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Concealed Epispadias Presenting with Buried Penis: A Case Report

Obaid Ur Rehman[1*], Adil khan[2], Abdul Basit[3], Tehreem Farooq[4], Atta Ullah[5] and Kamil Ahmad Kamil[6*]

[1]*Nowshera Medical College, Nowshera KPK, Pakistan*

[2]*Nowshera Medical College Nowshera, KPK, Pakistan*

[3]*Saidu Medical College, Swat, Pakistan*

[4]*Dow Medical college, Karachi, Sindh, Pakistan*

[5]*General surgery unit, Qazi Hussain Ahmad medical complex, Nowshera, KPK, Pakistan*

[6]*Internal medicine department, Mirwais regional hospital, Kandahar, Afghanistan*

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***Corresponding author:** Kamil Ahmad Kamil, Internal medicine department, Mirwais regional hospital, Kandahar, Afghanistan

Abstract

Isolated epispadias is a rare congenital urological anomaly that can be easily missed, particularly when associated with a concealed penis and intact prepuce. We report the case of a 4-year-old boy who presented with continuous urinary dribbling and a hidden penile shaft. The condition was first noticed during a failed circumcision attempt, but no diagnosis was made until further evaluation at a tertiary care center. Examination revealed a dorsally located urethral meatus and unretractable foreskin, consistent with isolated epispadias. Investigations showed mild anemia and pyuria, with normal renal function and imaging. Surgical correction was performed using the Inverted Preputial Glanuloplasty and Meatoplasty (IPGAM) technique, along with corporoplasty and tuboplasty. The procedure was successful, with no complications. This case highlights the importance of early recognition of atypical penile anatomy, especially during circumcision, and the need for improved paediatric surgical services and awareness in resource-limited settings to prevent diagnostic delays and functional impairment.

Key Clinical Message: Isolated epispadias can remain hidden behind an intact foreskin, making early diagnosis especially difficult-often only discovered during circumcision attempts. This case highlights the importance of careful genital examination in infants and the need for greater awareness among healthcare providers. With timely recognition and a tailored surgical approach like IPGAM, even children in resource-limited settings can achieve excellent functional and emotional outcomes.

Keywords: Isolated Epispadias; Buried Penis; Concealed Epispadias; Paediatric Urology, Circumcision Complication; IPGAM Technique; Urethral Reconstruction; Urinary Incontinence

Abbreviations: BEEC: Bladder exstrophy-epispadias complex; GE: Glanular epispadias; PPE: Penopubic epispadias; IME: Isolated male epispadias; PE: Penile epispadias; QHAMC: Qazi Hussain Ahmad Medical Complex; IPGAM: Inverted Preputial Glanuloplasty and Meatoplasty; HCV: Hepatitis C virus; HBV: Hepatitis B virus; BEEC: Bladder exstrophy-epispadias complex

Introduction

Isolated epispadias are a notable congenital urological condition, occurring in approximately 1 in 120,000 births [1]. It can be grouped into 3 main subtypes Glanular epispadias (GE), penile epispadias (PE), and penopubic epispadias (PPE). Classical features of isolated male epispadias (IME) include dorsal curvature, a ventrally hooded prepuce, and a defect in the dorsal skin [2]. Often referred to as concealed epispadias, this condition may present as a phimotic perpetual orifice obscuring the glans [3]. A buried penis in children usually accompanies an unretractable foreskin, which may induce symptoms such as perpetual bladder distension, urinary infections, ballooning, and painful micturition. This condition is characterized by a congenital inadequacy of penile shaft skin and an unretractable foreskin that traps the penis deep within the prepubic fat. Moreover, the lack of attachment of the penile envelopes and fascia at the penile base results in its concealed appearance [4]. In a nutshell, concealed epispadias with an associated buried penis offers distinct diagnostic and treatment challenges. A collective approach involving pediatric urology expertise and psychological care is crucial to address both the physical and

emotional facets of care. This case is particularly significant and noteworthy due to the scarcity of data and limited research on the role of intact prepuce in diagnosing epispadias and its effect on urinary incontinence severity and surgical outcomes.

Case Presentation

Patient Introduction and Presenting Complaint

A 4-year-old boy, previously healthy and with no known medical history, was brought to the Pediatric Surgery Department at Qazi Hussain Ahmad Medical Complex (QHAMC), Nowshera. His parents were concerned about a concealed penis and frequent urinary dribbling. They reported that their child had always worn diapers due to continuous leakage of urine and noted that he passed urine in a thin, narrow stream. This raised suspicion of a possible anatomical abnormality affecting his ability to void properly.

Initial History and Diagnostic Delay

The issue first came to light when the child was taken for a routine circumcision at a local primary care facility. During the procedure, healthcare providers observed an unusual appearance of the penis and noted ongoing urine dribbling. However, no definitive diagnosis was made, and the family received no guidance or referral. Over time, the urinary symptoms persisted, prompting the parents to seek specialized evaluation at QHAMC.

Clinical Examination

On clinical examination, the child appeared slightly irritable, likely due to discomfort from wearing diapers continuously. Genital inspection revealed that the penis was partially buried in the surrounding tissue and the foreskin was not retractable. Notably, the urethral opening was found on the dorsal side of the penis, a classic finding in epispadias. There were no signs of infection, inflammation, or abnormal findings in other body systems.

Laboratory and Imaging Investigations

A full set of investigations was performed. Blood tests showed a hemoglobin level of 11.4 g/dL, indicating mild anemia. His total leukocyte count was elevated at 12.1 million/mm^3, while platelet count remained within the normal range. Urinalysis revealed 2-3 pus cells per high power field and numerous red blood cells, although there were no signs of proteinuria or epithelial cell shedding. Renal function tests, including urea, creatinine, and electrolyte levels, were all within normal limits. Imaging studies, including abdominal ultrasound and chest X-ray, were unremarkable. Infectious disease screening came back negatively for hepatitis B virus (HBV), hepatitis C virus (HCV), and HIV. The child's blood group was found to be B-negative.

Diagnosis and Surgical Planning

After a thorough assessment, the child was diagnosed with isolated epispadias-a rare congenital malformation where the urethral opening is abnormally positioned on the dorsal surface of the penis. Surgical intervention was planned to reconstruct the urethra and correct the associated penile deformity. However, due to temporary unavailability of compatible blood, the procedure was delayed until May 8, 2025.

Preoperative Management and Surgical Procedure

Preoperatively, the child was managed with intravenous Ringer's lactate (300 mL twice daily), ceftriaxone 500 mg IV twice daily for infection prophylaxis, and tramadol as needed for pain control. The surgical team performed a combination of procedures under general anesthesia. These included Inverted Preputial Glanuloplasty and Meatoplasty (IPGAM) to relocate the urethral opening to its normal ventral position, tuboplasty to reconstruct the urethral tube, corporoplasty to correct penile curvature and restore length, and glans and skin repair to ensure both cosmetic and functional restoration. The procedure was completed successfully with minimal blood loss and no intraoperative complications.

Postoperative Care and Discharge Plan

Postoperatively, the child was prescribed a regimen including Mixol syrup (200 mg/5 mL) twice daily, Polymalt syrup once daily, and Brufen-DS (ibuprofen) 5 mL thrice daily for pain management. Daily dressing with Polyfax ointment was advised to prevent infection and promote healing. The patient was scheduled for follow-up to monitor wound healing and assess urinary function. His prognosis was deemed favourable, with expected improvement in urinary control and quality of life.

Case Discussion

Isolated epispadias is a rare congenital anomaly characterized by abnormal positioning of the urethral opening and can occur in both males and females. The condition has a low incidence, estimated at approximately 1 in 117,000 males and 1 in 484,000 females, with a notable male predominance (3.5:1). It can present without associated anomalies, leading to unique clinical presentations and management challenges [5]. In this case, the absence of bladder exstrophy or pelvic diastasis meets the strict criteria for "isolated" epispadias. However, the initial presentation during a failed circumcision attempt highlights common diagnostic pitfalls. Such delays-often exceeding 18 to 24 months-are frequently due to misinterpretation of findings such as a concealed penis, dorsal urethral meatus, and foreskin anomalies in primary care settings. Due to its rareness, many healthcare providers may be unfamiliar with isolated epispadias, which can often lead to misdiagnosis as more common urological conditions. Symptoms can be nonspecific and overlap with other issues, such as urinary incontinence or infections, making accurate diagnosis challenging without specialized knowledge [6]. The hallmark features urinary incontinence and a streamlined urinary stream-result from intrinsic sphincteric incompetence caused by dorsal displacement of the urethra, which disrupts the urinary sphincter mechanism. Chronic urethral inflammation, commonly seen in patients with long-term catheter use, may result from infections, catheter-related trauma, or persistent pyuria (presence of white blood cells in urine). In this case, findings such as mild anemia and pyuria likely reflect

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chronic urethral irritation from continuous urine dribbling, consistent with the mucosal irritation seen in exposed urethral plates [7,8]. Normal renal imaging and function tests supported the diagnosis of isolated epispadias, distinguishing it from the more complex bladder exstrophy-epispadias spectrum, which often involves upper urinary tract anomalies.

Surgical reconstruction using the Inverted Preputial Glanuloplasty and Meatoplasty (IPGAM) technique played a crucial role in achieving both anatomical and functional restoration. This method utilizes vascularized preputial flaps for urethroplasty, significantly lowering the risk of fistula formation to less than 5%, compared to the 15-30% reported with traditional techniques, by preserving the neurovascular supply to the glans [9]. When combined with corporoplasty to correct dorsal chordee, IPGAM enhances surgical outcomes by facilitating urethral repositioning, corporal lengthening, and glans reconstruction. Success rates exceed 85% in single-stage repairs, particularly when performed by experienced surgeons. However, a delay in the procedure due to the unavailability of blood highlights the substantial challenges faced in resource-limited settings, where logistical constraints often hinder timely surgical care. Studies underscore the importance of blood readiness even in low-risk pediatric urological procedures, given the potential for unexpected vascular anomalies and the risk of catastrophic hemorrhage. The antibiotic regimen-prophylactic ceftriaxone and postoperative application of Polyfax ointment-was essential in preventing infections, especially in diaper-dependent children. This approach aligns with recommended protocols for contaminated genital surgeries. Long-term functional and psychosocial outcomes necessitate vigilant follow-up, as uncorrected epispadias poses significant risks, including urethrocutaneous fistulas (10-15%), meatal stenosis (5-10%), and recurrent incontinence (20-30% in proximal defects). Early surgical intervention-ideally before school age, as in this case-helps mitigate psychosocial trauma and maximizes continence potential by minimizing prolonged exposure to chronic irritants and social stigma. Chronic stress associated with managing the condition may elevate cardiovascular morbidity, with studies linking sustained psychosocial stress to an increased risk of cardiovascular events [10]. Affected individuals are also prone to recurrent urinary tract infections and persistent incontinence, contributing to ongoing health complications [10]. Moreover, chronic psychosocial stress has been strongly associated with anxiety and depression, particularly in individuals coping with visible, socially stigmatized conditions [11]. In this case, the child's irritability and diaper-related discomfort reflect broader quality-of-life concerns that extend beyond physical symptoms. These observations align with research linking untreated urogenital anomalies to emotional distress, behavioral challenges, and social withdrawal. Globally, diagnostic delays-often occurring during circumcision attempts-highlight significant disparities in specialist access. Fewer than 30% of low- and middle-income countries have dedicated centers for the management of the bladder exstrophy-epispadias complex (BEEC). This case highlights the urgent need for community awareness initiatives and simulation-based training, including the use of 3D models, to enhance early recognition of concealed penile anomalies. In resource-constrained settings, timely diagnosis and intervention remain critical determinants of both survival and long-term functional outcomes.

Conclusion

The successful IPGAM repair in this isolated epispadias case exemplifies how surgical innovation can overcome diagnostic delays and resource limitations. However, the blood shortage delay highlights systemic healthcare gaps that require policy-level solutions, including strengthening blood banks and implementing multidisciplinary care frameworks. Future efforts should prioritize early referral pathways and long-term monitoring to address both the physical and psychosocial sequelae in this vulnerable population.

Authors' Contribution

- Conceptualization, data curation, methodology, investigation, writing- original draft: Obaid ur rehman
- Data curation, investigation, methodology, project administration, validation, visualization, writing – review and editing: Abdul Basit
- Conceptualization, formal analysis, methodology, visualization, writing- original draft – Tehreem Farooq
- Conceptualization, data curation, methodology, investigation, writing- original draft: Adil Khan
- Abstract, Review, submission: Kamil Ahmad Kamil
- Review, editing and Supervision: Dr. Atta Ullah

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Ethics approval: This case report was conducted in accordance with the Declaration of Helsinki. Ethical approval of this case report was obtained from Qazi Hussain Ahmad medical complex, Department of General surgery.

References

1. Stephens FD, Hutson JM (2005) Differences in embryogenesis of epispadias, exstrophy–epispadias complex and hypospadias. Journal of Pediatric Urology 1(4): 283-288.
2. Cho P, Cendron M (2014) The surgical management of male epispadias in the new millennium. Current urology reports 15(12): 472.
3. Sina A, Alizadeh F (2011) Concealed male epispadias: A rare form of

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penile epispadias presenting as phimosis. Urology Journal 8(4): 328-329.

4. Melgar RS, Gorduza D, Demède D, Mouriquand P (2016) Concealed epispadias associated with a buried penis. Journal of Pediatric Urology 12(6): 347-351.
5. Ali RN, Hussain K, Khalid H, Yasin Z (2020) A case report on continent isolated male epispadias. The Professional Medical Journal 27(06): 1320-1322.
6. Wang Q, Li Z (2001) Misdiagnosis in isolated sphenoid sinus diseases. Zhonghua er bi yan hou ke za zhi 36(3): 206-208.
7. Patel U, Patel U (2010) Intrinsic Abnormalities of the Urethral Wall. Imaging and Urodynamics of the Lower Urinary Tract 2010: 97-102.
8. Yoshikawa TT (1994) Risks of long-term urethral catheterization. Journal of the American Geriatrics Society 42(12): 1303.
9. Braga LH, Lorenzo AJ, Bägli DJ, Khoury AE, Pippi Salle JL (2008) Outcome analysis of isolated male epispadias: single center experience with 33 cases. The Journal of urology 179(3): 1107-1112.

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