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CASE REPORT

Gynecology

Urethral prolapse in a 4-year-old girl: A case report

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Abstract

Background: Urethral prolapse is a rare cause of vaginal bleeding in prepubertal females and occurs more commonly in black girls. It is characterized by protrusion of the distal urethral mucosa at or beyond the level of the urethral meatus. It is often mistaken for sexual abuse in children because it presents with vaginal bleeding, creating anxiety among parents and confusion among clinicians.

Case presentation: A 4-year-old girl presented to the outpatient department with a 2-day history of vaginal bleeding. However, no lower abdominal pain was reported. Sexual abuse was initially suspected. A diagnosis of urethral prolapse was made during examination under anesthesia. Surgical excision and postoperative care were performed.

Conclusion: Urethral prolapse, although rare, can occur in prepubertal black girls and is managed either surgically or through conservative approaches.

Keywords: prepubertal females, surgical excision, urethral prolapse, vaginal bleeding

Introduction

Urethral prolapse is a rare cause of vaginal bleeding in prepubertal females. First described by Solinger in 1732 as a benign extrusion of the terminal urethra (1). It occurs in 1 in 3000 (2) and occurs more among black girls compared with White and Hispanic girls (3). The age group affected ranges from 6 weeks to 14 years (4). Urethral prolapse is often mistaken for sexual abuse because it presents as a reddish prolapsed urethral mucosal tissue that protrudes and simulates an edematous traumatized hymenal fold (5). The exact etiology of urethral prolapse is currently unknown; however, a popular theory suggests that it arises because of poor attachment between two layers of smooth muscles that surround the urethra coupled with an episodic rise in intraabdominal pressure (1). In addition, estrogen deficiency is thought to play a role owing to the preponderance of this condition in postmenopausal and prepubertal age groups (6).

Urethral prolapse appears as a donut–shaped mass that protrudes from the vaginal orifice (donut sign) (1). Confirmation of this diagnosis is made by identifying the urethral meatus at the center of the mass through catheterization (2). Because of the rarity of this condition, an erroneous diagnosis of sexual assault is commonly made. This case report will create awareness among healthcare providers, particularly gynecologists, regarding the clinical presentation, diagnosis, and management of urethral prolapse among prepubertal girls.

Case presentation

A 4-year-old girl presented to the outpatient department of a private hospital in Nairobi with a 2-day history of vaginal bleeding. The parents suspected sexual assault. The mother reported two episodes of clots in the child's underwear. There was no reported history of trauma, vaginal discharge, urinary frequency, fever, or bleeding from any other site. There was no associated lower

abdominal pain, headache, or dizziness, and there was no history of previous episodes of vaginal bleeding. The mother did not report any history of chronic illness before this presentation. An impression of sexual assault was made in the outpatient department before the gynecology team was involved. On examination, the patient was in a fair general condition with no evidence of precocious puberty. There were no signs of bruising or trauma. Abdominal examination was unremarkable. Perineal examination was difficult; therefore, the patient was examined under anesthesia.

Examination under anesthesia revealed a beefy red mass with a classic donut shape measuring approximately 1 cm (**Figure 1**). Catheterization was performed at the center of the mass, draining clear urine. The hymen was intact. A diagnosis of urethral prolapse was made. A pediatric surgeon was involved, and an excision of the redundant mucosa was performed, and the urethral mucosa was sutured to the muscle layer (**Figures 2 and 3**). The patient was discharged on antibiotics and analgesics the following day and was scheduled for postoperative review in 2 weeks by the pediatric surgeon. The parents received appropriate counseling, which was necessitated by the strain brought about by the suspicion of sexual assault. This was conducted before discharge. The excised sample was sent for histopathological evaluation. Histopathological results revealed urethral tissue with features of urethral prolapse. The results of the HIV, Venereal Disease Research Laboratory (VDRL), and hemogram tests were normal. Vaginal and urethral swabs for semen, culture, and sensitivity were not performed after a definitive diagnosis was reached. The patient recovered well postoperatively.

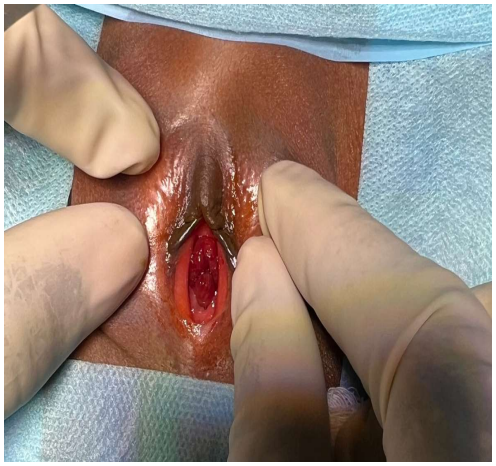

Figure 1: Perineal examination revealed a urethral prolapse (donut shape).

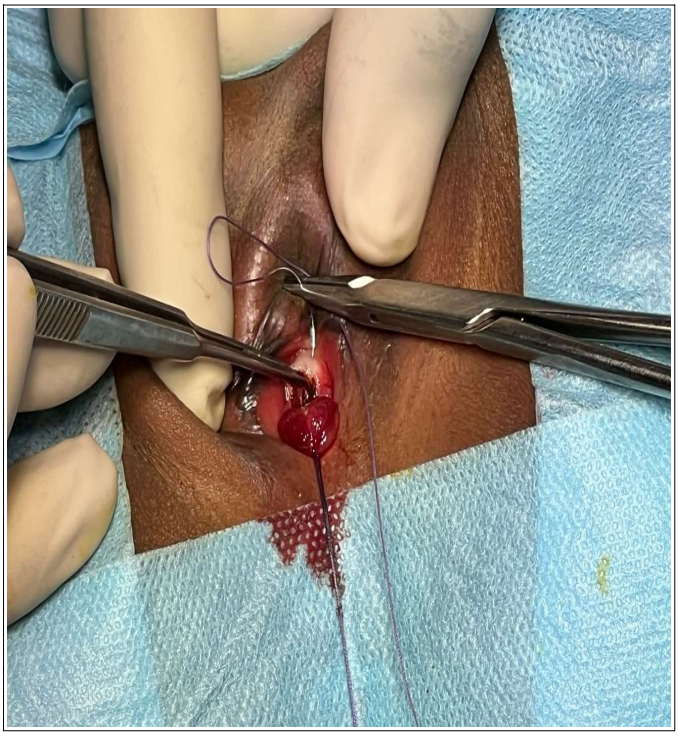

Figure 2: Intraoperative urethral excision.

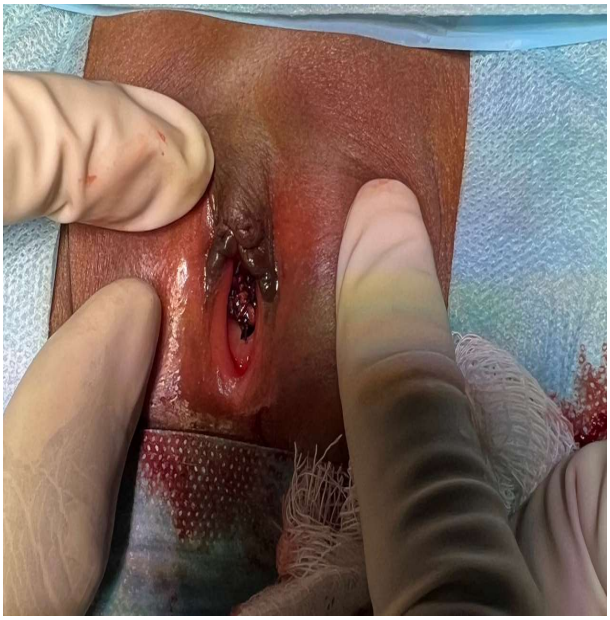

Figure 3: Appearance after surgical excision.

Discussion

Urethral prolapse is rare among prepubertal girls with an incidence of 1 in 3000 children (2) and is more common in black girls (8). It should be considered in a prepubertal girl with per vaginal bleeding (7, 8). Urethral prolapse typically presents with per vaginal bleeding, seen as spotting on the diapers or undergarments, and a periurethral mass (1). It may also present with perineal discomfort or dysuria. In some girls, it presents as an incidental mass identified during bathing. In most cases, the

presentation is mistaken for sexual abuse, which causes tension among the parents as was the case. Ekure et al. (2018) in Nigeria reported a similar case of a 5-year-old girl who presented with vaginal bleeding (4). There was a suspicion of sexual abuse, which led to the young girl receiving corporal punishment. Despite this, she maintained that she was not sexually abused. The gynecologist later confirmed the diagnosis of urethral prolapse, which was successfully managed by surgical excision.

Treatment options for urethral prolapse include either a conservative approach or surgical intervention. Conservative treatment entails sitz baths, topical antibiotics, and antibacterial soaps as well as topical estrogen application on the prolapsed mass twice daily for 6 weeks until it resolves. This improves hygiene locally, reduces mucosal edema, treats local infection, and counteracts estrogen deficiency, respectively (9). Mild cases of urethral prolapse with the presence of a mass and absence of symptoms can be managed conservatively (1, 10).

Surgical approaches entail complete circumferential excision of the prolapsed mucosal mass, ligation of the urethral mucosa over a Foley catheter, and reapproximation of the mucocutaneous junction (Kelly-Burnham technique) (2). Several authors have reported success with urethral excision; however, there is a risk of developing urethral stenosis. Surgical treatment is indicated in cases of failed conservative approach, recurrence, or severe symptoms, such as profuse vaginal bleeding, urinary symptoms, and features of urethral strangulation. Mucosal necrosis due to venous congestion, infection, bleeding, and urinary retention may result in complications of underdiagnosed or unmanaged urethral prolapse.

Conclusion

Urethral prolapse should be suspected in prepubertal girls with vaginal bleeding. Early recognition of urethral prolapse and differentiation from other clinical entities with similar presentations is central to effective management. Multidisciplinary care is required in the management of patients with urethral prolapse.

Consent for publication

Informed consent for publication and use of the images was obtained from the parents because the patient was a minor.

Declarations

Conflict of interests

The authors declare no conflicts of interests

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None

References

1. Wei Y, Wu SD, Lin T, He DW, Li XL, Wei GH. Diagnosis and treatment of urethral prolapse in children: 16 years' experience with 89 Chinese girls. *Arab J Urol*. 2017;15(3):248-253. Published 2017 Apr 22. doi:10.1016/j.aju.2017.03.004
2. Hillyer S, Mooppan U, Kim H, Gulmi F. Diagnosis and treatment of urethral prolapse in children: experience with 34 cases. *Urology*. 2009;73(5):1008-1011. doi:10.1016/j.urology.2008.10.063
3. Holbrook C, Misra D. Surgical management of urethral prolapse in girls: 13 years' experience. *BJU Int*. 2012;110(1):132-134. doi:10.1111/j.1464-410X.2011.10752.x
4. Ekure, E. Urethral prolapse in a 5 year old girl. Nigerian Journal of Paediatrics. 2004. 31. 29-31.
5. Vunda A, Vandertuin L, Gervaix A. Urethral prolapse: an overlooked diagnosis of urogenital bleeding in pre-menarcheal girls. *J Pediatr*. 2011;158(4):682-683. doi:10.1016/j.jpeds.2010.11.050
6. Fornari A, Gressler M, Murari JCL. Urethral Prolapse: A Case Series and Literature Review. *J Obstet Gynaecol India*. 2020;70(2):158-162. doi:10.1007/s13224-019-01288-2
7. Mitre A, Nahas W, Gilbert A, et al. Urethral prolapse in girls: familial case. *J Urol*. 1987;137(1):115. doi:10.1016/s0022-5347(17)43894-8
8. Aprile A, Ranzato C, Rizzotto MR, Arseni A, Da Dalt L, Facchin P. "Vaginal" bleeding in prepubertal age: a rare scaring riddle, a case of the urethral prolapse and review of the literature. *Forensic Sci Int*. 2011;210(1-3):e16-e20. doi:10.1016/j.forsciint.2011.04.017
9. Valerie E, Gilchrist BF, Frischer J, Scriven R, Klotz DH, Ramenofsky ML. Diagnosis and treatment of urethral prolapse in children. *Urology*. 1999;54(6):1082-1084. doi:10.1016/s0090-4295(99)00311-8
10. Muteke JK, Ahuka AYB, Sikakulya FK. Urethral prolapse mimicking a uterine prolapse in an eight-year-old girl: A case report. *Int J Surg Case Rep*. 2022;94:107169. doi:10.1016/j.ijscr.2022.107169