

# Glandular Epispadias Repair: A Case Report

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## Abstract

**Introduction:** Epispadias is a rare form of urogenital congenital anomaly with cosmetic consequences on the quality of life. We hereby report the case of a 10-year-old male child presenting with glandular male epispadias treated using the penile disassembly Mitchell technique, for which cosmetic and functional outcomes were good. **Case Presentation:** Our patient is a 10-year-old male with a history of penoplasty at 6 years of age, indicated for a penile abnormality and urinary incontinence, who presented to our facility with persistent urinary incontinence from an abnormal opening since birth. Examination revealed a tween boy having both testicles in the scrotum. He had a spade-like glans penis, ventral hooding, urethral meatal plaque at the dorsal aspect of the penis with no chordee. He was diagnosed with Isolated Male Epispadias (IME), for which he eventually had a Mitchell procedure under general anesthesia. About 4 weeks after the procedure, the patient was continent, with no urethrocuteaneous fistula, and the cosmetic outcome was satisfactory. **Conclusions:** Appropriate treatment, irrespective of age, could significantly improve patients' quality of life.

## Keywords

Epispadias, Mitchell Technique, Glandular

## 1. Introduction

Isolated Male Epispadias (IME) is a rare component of urogenital congenital anomaly with an estimated incidence in Europe of around 0.6 per 100.000 live births [1]. There is limited about the prevalence of epispadias in Sub-Saharan Af-

rica. It is usually detected at birth and treated in infancy and childhood period, and surgical treatment remains a challenge for reconstructive urologists [1]. The main objective of treatment is to achieve a cosmetic and functional outcome of the penis [2]. Several techniques have been described, including the Original Cantwell technique, which was later modified by Ransley and the Mitchell and Bagli technique, which has become popular [3] [4]. The Mitchell technique is our preferred method for the treatment of male epispadias. The purpose of this case report is to highlight the rarity of epispadias and to share our experience in surgical management using the Mitchell technique.

## 2. Case Presentation

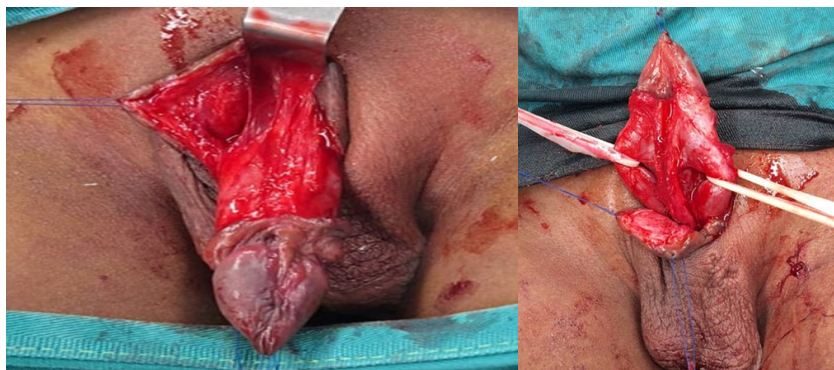
A 10-year-old male child with a relevant past surgical history of a penoplasty indicated for a penile anatomical abnormality and urinary incontinence at 6 years of age whose post-operative period was marked by continuous urinary incontinence and unsatisfactory cosmetic and anatomical outcome who presented with persistent urinary incontinence in the context of penile malformation since birth. Physical examination revealed a child with normal physical and psychomotor development in relation to his age. Normal scrotal morphology with bilateral testicles in place. A penile length of about 2 cm, ventral urethral plate on the dorsal aspect of the penis and the urethral meatal opening on the glandular penis (**Figure 1**). Thoraco-abdomino-pelvic CT scan and a cardiac ultrasound were done, which were normal. This was to rule out any other associated congenital abnormality. Pre-operative investigations, which included a complete blood count, coagulation profile, urine culture and antibiotic sensitivity, were done to identify any correctable abnormality and to ensure that there was no absolute contra-indication for surgery. Pre-anaesthetic consultation was done and classified as ASA 1. Intra-operatively, under general anaesthesia and orotracheal intubation, the patient was installed in the supine position. Cutaneous asepsis and sterile draping were done. Surgical repair was done using the Mitchell technique.



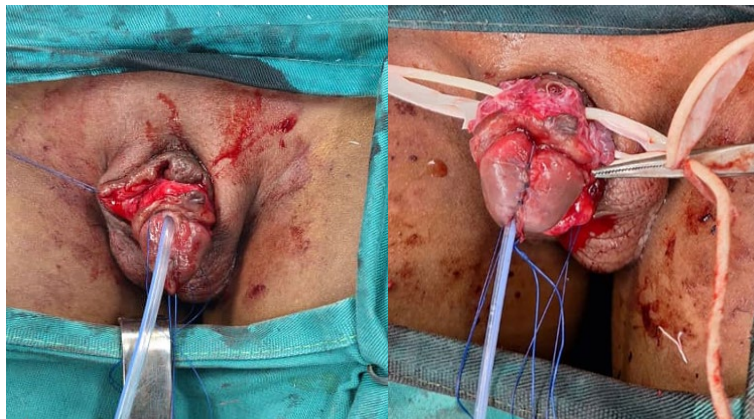
**Figure 1.** Glandular epispadias.



**Figure 2.** Placement of traction sutures.



**Figure 3.** Dissection of the urethral plate up to the peno-pubic junction and separation of the corpora cavernosa.



**Figure 4.** Tubularization of the urethra and repositioning of the corpora cavernosa.

The penis was tracted using nylon 3.0 sutures (**Figure 2**). Dissection of the urethral plate and separation of the corpora cavernosa up to the peno-pubic junction (**Figure 3**). A size 8fr silicone catheter was tubularized over the urethral plate using polyglactin 4.0 continuous running sutures (**Figure 4**). Repositioning of the corpora cavernosa was done using vicryl 4.0. Glanduloplasty was done using vicryl 4.0 (**Figure 5**). Closure of the penile skin was then realized using vicryl 3.0 (**Figure**

6). The immediate post-operative period was uneventful and the silicone catheter was removed on day 10 post-operative. There was no urinary incontinence following removal of the transurethral catheter. The patient was reviewed at 1 month and 3 months at the outpatient clinic, and the patient was continent, and there was no urethrocutaneous fistula. The cosmetic outcome was satisfactory. In the long term, we plan to assess for erectile dysfunction.



**Figure 5.** Glanduloplasty.



**Figure 6.** Closure of the penile skin.

### 3. Discussion

Glandular epispadias is a rare pathology with few cases described in the literature [5] [6]. It is often associated with the Bladder-Extrophy-Epispadias Complex (BEEC) [7]. It is a noticeable congenital anomaly that is always corrected in childhood. Spinoit *et al.* reported a mean age of 13 months, while Nerli *et al.* reported a mean age of 9.13 years in their series [1] [8]. This is quite similar to the age of our patient, who is 10 years old.

Urinary incontinence, which was present, correlates with what is described in the literature [2] [5] [6] [8]. Pre-operatively, radiological investigations were done to ensure that there were no other underlying congenital anomalies. Amougou *et al.* and Kura *et al.* reported similar findings [1] [9]. However, a micturating cystourethrography was not done to ensure a good bladder capacity.

The modified Cantwell-Ransley and the Mitchell techniques have been reported in the literature as a reliable repair procedure with good and cosmetically acceptable outcomes [3] [4]. Due to convenience, low risk of post-operative fistula and familiarity with the surgeon, the Mitchell repair technique was used in this case.

The previous Cantwell's technique describes a procedure where the corpora are mobilized, and the urethra is placed in a hypospadiac position [3]. Ransley modified the Cantwell technique by doing an incision of the corpora with dorsomedial anastomosis above the urethra [3]. Mitchell and Bagli further pushed the technique whereby there was complete disassembly of the corpora and detachment of the urethral plate [4]. This complete disassembly was traditionally performed in BEEC complex. Amougou *et al.* and Spinoit *et al.* used the Mitchell technique and had favorable outcomes [2] [9]. Odzebe *et al.* used Cantwell's technique and had a satisfactory outcome [10].

Complications such as urethrocutaneous fistulae, failed repair as evident with persistent urinary incontinence, hypospadias frequently occur following surgery. Post-operative fistulas are common with the modified Cantwell-Ransley procedure (5.5%) as compared to the Mitchel technique (2.4%), as reported by Hammouda *et al.* [3] [11]. Three months after the operation, our case was continent with no fistula formation. Satisfaction was attained in our case, which was similar to other cases described in the literature.

#### 4. Conclusion

Anatomical and functional restoration in cases of isolated male epispadias is safe and effective and has good outcomes. The inclusion of a large number of patients is needed to affirm this statement. Better mastery of surgical techniques leads to a better functional outcome.

#### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

#### Authors' Contribution

All the authors contributed to the research work. They read and agreed to the final version of the manuscript.

#### Conflicts of Interest

The authors declare no competing financial or personal interests.

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