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Case Report

Urethral Mucosal Prolapse in A Teenage Girl: Surgical Excision Aand Successful Outcome- A Case Report.

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Abstract:

Urethral prolapse is the complete eversion of the distal urethral mucosa. It is a rare benign condition seen at extreme of age groups being most common with pre-pubertal girls of African descent. It is assumed to be related to hypoestrogenic states of these extreme age groups. It commonly present as vaginal bleeding and genital mass with or without urinary symptoms which may create a false panic over possible sexual assault. Conservative management may be offered to mild or asymptomatic cases while surgery remains the standard treatment modality with faster resolution of symptoms and lower recurrence. We present a case of a 14-year-old with urethral mucosal prolapse who had surgical excision of the prolapse with good outcome.

Keywords: urethral prolapse, surgical excision.

Introduction

Urethral prolapse (UP) is a circumferential and complete eversion of the distal urethral mucosa through the urethral meatus [1-4]. It is a rare and benign condition. It occurs at extreme ages (children and menopausal women) and even more affects prepubertal black girls or post-menopausal white women [3,5-7]. The highest incidence is seen amongst prepubertal girls of African descent [2,7,8]. It occurs in 1/3000 children.[3,8]. The eversion of the distal urethral mucosa through the urethral meatus creates a tissue prolapse whose vascular obstruction and tissue edema aggravates the prolapse [8-10]. Bleeding either spontaneously or to contact follows mucosal ischemia, ulceration or necrosis which tends to create panic over possible sexual abuse of a minor or urogenital trauma [11,12] Pelvic organ prolapse has been fingered as an infrequent cause of morbidity in women of reproductive age.[3]

The etiology of urethral prolapse is unclear, however, it is thought to be related to hypoestrogenic states or poor attachment between urethral smooth muscle layers [2]. Diagnosis is purely clinical [13]. Management of urethral prolapse is still controversial between an initial conservative management versus a straightforward surgical approach [4,8,14]. Conservative treatment options for urethral prolapse include topical antibiotics, topical steroids, sitz baths, vaginal and urethral estrogen creams as against surgical excision.[14]. Even though urethral prolapse is more predominant in African societies, poor documentations of African cases arising from sensitivity associated with presentation with a benign genital pathology and the stigma that follows a suspected sexual assault can be a cause for both under-diagnosis and delayed diagnosis.

Case;

She was a 14-year-old with a history of vulva mass. There was associated occasional mild bleeding usually following contact with firm undergarment. She had no urinary symptoms and there has never been any history of sexual assault or preceding trauma. General examination was essentially normal. Vulval inspection revealed an intact hymen, a doughnut-shaped circumferential beefy-red soft tissue, 2.5-3cm in diameter surrounding the urethral meatus with the urethral meatus barely visible. An MRI earlier done revealed no pelvic or abdominal abnormality and a vulval protrusion suggestive of female urethral cavernous haemangioma. She had used different anti-inflammatory ointment including steroid without remission. She had excision after catheterization with a size-12 Foley catheter and interrupted polyglactin-0 sutures for haemostasis under spinal anaesthesia. Oral analgesics were given for 48 hours. Urethral catheter was left for 72 hours, and oral antibiotics was continued for the same duration. Histology of excised tissue showed prolapsed polypoid tissue covered with stratified squamous epithelium and columnar epithelium in other areas. There were focal areas of ulceration. Within the stroma, contains few dilated glands lined by columnar epithelium and intense mixed stromal inflammatory infiltrates comprising neutrophils, lymphocytes and plasma cells with many small sized vascular channels in the stroma. Features suggestive of prolapsed inflammatory distal urethral mucosa.

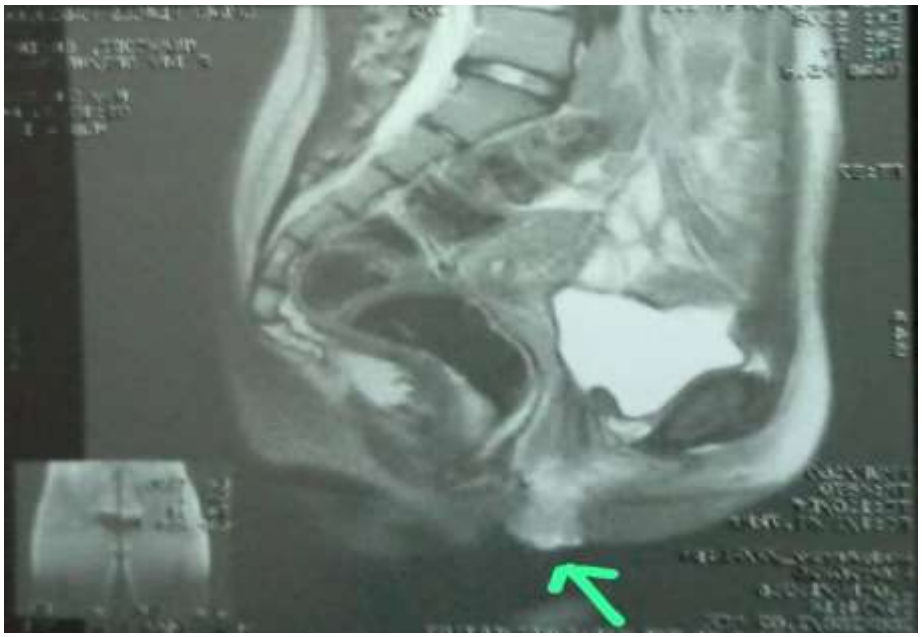
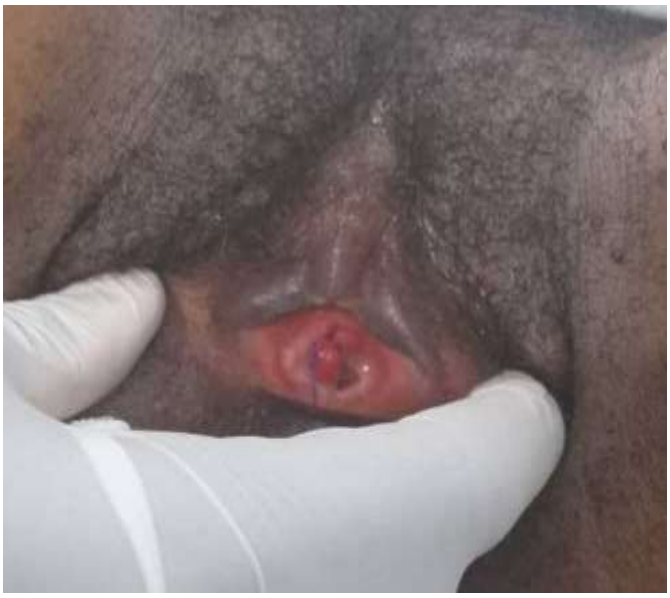
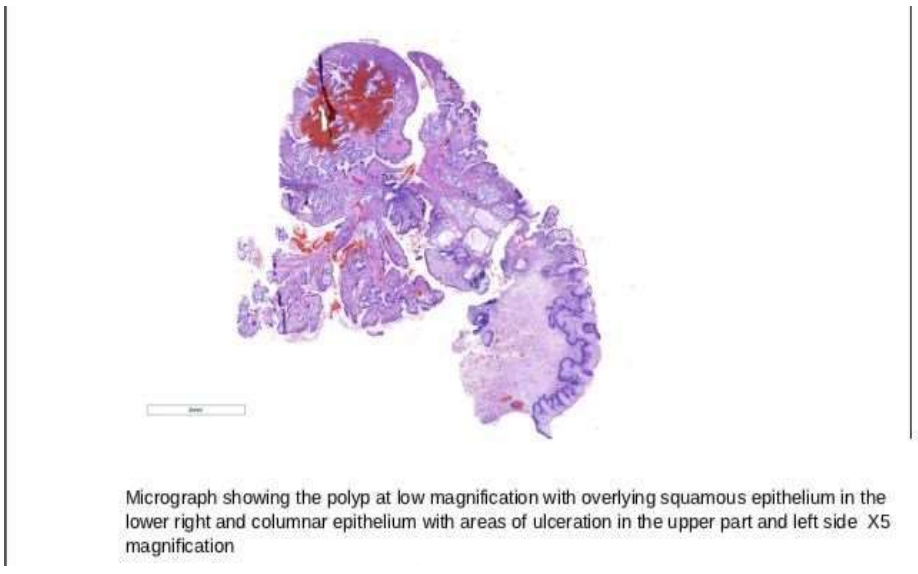


Image 1: Pre-operative MRI showing vulval mass

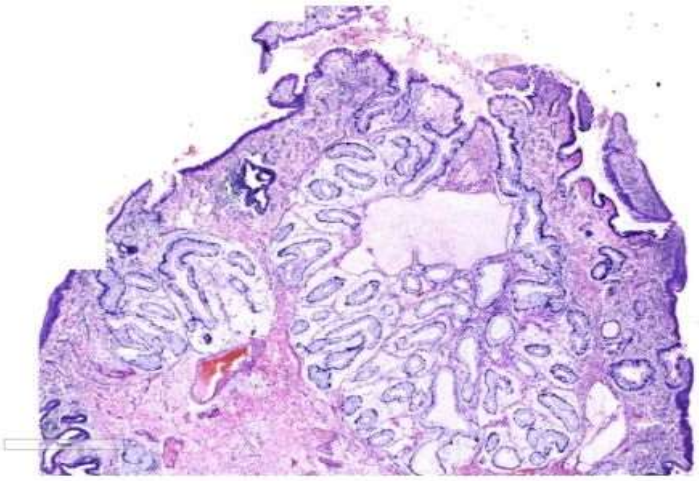


Images 2 & 3; Showing urethral prolapse pre-operative and post operative appearance



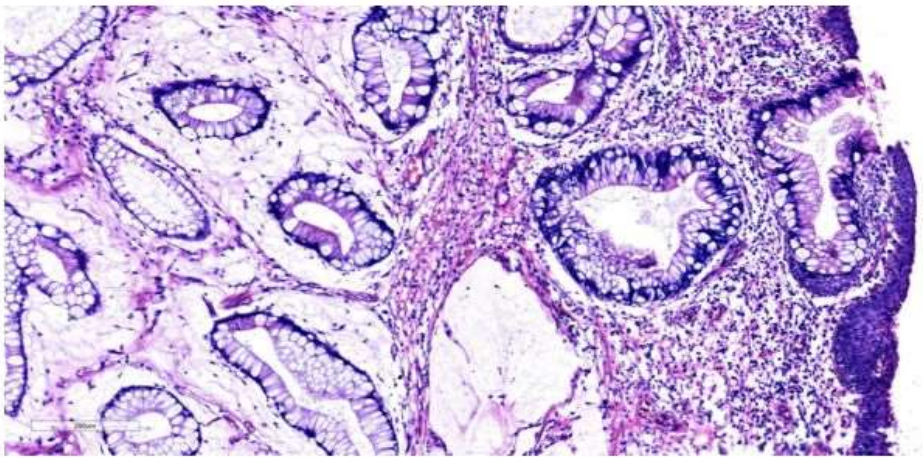
Micrograph showing the polyp at low magnification with overlying squamous epithelium in the lower right and columnar epithelium with areas of ulceration in the upper part and left side X5 magnification

Image 4:



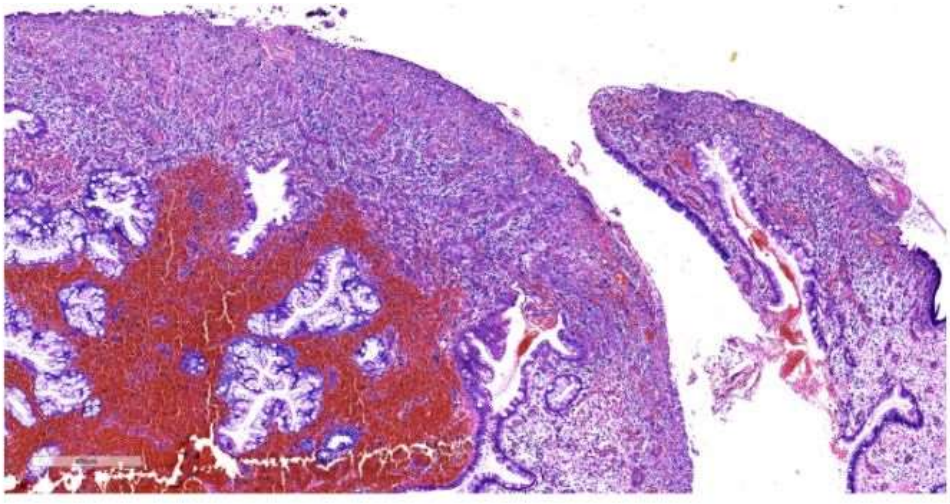
Micrograph showing part of the polyp with areas of overlying squamous epithelium and columnar epithelium. Within the stroma are glands lined by goblet cells and columnar cells X20magnification

Image 5:



Micrograph showing colonic-type glands lined by columnar and goblet cells. The stroma shows mucin and mixed inflammatory cell infiltrate. Overlying squamous epithelium is seen in the lower right X100magnfication

Image 6:



Micrograph showing are of surface ulceration with haemorrhage within the stroma X40magnification

Image 7:

Discussion

Urethral prolapse (UP) is a rare condition of the extremes of female age bracket comprising children and post-menopausal women. It occurs more amongst Africans and people of African-descent of that age bracket [3]. There are more cases in African societies than in western countries [1,6].

Prepubertal cases being more frequent in black girls and postmenopausal cases more with white women [3,7,10]. The highest incidence is observed in girls of African descent [7,8]. The mean age in pre-pubertal females with urethral prolapse ranges from 4 to 6 years [1,6,10,11,15].

The exact etiology is unknown and the exact pathophysiology of urethra prolapse is still uncertain [1,2,4]. Estrogen deficiency remains the main hypothesis and explains the higher incidence of urethral prolapse in prepubertal and postmenopausal periods which are two periods of hypoestrogenic states[1,4,16] . Estrogen is believed to maintain urethral mucosa attachment to the underlying submucosa hence deficiency of estrogen being associated with poor attachment and eventual prolapse [4,6,16]. The presence of estrogen receptors in smooth muscle and connective tissue of the female urethra and the reduced levels in premenopausal women with pelvic organ prolapse strengthens the logic for hormonal therapy in the medical management of urethral prolapse [17]. Conditions associated with high intra-abdominal pressure such as chronic constipation, chronic cough and bearing heavy loads are contributory factors. Other factors include; perineal or urethral trauma, sexual abuse, catheterization, urogenital infections, malnutrition, and excess urethral mucosa [1,6,12]. Family history of hernia and vaginal prolapse may point to collagen weakness [5,11,15].

A history suggestive of risk factors may be found in some of the patients [1,10,11,15]. Absence of a suggestive history of risk factors is also not unusual [1].

Incidental discovery is rare [11]. The most common presenting symptoms are vaginal bleeding and vaginal mass, acute dysuria and urinary retention may also occur [1,5,6,7,10,13,15]. Symptoms often create a false panic over sexual abuse or urogenital trauma [1].

It is important to exclude others causes of vaginal bleeding in a young girl such as sexual abuse, hemorrhagic cystitis, trauma, vulvovaginitis, neoplasm, urethral caruncle and foreign body. Hormonal dysfunction or hormone related causes of childhood vaginal bleeding such as; hypothyroidism, precocious puberty, hormone-secreting ovarian cyst and exogenous sex steroids exposure should be excluded [4.5,13]. A close differential diagnosis is urethral caruncles which unlike the doughnut-shaped circumferential protrusion of urethral prolapse, an urethral caruncle has protrusion on one edge usually posterior [18].

Diagnosis is clinical requiring no investigation except where risk factors are sought after. Findings are that of an easy to catheterize urethral orifice surrounded by an elevated “doughnut –like” pinkish mass [1,6,9.11]. Marked mucosal eversion and vascular congestion may occur [5]. Bleeding either spontaneously or to contact follows mucosal ischemia, ulceration or necrosis [11,12].

The management of urethral prolapse has the management controversy between conservative or surgical modalities. The non-surgical treatments could be non-pharmacologic options like increased physical activity, pelvic floor exercises, sitz baths, weight loss and manipulative reduction [2]. Pharmacologic options consists of topical estrogen cream, local antiseptic or antibiotic, steroid cream and antispasmodic for underlying conditions [2,6,13,14] . Severity of the symptoms being a factor for treatment options [1,5,11]. Estrogen-based conservative management has lower failure[1,11] , this is unlike other non estrogen based mono or combined conservative therapy [15].

Conservative management is mostly adopted for non-symptomatic or mildly symptomatic cases [1,5]. Surgical resection offers safe and cost-effective symptom relief and remains the primary treatment strategy for patients with significant symptoms, recurrent urethral prolapse or failed conservative management of symptomatic cases [10,12].

Surgical management of urethral prolapse is mainly done by resection of the prolapsed mucosa with or without sutures [10]. Reduction of prolapsed excess tissue under general anesthesia is also an option [1]. Ligature of redundant tissue on Foley catheter is an easy surgical method [1,19]. In the case presented, surgical resection with sutures for hemostasis was used and is known to give satisfying results [1].

Complications of surgical management excluding anaesthetic risks include; persisting dysuria, urethritis and urethral meatal stenosis requiring dilatation [1,11]. Failure of surgical management has also been reported [15]. Surgical options apart from being the reference treatment have shown a high success rate, higher cure rate, rapid relief of symptoms and lower recurrence rate compared with conservative medical management [2,6,16] .

Conclusion

Urethral prolapse is a rare condition affecting mainly pre-pubertal African girls. Due to its rarity, urethral prolapse often has a delayed diagnosis and is consequently under-diagnosed.

Its main symptom is genital hemorrhage or mass which can be wrongly attributed to sexual abuse, which should be excluded by careful, sensitive, good interrogatory history and physical examination. There is no clear consensus on first-line treatment for urethral prolapse as to whether to go to direct surgery or to try initially a conservative approach. Surgery is known to have lower recurrence rate, rapid relief from symptoms, higher cure rate and remains the primary treatment option.

Disclaimer (Artificial Intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models
(ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

Consent

A written informed consent was obtained from the patient for publication of this case report.

Conflicts of Interest

No conflict of interest declared.

References

1. Seck NF, Ndoye NA, Zeng FTA, Diop MB, Cisse L, Welle IB, Sagna A, NgomG. Conservative management of urethral prolapse in African girls: A report of 15 cases. Afr J Urol 2022: *28:26.* https://doi.org/10.1186/s12301-022-00293-8.
2. Healey KD, Phrathep DD, Herson AB, Fives KR, Hurley JR, Ramos CE, Rifai AO. Successful Surgical Management of Urethral Prolapse in a Postmenopausal Female. Cureus 2023 May 10;15(5): e38818. Doi:10.7759/cureus.38818. PMID:37303371;PMCID: PMC10251449.
3 Awoniyi, A., Ugwu, A. O., Garba, S. R., Aniugwu, N. K., Egba, A., Olanrewaju, O., Familusi, O. E., Olumakinwa, O. E., & Okunade, K. (2021). A rare case of utero-vaginal prolapse seen at third trimester: case report and review of literature. International Journal of Reproduction, Contraception, Obstetrics and Gynecology, 10(8), 3212–3214. https://doi.org/10.18203/2320-1770.ijrcog20212983
4 Klein I, Dekel Y, Stein A: Spontaneous postmenopausal urethral prolapse treated surgically and successfully. Case Rep Urol. 2014; 2014:695471. doi: 10.1155/2014/695471. Epub 2014 jul 21. PMID: 25140273;PMCID: PMC4129146.
5 Kacimi SEO, Aloulou M, Naoum R, Moumeni M, Kaddour A, ElSheemy MS. Conservative approach for the treatment of urethral prolapse in children: case report and literature review of 278 pediatric cases. Afr J Urol 2021: 27:153. https://doi.org/10.1186/s12301-021-00256-5.
6 Diouf C, Diallo I, Mbaye F, Ndoye NA, Faye AL, Ndour O, Ngom G.The urethral prolapse, a rare cause of genital bleeding in girls: report on three cases. Med Sur Urol. 2016;5(2):162. doi: 10.4172/2168-9857.1000162.
7 McCaskill A, Inabinet CF, Tomlin K, Burgis J. Prepubertal genital bleeding: examination and differential diagnosis in pediatric female patients. J Emerg Med. 2018 Oct;55(4):e97-e100. doi: 10.1016/j.jemermed.2018.07.011. Epub 2018 Aug 28. PMID: 30170834.
8 Liu C, Lin Y, Chen X, Li S, Zhu H. Urethral prolapse in prepubertal females: report of seven cases. J Obstet Gynaecol Res. 2018 Jan;44(1):175–178. doi: 10.1111/jog.13467. Epub 2017 Oct 4. PMID: 28976061.
9 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 Apr 22;15(3):248–253. doi. 10.1016/j.aju.2017.03.004. PMID: 29071160; PMCID: PMC5651941.
10 Hillyer S, Mooppan U, Kim H, Gulmi F. Diagnosis and treatment of urethral prolapse in children: experience with 34 cases. Urology. 2009 May;73(5):1008–1011. doi. 10.1016/j. urology.2008. 10.063. Epub 2009 Mar 13. PMID: 19285715.
11 Holbrook C, Misra D. Surgical management of urethral prolapse in girls: 13 years' experience. BJU Int. 2012 Jul;110(1):132–134. Doi: 10.1111/j.1464-410X.2011.10752.x. Epub 2011 Nov 11. PMID: 22077119.
12 Fiogbe MA, Hounnou GM, Koura A, Agossou-Voyeme KA. Urethral mucosal prolapse in young girls: a report of nine cases in Cotonou. Afr J Paediatr Surg. 2011 Jan-Apr;8(1):12–14. doi: 10.4103/0189-6725.78661. PMID: 21478579.
13 Agarwal S, Lall A, Bianchi A, Dickson A. Uro-genital bleeding in pre-menarcheal girls: dilemmas of child abuse. Pediatr Surg Int. 2008 Jun;24(6):745–746. doi:10.1007/s00383-008-2146-4. Epub 2008 Apr 12. PMID:18408039.
14 Abouzeid H, Shergill IS, Al-Samarrai M. Successful medical treatment of advanced urethral prolapse. J Obstet Gynaecol. 2007 Aug;27(6):634–635. doi: 10.1080/01443610701579756. PMID: 17896278.
15 Ninomiya T, Koga H. Clinical characteristics of urethral prolapse in Japanese children. Pediatr Int. 2017 May;59(5):578–582. doi: 10.1111/ped.13226. Epub 2017 Mar 30. PMID: 28009466.
16 Fornari A, Gressler M, Murari JCL. Urethral Prolapse: A case Series and Literature Review. J Obstet Gynaecol India. 2020 Apr;70(2):158-162. doi:10. 1007/s13224-019-01288-2. Epub 2019 Oct 31. PMID: 32255955; PMCID: PMC7109233.
17 Lang JH, Zhu L, Sun ZJ, Chen J. Estrogen levels and estrogen receptors in patients with stress urinary incontinence and pelvic organ prolapse. Int J Gynaecol Obstet. 2003 Jan;80(1):35–39. doi: 10.1016/s0020-7292(02)00232-1. PMID: 12527458.
18 Yakasai IA, Aji SA, Muhammed YA, Abubakar IS (2012) Unusual presentation of urethral carunle in a 2 year old child: a case report. Asian J Nat Appl Sci 1(4):22–26.
19 Okorie CO. Urethral prolapse: contemporary report on a modified ligation over a urethral catheter treatment approach. Nephrourol Mon. 2013 Sep;5(4):866–869. doi: 10.5812/numonthly.11012. Epub 2013 Jul 23. PMID: 24350083; PMCID: PMC3842555.