Case Report

Concealed Penile Duplication – Presenting Late

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We report a case of concealed penile duplication without many symptoms and normally looking external genitalia in a 10-year-old boy. He was evaluated with appropriate imaging and had successful surgical reconstruction of his genitalia with good cosmesis and functional outcome.

Keywords: Associated anomalies, concealed penile duplication, phalloplasty

INTRODUCTION

Diphallia is a rare congenital defect seen in 1 in 5.5 million births (United States).[1] It is usually diagnosed at birth. We report a boy who presented for the first time at 10 years of age.

CASE REPORT

A 10-year-old boy presented to us with a 3 months history of straining and poor urinary stream. He had no history of urinary tract infection or urological complaints in the past. The systemic examination was normal. His genital examination showed a normal-appearing penis covered with preputial skin [Figure 1a].

On retracting the preputial skin of an apparently normal penis, two well-developed penile structures fused by a bridge of tissue medially were noticed. Each penile body had its own glans and meatal openings [Figure 1b and c]. No other anomalies were noted. The testis was normally descended. Retrograde urogram from both the meatal openings revealed that the left penile body had a normal-sized urethra entering the bladder while the right urethra was poorly formed with dye entering the bladder through a narrow tract [Figure 1e].

Ultrasonography kidney ureter and bladder (USG KUB) was showing bladder volume of 180 ml with normal prepubertal prostate, postvoid was normal.

Cystoscopy was possible on the left side using an all-in-one 9Fr Karl Storz scope.

The left penile body had a normal-sized urethra entering into the bladder.

Verumontanum was normal with the normal location of the left ejaculatory duct. On the right side, the scope could not be passed beyond 2 cm; we could not visualize any verumontanum on the right side.

Magnetic resonance imaging (MRI) abdomen and pelvis ruled out other associated anomalies. There was an isolated penile duplication anomaly (partial true diphallia) with a poorly formed right penile shaft component (corpora cavernosa) and a completely formed left penile shaft component [Figure 1d].

Prostate volume was prepubertal level.

Reconstruction of his genitalia was done by excising the right hypoplastic phallus. The surgical steps are as follows. The penile skin was degloved till the base, on both shafts. The hypoplastic right penile structures (Spongiosa and cavernosa) were dissected till the base and excised. As the urethra opening of the hypoplastic shaft was very narrow, it was ligated as proximally as possible.

The child had an uneventful recovery. The catheter was removed on Post operative day 7 (POD-7). After 8 months of follow-up, the child is passing urine in a good stream. He has a normally appearing penile structure with good erectile function.

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DISCUSSION

Embryologically diaphallus arised due to abnormal growth of the pubic tubercle.

Diphallia is a duplication of the penis, which arises due to separation of pubic tubercle or cleavage of pubic tubercle.[2] The first diphallia case was described by Wecker in 1609 and since then, only ~100 additional cases have been reported worldwide. It is seen in 1 in 5.5 million births.[3]

The present classification of diphallia is divided into four types: true diphallia complete, true diphallia incomplete, bifid phallus complete, and bifid phallus incomplete.[4,5] Penile duplication may be associated with other malformations, such as bladder, urethral, and scrotal duplication, exstrophy of the cloaca, imperforate anus, colon and rectosigmoid duplication, and vertebral anomalies.[6-8] True diphallia is more often associated with severe malformations compared with the bifid phallus.[9] Our patient had true diphallia incomplete.

The treatment of penile duplication is challenging, not only because of its medical peculiarities but also because of ethical and esthetic issues. Therefore, treatment should always be individualized. The main objectives of treatment are management of associated anomaly, genital reconstruction, preservation of continence, and erectile function.[10] In our case, these objectives were obtained by simple excision of the hypoplastic component and skin refashioning. The recommended approaches include identifying the hypoplastic urethra and end-to-side anastomosis between the sectioned urethra and the remaining one at the bulbular level. We report a rare case of concealed penile duplication; in our case, as the remnant urethra of the hypoplastic phallus was very small, we could not negotiate the scope, and even the smallest infant feeding tube (IFT) could not be passed, we ligated the stump of the urethra as proximal as possible. The final step was to excise the excess skin remaining and to perform a phalloplasty [Figure 2].[1]

We report this case as this is very rare and has not been described yet; we also want to highlight individualized management.

CONCLUSION

1. Penile duplication is a very rare condition. The main goal of treatment is the identification of associated anomalies and treating them appropriately
2. Proper preoperative assessment with MRI, cystoscopy, and genitogram has to be done to find out associated anomalies and to delineate urological anatomy
3. Surgical reconstruction of genital anomalies should be planned appropriately to achieve both functional and cosmetically acceptable genitalia
4. Isolated duplication without associated major anomalies has excellent outcomes.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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