

Pediatrics

Congenital vanished distal part of the right vas deferens, a case report



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Introduction

Repair of congenital groin hernia/hydrocele and orchidopexy for the undescended testis are the most common surgical procedure performed by pediatric surgeons. Up to 1% of all men have been reported to have a congenital unilateral absence of the vas deferens (CUAVD).¹ Previous studies have suggested that ipsilateral renal anomalies are present in up to 91% of men with a congenital unilateral absence of the vas deferens (CUAVD).²

Whatever congenital bilateral absence of vas deferens (CBAVD) is usually associated with cystic fibrosis (CF).³

Here, we have a unique case of congenital vanished distal part of the right vas deferens, discovered accidentally during routine herniotomy procedure.

Case report

An 11 year old male child complains of a right inguinal hernia at our pediatric surgery unit, Aswan University Hospital, Egypt.

The child had a routine preoperative investigation. During herniotomy that performed by an experienced pediatric surgeon; we discovered vanished distal part of the vas deferens to 4 cms away from its origin of the epididymis (Figs. 1 and 2). The testis and epididymis were normal.

The condition explained to the parent and the child transferred to Assiut University Hospital for laparoscopic assessment of the

pelvic part of the vas deferens which was absent from the right site (Fig. 3) and present on its normal retroperitoneal position on the left site (Fig. 4).

Abdominal ultrasound referred no associated kidneys anomalies or any other anomalies. The child did not make any investigation for cystic fibrosis like sweat chloride test, or genetic analysis for cystic fibrosis transmembrane regulator (CFTR) mutations test due to poor resources of our hospital; chest X ray was insignificant, with a good general condition of the child. This investigation is recommended by some authors³ to a patient with bilateral absent vas deferens only. No first-degree family history of cystic fibrosis documented. The child had a younger brother 2 and half years old complained of undescended right testes, orchidopexy did outside our hospital. No antenatal history of maternal drug use or radiation exposure. No other significant family history.

The parents of a patient were assured of the presence of other vas deferens. The postoperative course was uneventful.

Discussion

After the Ureteric bud had separated from the mesonephric duct at 7th week of gestation, the mesonephric duct gives the origin of ejaculatory duct, seminal vesicles and ampulla of vas deferens from a caudal part, vas deferens from its middle part and distal 2/3rd of epididymis from its cranial part.⁴

Congenital anomalies of the vas deferens may be complete absence or partial segmental agenesis. However, in our patient, just the distal part of the right vas deferens was absent with normal development of right testes, epididymis and proximal part of the vas deferens distal since the direction of sperm movement is from the epididymis (proximal) to the prostate (distal). This case raises a question, is the vas deferens embryologically develops from two different points of the middle part of the mesonephric duct? Or the vanished part developed due to intrauterine vascular insult to a segment of the vas deferens. As Rozanski et al., suggest that testicular regression syndrome (TRS) is thought to be the result of late antenatal or perinatal vascular thrombosis.⁵ We also hypothesize a role for an intrauterine vascular insult to a segment of the vas deferens. Also, we need a trial about the ability to reconstruction of the vanished part of the vas deferens?

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Fig. 1. Congenital vanished inguinal part of the right vas deference (non tooth forceps referred to the end of the vas deferens).



Fig. 2. Blue arrow show presence of the vas deferens, black arrow show end of the vas deferens. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)



Fig. 3. Laparoscopic photo picture showed blood vessels without pelvic part of vas deferens on the right side.

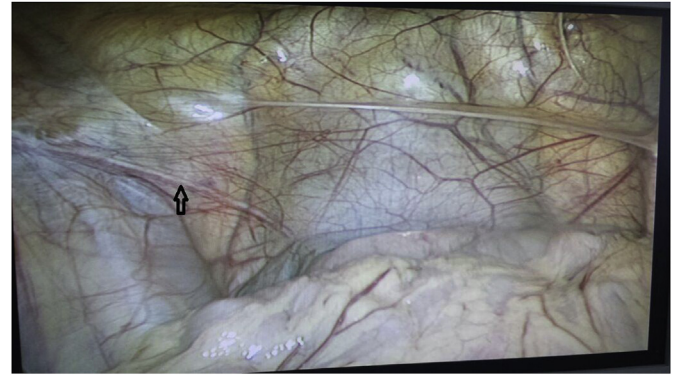


Fig. 4. Laparoscopic photo picture showed normal pelvic part of the left vas deferens.

Conclusion

An isolated congenital absence of the distal part of the vas deferens can exist during routine surgical procedures to other associated anomalies like congenital groin hernia/hydrocele and orchidopexy for the undescended testis in children. We need more focus researches on the origin of the vas deferens, the role of intrauterine vascular insult and if there any ability to reconstruction of the vanished vas deferens.

Conflict of interests

No conflict of interest.

Sources of funding

No funding has been used for this research.

Ethical approval

No ethical approval has been applied for this case report study, only the written and oral consent by the relatives of the patients.

Consent

A written consent has been obtained from the patients' relatives for operative intervention and for the publication of this case report.

Author contributions

Sarah Magdy Abdelmohsen,

She was the operator and responsible for the Study design, data collection, interpretation and writing of the paper.

Mohamed Abdelkader Osman

He was operator, supervisor, reviewer and observational.

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