



## Original Article

**CURRENT FEATURES OF URETHRAL MUCOSA PROLAPSE AMONG CHILDREN IN ILORIN, KWARA STATE, NIGERIA.****Abiodun S. Adeniran** [MBBS; FRCOG; FWACS]\*+, **Enoch U. Okpara** [MBBS]#.**Adegboyega A. Fawole** [MBBS; FWACS; FICS]\*+, **Munirdeen A. Ijaiya** [MBBS, FWACS]\*+.**Ishaq F. Abdul** [MBBS; FWACS]\*+, **Kikelomo T. Adesina** [MBBS; FRCOG; FWACS]\*+.**Grace G. Ezeoke** [MBBS; FWACS]\*+

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**Corresponding Author:** Abiodun S Adeniran. **e-mail:** acrowncord@hotmail.com or adeniran.as@unilorin.edu.ng**Abstract**

**Setting:** Urethral mucosa is a benign gynaecological condition which is commoner among young black children.

**Objective:** To evaluate the presentation, management, outcome and current status of urethral mucosa prolapse at a tertiary centre.

**Design/ Methods:** A retrospective descriptive study of 49 patients managed at the Obstetrics and Gynaecology department of the University of Ilorin Teaching Hospital, Ilorin. The case files of all patients who were managed from 1<sup>st</sup> January 2001 to 31<sup>st</sup> December 2010 were retrieved from the medical records department and relevant information extracted. The results were expressed in tables and compared with an earlier study from the centre.

**Results:** A total of 49 patients were managed, the prevalence of urethral mucosa prolapse was 1.3% of all gynaecological admissions; all were Nigerians aged 3 to 12 years. The commonest presenting complaint was blood stain on underwear in 37[75.5%], 28[57.1%] presented with multiple symptoms and 32[65.3%] had failed medical treatment prior to presentation. Surgical management was 100% successful, minor post operative complications occurred in eight patients [16.6%] and the commonest was urinary retention in 5[10.2%] patients. The results were generally similar to a previous study conducted a decade earlier in this centre.

**Conclusion:** Urethral mucosa prolapse is not a common condition in this environment; medical

and conservative managements with higher failure rate should be discouraged while surgical management which was curative with no long term complication is highly recommended as the treatment of choice.

**Keywords:** Urethral mucosa prolapse, current features.

**Introduction**

Urethral mucosa prolapse is the outer sliding of the urethral mucosa around the entire urethral meatus,<sup>[1]</sup> or complete eversion of the urethral mucosa through the external urethral meatus.<sup>[2]</sup> It occurs in pre-menarchial girls [usually black] between the ages of 5 and 10 years,<sup>[3]</sup> and postmenopausal women.<sup>[2,3]</sup> The prevalence in this centre was 1.1%<sup>[4]</sup> and it is the third leading childhood benign gynecological disorder.<sup>[5]</sup>

Urethral prolapse primarily involves the distal female urethra; the urethra is composed of inner longitudinal and outer circular-oblique smooth muscle layers. Usually, a natural cleavage plane is present between the inner and outer muscle layers. In a healthy female urethra, this cleavage plane firmly adheres to the opposing muscle layers. A prolapsed urethra may result from the two muscle layers separating after a sudden episodic increase in intra-abdominal pressure. Disruption of these muscle layers results in complete and circular eversion of the urethral mucosa through the external meatus and leads to urethral prolapse. Swelling and congestion of the prolapsed mucosa create a purse-string effect around the distal urethra, impeding venous return and exacerbating vascular congestion. If left

untreated, urethral prolapse may progress to strangulation and eventual necrosis and gangrene of the protruding tissues. The fundamental anatomical defect of urethral prolapse is the separation of the longitudinal and circular-oblique smooth muscle layers.

The etiology is poorly understood but the predisposing factors include excessive straining, urinary tract infections, trauma, worm infestation in children, lack of estrogen during childhood<sup>[6-8]</sup> or an inherent anatomic defect in association with episodic increases in intra-abdominal pressure.<sup>[2]</sup> The commonest presenting complaint is vaginal bleeding<sup>[6]</sup> with staining of underclothing.<sup>[8]</sup>

Treatment modalities include conservative medical treatment, surgical excision, cryosurgery, electrocautery and local application of estrogen.<sup>[1,3]</sup> Medical treatment involves sitz bath, oral antibiotics with or without local application of steroids. The sitz bath is to reduce oedema. However, medical treatment has been shown by many authors to be palliative and associated with high failure and recurrence rates<sup>[9-11]</sup> thereby making surgery with the added advantage of restoration of anatomy the recommended treatment of choice.<sup>[12]</sup> Others have advocated that surgical excision is justified in young patients with symptoms of urethral prolapse or those with recurrence.<sup>[13]</sup>

The objective of this study was to highlight the current features of urethral mucosa prolapse in this centre and compare the result with a previous similar study in the centre conducted 10 years earlier.

### Materials and Methods

The study was a descriptive retrospective study and the study population was patients managed for urethral mucosa prolapse during the study period. The case folders of all patients diagnosed and managed over the 10 year period [1<sup>st</sup> January 2001 to 31<sup>st</sup> December 2010] were retrieved from the medical records department and information extracted from the notes about the socio demographic data, presentations, investigations, management, outcome of management and its attendant complications. In addition, information on the follow up condition was obtained up to one year after the procedure.

The investigations done for each participant were packed cell volume [PCV], urinalysis and urine microscopy, culture and sensitivity.

The diagnosis were made clinically on examination with presence of a circumferential "dough nut" shaped mass occupying the external urethral meatus with a dimple at the centre and urine obtained through a urinary catheter passed through the dimple in the mass and with the mass separate from the vagina.

Failed medical management was defined as persistence of the prolapse up to two weeks after medical treatment or development of thrombosis or gangrene of the prolapsed mass after medical treatment.

All patients had surgical excision under general anesthesia in lithotomy position. Under aseptic condition, urethral catheterization was done and the catheter retained. Then, using 2/0 chromic catgut or Vicryl sutures, stay stitches from the urethral mucosa to the adjoining vestibule were applied below the level of the prolapsed tissue from side to side and another from anterior to posterior. The loops made were cut in-between to give four strands of sutures. The prolapsed tissue above the level of the strands was then excised with a pair of scissors and the strands tied separately; haemostasis was secured. The Foley catheter was left in situ for 24 hours post surgery and the excised tissue was sent for histological evaluation.

The patients were followed up at the gynaecological clinic for a period of one year after the procedures.

The study was conducted in accordance with institutional guidelines on human research. The data was represented in tables and percentages; comparison with a previous study in the centre was performed.

### Results

During the 10 years study period [1<sup>st</sup> January 2001 to 31<sup>st</sup> December, 2010], a total of 49 cases of urethral mucosa prolapse were managed out of a total of 3,701 gynaecological admissions giving a prevalence of 1.32%.

Table 1: Age distribution of participants

| Age (years) | Frequency (%) |
|-------------|---------------|
| 3 - 4       | 8[16.3]       |
| 5 - 6       | 22[44.9]      |
| 7 - 8       | 8[16.3]       |
| 9-10        | 4[8.2]        |
| 11-12       | 7[14.3]       |
| Total       | 49[100]       |

All the patients were in the age range of 3 to 12 years; the modal age group was 5 to 6 years [44.9%] followed by age groups 3-4 years and 7-8years with 16.3% each as shown in Table 1.

Table 2: Presenting complaints in urethral mucosa prolapse

| Parameter                                    | Frequency [%] |
|----------------------------------------------|---------------|
| <b>Symptoms</b>                              |               |
| Staining of underwear/ bleeding per vaginam* | 37[75.5]      |
| Dysuria*                                     | 15[30.6]      |
| Vulva mass*                                  | 11[22.5]      |
| Blood stained urine *                        | 8[16.3]       |
| Total*                                       | 71            |
| <b>Number of symptoms</b>                    |               |
| Single symptom                               | 21[42.9]      |
| Multiple symptoms                            | 28[57.1]      |
| Total                                        | 49[100]       |
| <b>Medical care before presentation</b>      |               |
| Yes                                          | 32[65.3]      |
| No                                           | 17[34.7]      |
| Total                                        | 49[100]       |
| <b>Duration of symptoms [weeks]</b>          |               |
| 1-2                                          | 14[28.6]      |
| 3-4                                          | 31[63.3]      |
| 5-6                                          | 3[6.1]        |
| >6                                           | 1[2.0]        |
| Total                                        | 49[100]       |

\*Some patients had multiple presenting complaints

In Table 2, the commonest presenting complaint was blood staining of the underwear in 37[75.5%] patients, 28[57.1%] of patients had multiple complaints at presentation, 32[65.3%] had failed medical treatment before presentation and 31 [63.3%] presented at third to fourth week while 1[2%] presented after six weeks of onset of symptoms.

Table 3: Post operative complications following treatment

| Complications     | Frequency [%] |
|-------------------|---------------|
| Dysuria           | 3[6.1]        |
| Urinary retention | 5[10.2]       |
| Urethral stenosis | 0             |
| Recurrence        | 0             |
| None              | 41[83.8]      |
| Total             | 49 [100]      |

From Table 3, there were no post operative complication in 41[83.8%] of patients; 3[6.1%] had dysuria and 5[10.2%] had acute urinary retention. There were no cases of recurrence or urethral stenosis as at one year follow up of the patients.

Table 4: Comparison of the study result with a previous study from this centre

| Parameter                        | Anate et al <sup>[9]</sup> | This study               |
|----------------------------------|----------------------------|--------------------------|
| Period of study                  | 1988-1999                  | 2001-2010                |
| Total population in study period | 43                         | 49                       |
| Prevalence                       | 1.13%                      | 1.32%                    |
| Commonest age                    | 5-7years [51.2%]           | 5-6years [49%]           |
| Commonest presenting complaint   | Vaginal bleeding [83.7%]   | Vaginal bleeding [75.5%] |
| Nationality of participants      | Africans [Nigerians]       | Africans [Nigerians]     |
| Post operation complication      | 18.6%                      | 16.7%                    |
| Surgical success rate            | 100%                       | 100%                     |
| Urethral stenosis                | Nil                        | Nil                      |
| Recurrence                       | Nil                        | Nil                      |

Discussion

Urethral mucosa prolapse is not a common gynaecological disorder in our centre in Ilorin as shown in this study. The prevalence in this series was 1.32% which was similar to a previous report in our centre of 1.13% by Anate et al.<sup>[4]</sup> The patients presented in this report were within 3 and 12 years which was similar to reports of 3 to 9 years by Adesiyun et al<sup>[14]</sup> in Zaria, Nigeria; 6months to 14 years by da Silva-Anoma et al<sup>[15]</sup> in Ivory Coast, 2.5 to 10 years by Fiogbe et al<sup>[12]</sup> in Cotonou, Republic of Benin, 1.5 to 10 years by Rudin et al<sup>[9]</sup> in Russia and 14 months to 10 years by Valerie et al<sup>[10]</sup> in New York. The commonest symptom in this study was blood stain of the underwear or bleeding per vaginam; this was similar to reports by Adesiyun et al<sup>[14]</sup>, Fiogbe et al<sup>[12]</sup> and Valerie et al<sup>[10]</sup> who reported genital bleeding as the commonest presenting complaint. Other possible symptoms include dysuria, vulva mass, passage of blood in urine, urinary retention and urethral discharge.<sup>[1,2]</sup> In this study, 57.1% of subjects had multiple symptoms although multiple symptoms were less common in Rudin et al<sup>[9]</sup> and Valerie et al's<sup>[10]</sup> studies.

In this study, all the patients had symptoms and surgical excision was curative in all cases with no case of recurrence or urethral stenosis over a one year follow up period; this demonstrated the superiority of surgical management. A rising

trend in medical management was noticed in this study with 65.3% having had a failed medical management but eventually had a successful surgical repair.

Although there was no post operative complication in 83.8% of patients, there were minor post operation complications like urinary retention and dysuria in 5[10.2%] and 3[6.1%] respectively but no recurrence or urethral stenosis after one year. This was similar to reports of da Silva-Anoma et al<sup>[15]</sup> who reported no complication or recurrence at one year follow up. Fiogbe et al<sup>[12]</sup> reported one case each of urinary retention and recurrence after surgery, Adesiyun et al<sup>[14]</sup> reported one case of post operation urinary retention, Valerie et al<sup>[10]</sup> reported one case of recurrence while Rudin et al<sup>[9]</sup> reported one case of recurrence and two cases of urethral stenosis in their studies.

The excised tissue sent to the laboratory in this study showed benign lesions on histological examination in all the patients.

A comparison of this study with a similar one from this centre showed that there has not been any change in the prevalence, presentation, age pattern, the management and its outcome over the last 22years. There was a slight increase in incidence from 1.13% to 1.32%; the presenting complaint remained same with reduction in minor post operation complication rate. However, the success rate of surgical management remained 100% with no recurrence.

In conclusion, urethral mucosa prolapse is an uncommon gynecological disorder seen in children in our centre. The rising medical management with its associated high failure rate with eventual recourse to surgery should be discouraged in favour of surgical management which offers cure and better outcome with no long term complication.

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