ring (arrow). (b) The gubernaculum is seen as a band (B) of tissue from the left deep ring towards the right deep ring behind the bladder. (c) The structures around the open right deep ring with the vessels of left testis (star) and testis (T) in close relation with the Müllerian structure (M). Müllerian remnant appears to be having two components but is actually due of twisting of the mobile testis around it. The vessels of the right testis are in the normal location (solid arrow)

left ectopic testis despite having an adequately mobilized pedicle. To gain more length, the peritoneal fold just distal to the blindly ending left vas was divided and this freed the left testis, which was then passed across a "neo-deep ring" just medial to the left inferior epigastric vessels. The right open deep ring was closed with a 4–0 polyglactin suture. A clinical review at 6 months after surgery ensured that the both testes are intrascrotal. The patient has been advised for annual follow-up.

DISCUSSION

TTE is an uncommon aberration of the process of testicular descent. Von Lenhossek was the first to describe it in 1886.[5] It is usually diagnosed as an intraoperative surprise while operating on an innocuous looking inguinal hernia.

Based on the presence of associated anomalies, TTE is classified into 3 types. In Type 1 TTE, inguinal hernia is associated with the anomaly. Persistent or rudimentary Müllerian duct structures are the hallmarks of Type 2 TTE. In Type 3 TTE, other genitourinary disorders such as hypospadias and scrotal abnormalities are found as an association. Our case was a Type 2 TTE with a blindly ending vas.

Various abnormalities of vas deferens have been described in relation to TTE although these are very rare. Sadeghi-Nejad and Oates[4] had reported a case of bilateral crossed ectopia with unilateral absence of the vas deferens in a 34-year-old man. Thambidorai and Khaleed[3] described 2 cases of TTE with persistent Müllerian duct syndrome and one patient had discontinuity of vas which was thought to result from ischemia due to torsion-like event in an excessively mobile ectopic testis. Our case had a blind ending vas that was akin to the findings noted by Thambidorai and Khaleed, except that this defect was terminal and there was no connection between the vas and the ectopic testis whatsoever. It may be conjectured that in our case, the torsion occurred close to the epididymis in a very mobile testis.

Treatment involves surgically relocating TTE to the orthotopic position. When it is a Type 2 TTE, this may involve leaving behind a cuff of Müllerian remnants still attached to the testis and the main bulk of Müllerian structure may be left *in situ* as these are of no pathological significance. Orchidopexy is performed through the same inguinal canal and out of the superficial inguinal ring into the scrotum and then across the scrotal septum into the opposite empty side (Ombredanne technique). In our case, despite thorough mobilization of the testicular vessels and freeing it from the Müllerian structures, it was felt that the left testis remained tethered just below the right deep ring by the vas. Once the peritoneal fold between the blindly ending vas and the epididymis was divided, it became free and then it was brought down to the left hemiscrotum replicating closely the natural path of descent. The merit of retaining a testis with no communication with its vas is debatable. It was felt that this otherwise normal-sized testis can at least alleviate the psychological trauma of an empty hemiscrotum. Moreover, it may also continue to play its endocrine role. In case the vas would have formed normally, then it would have required an orchidectomy as doing an orchidopexy would not have been technically possible with such a "short" vas either through the right side or through the left side. The probability of malignancy in this testis is a concern, and hence, the child has been recommended to be in surveillance with an annual examination.

This report emphasizes the importance of always considering the diagnosis of TTE in a child with an inguinal hernia and a nonpalpable undescended testis on the opposite testis. The case also highlights the role of laparoscopy in picking up associated subtle anomalies as even extensive imaging modalities may miss them. Because of the peculiar vas anomaly, orchidopexy could be done through the orthotopic path as against transseptal route traditionally described for TTE.

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Conflicts of interest
There are no conflicts of interest.

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