Journal of Surgery and Surgical Case Reports

ISSN: 2694-4944

Case Report

Urethral Duplication Associated with Epispadias: Case Report

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Abstract

Background: Urethral duplication is a rare congenital urinary tract anomaly. Its association with male epispadias is extremely rare. Due to various anatomical types, patients with urethral duplication can have a wide range of clinical presentations. The management of epispadias associated with urethral duplication involves different techniques and one should identify the functional urethra before proceeding with the surgery. It is associated with better functional outcomes than bladder epispadias exstrophy.

Case presentation: We report a case of a 4-year-old male child presented with a complaint of urinary incontinence. After evaluation, he was diagnosed with Urethral duplication associated with penopubic epispadias. Epispadias repair with urethral advancement was done and the child is having a smooth postoperative course.

Conclusion: Even though urethral duplication associated with epispadias is a rare congenital malformation, it should be carefully searched in male epispadias.

Keywords: Urethral duplication; Epispadias; Surgery

Introduction

Urethral duplication associated with epispadias is an extremely rare congenital urinary tract malformation [1,2]. Since it involves various anatomic ranges, patients with urethral duplication have different clinical presentations which can range from urinary incontinence to asymptomatic patients [1,3,4]. Managing urethral duplication associated with epispadias involves excision of the accessory urethra with preservation of functional urethra or epispadias repair with urethral advancement [5-7]. We are presenting a 4-year-old male child presented with urinary incontinence and diagnosed with urethral duplication associated with epispadias.

Case Presentation

A 4-year-old male child presented with a complaint of urinary incontinence. Associated with this he has dorsally located urethral meatus and abnormal penile curvature since birth. On examination the scrotum is well-developed; testis is palpable in the scrotum bilaterally. There are Penopubic epispadias with moderate dorsal chordae. Well-developed glans with another normally located urethral meatus on the glans. Cysto urography was done and showed two urethrae independently entering a single bladder. Both urethrae were catheterized with an 8F feeding tube. The epispadias urethral plate was mobilized up to the coronal sulcus area. Then, it tubularized over the tube. Glans wing developed dorsally. The glanular part of the septum between the normally located urethra and the epispadias urethral plate is divided and the two urethra are made to communicate with each other at the glans. Urethroplasty was done over the tubes. Corporoplasty was done and dorsal curvature was corrected. Skin mobilized dorsally and approximated. Transurethral tubes were removed after ten days and the child is having a smooth postoperative course at 6 months of follow-up (Figure 1 and 2).

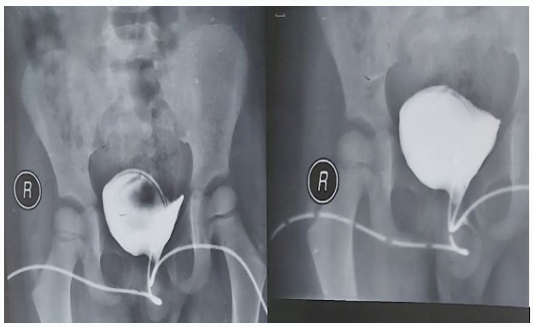

Figure 1: Cystourethrography showing the two urethras are catheterized and independently entering a single urinary bladder.

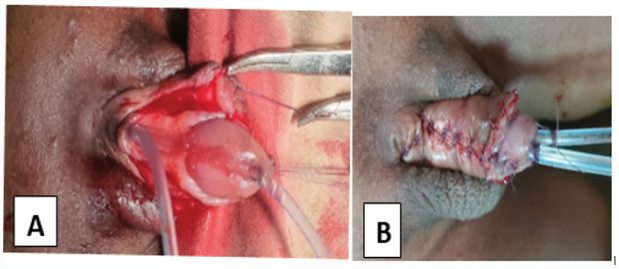

Figure 2: Intraoperative images showing two urethral openings catheterized with feeding tube 8F (Epispadias urethra and glandular located urethra). A) Before repair. B). After Epispadias repair with urethral advancement.

Citation: Merga TG, Gebreselassie HA, Ahmed M, Mohammed M, Girma H. Urethral Duplication Associated with Epispadias: Case Report. J Surg Surgic Case Rep. 2024;5(2):1047.

Publisher Name: Medtext Publications LLC

Manuscript compiled: May 23rd, 2024

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Discussion

Urethral duplication is a rare congenital urinary tract malformation. It can occur in the sagittal or coronal plane, the sagittal plane being the commonest one [1,4,8]. Urethral duplication involves a wide range of anatomic variants and there are different classification systems, with Effman classification being commonly used [4,9]. The clinical presentation varies depending on the type of duplication and associated anomalies [4,8,10,11]. The patient can be incontinent, having just urinary dribbling, no urinary complaint but having two urethral openings with or without a double urinary stream [4,11-13]. Difficult during sexual intercourse, genital area discharge [3,13-15]. It can also be incidentally detected during urinary tract workup or surgery [1,12,14] or even may be missed at the time of surgery especially those associated with bladder exstrophy epispadias complex [16].

Isolated epispadias a rare exstrophy epispadias complex anomalies [14,17]. Epispadias associated with Urethral duplication are extremely rare anomalies [1,11,12,18]. The diagnosis of urethral duplication in these patients is usually missed preoperatively and the diagnosis will made intraoperatively [1,7,19]. In these patients, the ventral urethra is almost always located in the sphincter complex and is the functional one [11,12,20].

The management of urethral duplication is indicated in symptomatic patients, associated anomalies, or cosmetic deformities [4,9]. Managing epispadias associated with urethral duplication involves excision of the dorsal urethra with preservation of the ventral one [21,22]. One can do also epispadias repair with urethral advancement to connect the two urethral openings in case of type IIA urethral duplication associated with epispadias [6]. In the case of Y-type urethral duplication, multiple staged surgery may be needed to achieve the final complete result [3,8,23]. One should identify the functional urethra before proceeding with the surgery [7,9,18,24]. The management outcome of epispadias associated with urethral duplication is associated with good functional outcomes [12,18], having better outcomes than bladder epispadias exstrophy [25-27].

Conclusion

Even though it is rare to find urethral duplication associated with epispadias, it should be carefully searched in male epispadias. One should identify the functional and accessory urethra before embarking on surgery.

Acknowledgments

We would like to thank the patient's guardians for giving us consent to use both the child's history and the different pictures. We hope this will add some clue to the rare presentation of this rare disease. Lastly, we would like to thank the college for allowing us to publish this paper.

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