

## URETHRAL PROLAPSE: A CASE REPORT AND COMMENTARY ON MANAGEMENT

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Urethral prolapse is a relatively uncommon condition manifesting itself as a circumferential protrusion of the distal urethra through the external urethral meatus. The exact etiology remains unknown. It is diagnosed at examination under anesthesia and may be complicated by strangulation. Treatment ranges from conservative to surgical approaches. Herein we present the case of a pre-pubertal girl with a strangulated prolapse, to our knowledge the first case of urethral prolapse reported in Nigeria.

**Key Words:** urethra, prolapse, strangulation.

### INTRODUCTION

Urethral prolapse is the circumferential protrusion of the distal urethra through the external urethral meatus. It is a very rare condition<sup>1</sup> frequently masquerading as bleeding par vaginam. On examination it appears as a doughnut shaped mass protruding through the urethral opening. It is seen most commonly in young black girls and postmenopausal white women<sup>2</sup>. It may be complicated by strangulation especially in adult patients<sup>1, 3</sup>. Owing to its rarity, urethral prolapse is not readily recognized and may be mistaken for lesions that span a wide spectrum of pathology<sup>4</sup>. On one extreme urethral prolapse presents as a caruncle, the type commonly seen in the postmenopausal white woman. This simple benign lesion, which carries excellent prognosis, is in fact a partial prolapse of the urethral mucosa. The other extreme of the spectrum is the complete urethral mucosal prolapse, which may readily be confused with rhabdomyosarcoma, a malignant condition with a very poor prognosis.

We present this case of strangulated urethral prolapse to illustrate the key clinical features of this rare condition, which sometimes presents a diagnostic dilemma.

### CASE REPORT

Miss C.F.U, a 7-year-old pupil, presented in the emergency room with bleeding per

vaginam of 6 days' duration first noticed as blood stains on her underwear by the mother. There was no history of trauma or instrumentation, no history of previous vaginal bleeding or another form of vaginal discharge. She had been treated with antibiotics for 3 days prior to presentation with no effect.

Examination revealed a healthy-looking child with normal labia. The hymen was not intact, but there was no evidence of recent trauma. Located in the introitus was a mass of prolapsed edematous tissue which was hyperemic and obviously strangulated. There was a centrally located dimple in the mass, representing the urethral meatus. The peri-urethral vaginal mucosa was normal. Prolapse of the urethra was suspected. Diagnosis was confirmed at examination under anesthesia. A size-8 feeding tube, well lubricated with a water-soluble lubricant, was inserted into the bladder through the centrally located dimple, thus establishing patency of the urethral meatus (Fig. 1). Treatment consisted of careful excision of the prolapsed mass of tissue around the catheter (Fig. 2) and suturing of the healthy urethral mucosa onto the healthy tissues of the introitus. The catheter was left in place for 72 hours, and on removal the patient voided freely without problems. The excised prolapsed tissue was sent for histopathological examination which confirmed strangulated urethral tissue. The



Fig. 1: Feeding tube inserted through the urethral meatus (centrally located dimple).

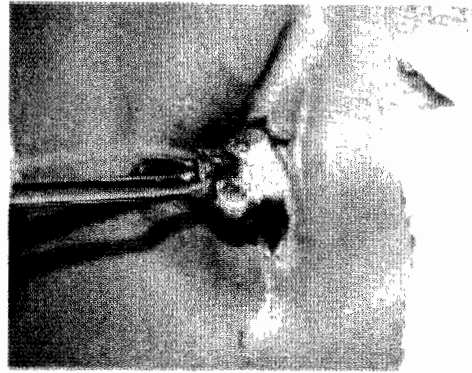


Fig. 2: Intra-operative photo showing the prolapsed mass of urethral tissue around the catheter.

meatal repair healed satisfactorily, voiding was satisfactory and the child was in a normal state of continence by discharge on the 7<sup>th</sup> postoperative day. At follow up one year after the intervention everything was normal.

### DISCUSSION

Urethral prolapse is a relatively uncommon condition with a bimodal age distribution found predominantly in pre-pubertal black girls and postmenopausal white women<sup>1</sup>. According to one report it occurs almost exclusively in black girls younger than 10 years of age with an average age at presentation of 4 years<sup>2</sup>. To our knowledge, this case is the first to be documented in Nigeria. It is however possible that because of the rarity of the condition and the high rate of misdiagnosis<sup>4</sup>, previous cases may either have passed unrecognized or undocumented.

The exact cause of urethral prolapse remains unknown<sup>5</sup>. Several theories explaining the etiology have been proposed, covering both congenital and acquired factors. The hypotheses of abnormally patulous urethra, wide urethra or redundant urethral mucosa are based on the theory of congenitally weak pelvic floor attachments and urethral hyper-mobility. Acquired causes proposed include birth trauma<sup>1</sup> and perineal tears<sup>6</sup> and - to a lesser degree - injury caused by rape, masturbation, debility and malnutrition. The more popular theory of causation sug-

gests a weakness in the attachment between inner longitudinal and outer circular/oblique muscles of the urethral wall<sup>6</sup>. Separation of these two layers as a result of episodic increase in intra-abdominal pressure as in chronic cough, constipation or strenuous exercise leads to prolapse<sup>7</sup>. In the elderly menopausal female, loss of estrogen has been cited as a risk factor<sup>1</sup>. This may explain the decrease in the incidence of urethral prolapse since the introduction of estrogen replacement therapy in this group of patients. Peri-urethral injection of collagen has also been reported as a rare cause of urethral prolapse<sup>8</sup>.

Diagnosis of urethral prolapse is clinical and is made at examination under anesthesia by catheterization through a central opening within the prolapsed tissue which leads into the urinary bladder, as was the case in this patient. Histological examination of the excised tissue confirms the diagnosis. Routine evaluation with excretory urography and voiding cystourethrography is unnecessary, except when there is good reason to suspect malignancy, prolapsed ectopic ureterocele or uretero-vesical junction abnormalities. Ultrasound scans of the kidneys and bladder may exclude these conditions thus narrowing down the differential diagnosis prior to examination under anesthesia. In the outpatient setting catheterization of the urethra through the concentric ring of prolapsed tissue, along

with a negative ultrasound, virtually clinches the diagnosis.

Treatment ranges from conservative to surgical approaches. Medical treatment, which is recommended for prepubertal girls, includes good local hygiene, sitz bath and the use of topical pharmacologic preparations like antibiotics, steroids and estrogens. For older women with milder forms of urethral prolapse, oral conjugated estrogens have also been found useful<sup>9</sup>. Operative procedures for the treatment of urethral prolapse include manual reduction, incision, excision, cautery, fulguration, suture-ligation, and cryosurgery to destroy prolapsed tissue. Jerkins et al.<sup>9</sup> compared non-operative treatment with surgical excision of the prolapsed tissue and found that patients treated surgically had the earliest convalescence and the lowest complication rates. However the approach to treatment should be conservative initially, surgery being resorted to only when conservative measures including medical therapy fail to reduce the prolapse quickly enough, or in the presence of strangulation as in our patient.

Our patient aged 7 years was pre-pubertal but presented with strangulation, which is said to be more common in the adult patient<sup>3</sup>. Treatment for strangulated prolapse is straightforward. The infarcted tissue is excised and this is best done over an indwelling catheter (Fig. 2). Apposing the normal urethral mucosa to the introital mucosa after excision and oversewing the edges ensures coaptation of the longitudinal and circular-oblique muscle layers of the urethra thus preventing future recurrence. Care is taken not to pull down any more urethral mucosa than is already prolapsed, as this would shorten the urethra with the risk of incontinence. Lowe et al.<sup>5</sup> described a technique involving meatotomy to relax the constricting meatal ring following which the prolapsed urethra was manually reduced and secured to the periurethral vestibule with several absorbable mattress sutures through the mucosa. However, such meatotomy for urethral prolapse should be undertaken with

extreme caution, as damage to the urethral sphincter mechanism which extends through the length of the female urethra leads to incontinence, a serious and avoidable complication of treatment. It would seem more appropriate to just excise the protruding urethral mucosa and secure the base just as we did in our patient, taking care not to damage the sphincteric mechanism. Either way, two things are achieved, namely, removal of non-viable tissue and restoration of the two muscle layers of the urethra to their normal state of apposition. This is fundamental for a successful outcome of surgical treatment as demonstrated in this patient who remained well with satisfactory voiding function and normal continence one year after treatment.

In conclusion, urethral prolapse is rare, but does present distinct clinical features, which are readily recognizable on careful observation. Diagnosis is clinical and can be achieved even before examination under anesthesia. While we advocate non-operative treatment in the first instance, especially for pre-pubertal girls, there should be no hesitation in offering surgery in the form of careful sphincter-preserving excision of nonviable tissue when there is strangulation. Surgical treatment not properly performed can lead to incontinence but the prognosis in properly managed cases is excellent.

## REFERENCES

1. Mianne D, Beatrix O, Faure JM, Boyer C, Altobelli A, Gatinois Y. Le prolapsus étranglé de l'uretère chez la femme jeune: Une urgence urologique rare. [Strangulated urethral prolapse in a young woman: A rare urological emergency]. *Prog.Urol.* 1994; Dec;4(6):1022-6.
2. Falandry L. Le prolapsus uretral de l'enfant chez la fille de race noire. A propos de 12 observations. [Urethral prolapse in young black girls. Report of 12 cases]. *Prog.Urol.* 1996; Jun;6(3):392-7.
3. Kleinjan JH, Vos P. Strangulated urethral prolapse. *Urology.* 1996; Apr;47(4):599-601.
4. Anveden Hertzberg L, Gauderer MW, Elder JS. Urethral prolapse: An often misdiagnosed cause of urogenital bleeding in girls. *Pediatr. Emerg. Care.* 1995; Aug;11(4):212-4.

5. Lowe FC, Hill GS, Jeffs RD, Brendler CB. Urethral prolapse in children: Insights into etiology and management. *J.Urol.* 1986; Jan;135(1):100-3.
6. Goh JT, Krause HG. Postpartum urethral prolapse. *Aust.N.Z.J.Obstet.Gynaecol.* 1998; Nov;38(4):477-8.
7. Albright TS, Davis GD. Urethral prolapse in a reproductive-aged woman after exercise. *J.Pelv.Med. Surg.* 2004; Sep/Oct;10(5):275-6.
8. Harris RL, Cundiff GW, Coates KW, Addison WA, Bump RC. Urethral prolapse after collagen injection. *Am.J.Obstet.Gynecol.* 1998; Mar;178(3):614-5.
9. Jerkins GR, Verheek K, Noe HN. Treatment of girls with urethral prolapse. *J.Urol.* 1984; Oct;132(4):732-3.

## RESUME

### **Prolapsus urétral: A propos d'un cas et un commentaire sur la prise en charge**

Le prolapsus urétral est relativement rare se manifestant comme une protrusion circulaire de l'urètre distal par le méat urétral externe. L'étiologie exacte demeure inconnue. On diagnostique le prolapsus urétral à l'examen sous l'anesthésie et il peut être compliqué d'étranglement. Le traitement est conservateur ou chirurgical. Nous présentons le cas d'une fille pré-pubère avec un prolapsus étranglé, à notre connaissance il s'agit du premier cas de prolapsus urétral enregistré au Nigéria.

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