

Double Male External Urethral Meatus

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ABSTRACT

Background: Duplication of urethra is a rare congenital abnormality. It has different modes of presentation and hence several techniques have been outlined for its correction.

Case Report: A 12 years old male child who presented to our facility with complaints of having double urinary streams. Clinical examination revealed a calm young male with double external urethral meatus. He electively had meatoplasty. The post-operative period of the patient was uneventful. He was discharged home same day.

Conclusion: Double male external urethral meatus is one of the variants of urethral duplication and when limited to the meatus only requires a simple surgical correction.

Keywords: Male external urethral meatus, Urethral duplication, Congenital

1. Introduction

Duplication of urethra is an infrequent congenital urological aberration, often seen in male patients. This medical condition was first described by Aristotle¹. Reported cases of Urethral Duplication (UD) in the literature is about 300 cases². The alteration in embryogenesis leading to this anomaly in the development of urethra is not fully understood, however, some theories have been proposed to explain the observed variants of this anomaly³. The clinical presentation differs depending on the anatomical variant present. UD commonly occurs in the

sagittal plane; less often the urethrae lie collaterally (side by side)⁴. Williams and Kenawi categorised UD into epispadiac, hypospadiac, spindle and collateral types based on how the ectopic urethral channels relate to the normally cited urethra. Mane SB et al.⁴, divided UD into three types with a more comprehensive description based on detailed radiological anatomy. Surgical intervention in UD depends on the presence of symptoms and the variants of anomaly present.

2. Case Report

A 12 years old African male patient who was brought to our

facility by his mother with complaints of double streams while urinating. There is associated pain on micturition most times. Aside being asthmatic, he does not have any other medical co-morbidities. Clinical examination showed a composed boy with stable vital signs. External genitalia examination revealed a circumcised phallus with double external urethral meatus at the tip of the glans penis. The urethral openings were in sagittal plane with wider opening dorsally and smaller urethral opening ventrally (along the same vertical axis) (Figure 1). The scrotum is well formed with intra-scrotal testes.

The abdominal ultrasonogram as well as the pre-operative blood work-up were normal. He electively had meatoplasty (excision of the transverse tissues dividing the urethral openings) under conscious sedation (Figure 2). A size 12 silicone urethral catheter was inserted. The post-operative period was uneventful and he was discharged home same day. The urethral catheter was removed seventh post-operative day. Subsequent follow-up review revealed a single urinary stream and he no longer has pain on micturition.

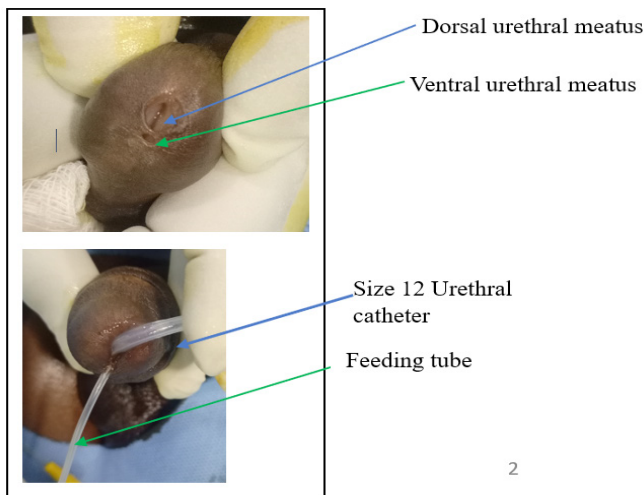


Figure 1: The urethral openings in sagittal plane with wider opening dorsally and smaller urethral opening ventrally.

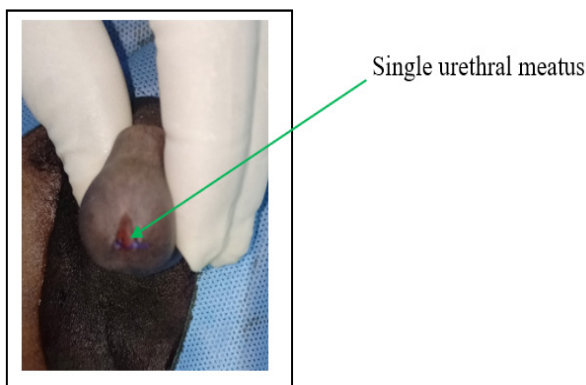


Figure 2: The intervening transverse tissues dividing the urethral openings excised.

3. Discussion

Urethral duplication is an infrequent congenital urological aberration that is mostly found in male. Sometimes, this pathology can be associated with other abnormalities in genitourinary tract, heart, bowel and bones¹. However, like in our patient, it can be an isolated anomaly. Many efforts to classify double urethra have been considered unsatisfactory until Mane SB et al⁴. presented their classification based on detailed

radiological anatomy and clinical presentation. Mane SB et al⁴, divided UD into three main types.

3.1. Type I (Incomplete)

- **Type IA (Distal):** The meatus is on the dorsal or ventral surface, but it does not have communication with the urethra or the bladder.
- **Type IB (Proximal):** The accessory urethra originates from the normal urethra and ends blindly.

3.2. Type II (Complete Duplication)

3.2.1. Type IIA (Two Meatus):

- Two non-communicating urethrae originating independently from the bladder.
- The second urethra originates from the first with an independent channel until the second meatus.

3.2.2. Type IIB (One Meatus):

Two urethrae originate from the bladder or of the subsequent urethra joining later in a single channel.

3.3. Type III

Urethra duplication, part of a complete or incomplete caudal duplication.

Our patient had type IA with the urethral openings in sagittal plane. Embryologically, the genital tubercle arises from two lateral components (analgens). A posterior shift of the lateral analgens of the genital tubercle would result in their fusion behind the uro-genital membrane which later breaks down to expose the epithelium on the dorsum of the penis. The gross posterior misplacement of the analgens of the genital tubercle leads to complete epispadias. Intermediate degrees of misplacement can result in the formation of two urethral plates on the dorsal and ventral aspects of the genital tubercle⁵. Urethrogram is a useful tool in UD evaluation. This was eventually stepped down in our index patient because we could demonstrate it clinically to be type IA.

The treatment options for UD is dependent on presence of symptoms and the type of anomaly. Surgical options vary from case to case and may include meatoplasty (that was done in this index patient), excision of dorsal accessory urethra, urethro-urethrotomy + glanuloplasty or urethroplasty.

4. Conclusion

Double male external urethral meatus is one of the variants of urethral duplication. Proper evaluation to determine the type of UD and rule out likely associated anomalies will lead to better outcome.

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