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Urethral mucosal prolapse in young girls: A report of nine cases in Cotonou

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ABSTRACT

Background: Urethral mucosal prolapse is rare. This condition may be confused with tumour or sexual abuse in girls. This study aims at reporting the pathology presentation and therapeutic options of urethral prolapse in girls. **Materials and Methods:** A retrospective study was undertaken from January 2000 to December 2008. Authors analysed the clinical features and the treatment options. **Results:** There were nine cases of urethral prolapse. The ages ranged from 2.5 to 10 years (mean age: 5.08 years). The main presentation was vaginal bleeding (five cases). Physical examination revealed a soft, non-tender mass that bleeds on touch (six cases), with a length ranging from 0.75 to 1 cm. Urine culture in four patients revealed urinary infection that yielded *Escherichia coli* in three cases and the *Staphylococcus aureus* in one case. Six patients had surgical treatment while three had medical treatment. In those who had surgery, one had acute urine retention and one had recurrence that was treated successfully without operation. All the nine girls are cured. **Conclusion:** Urethral prolapse is a disease of the prepubertal girls of low socio-economic group. Diagnosis is clinical. The treatment of choice is surgical.

Key words: Girl, urethral mucosal prolapse

INTRODUCTION

Urethral mucosal prolapse is rare in young girls.[1] It is a benign disease, seen in most cases as a circular protrusion of the distal urethra through the external meatus.[2] For most cases, medical treatment and follow-up are sufficient, but failure of this or possible complications may necessitate a surgical correction with very few complications.[3]

This study reports nine cases of urethral prolapse, highlighting the pathology and therapeutic options of this condition.

MATERIALS AND METHODS

It is a retrospective study of cases managed at Paediatric Surgery Service in National Teaching Hospital (CNHU), Cotonou, between January 2000 and December 2008. The age, the aetiology, the socio-economic status of the parents, the clinical aspects, associated signs and the treatment applied were studied.

Regarding clinical aspects, urethral prolapse is most common in black females and presents with what it is often misinterpreted as vaginal bleeding.[4] Redundant urethral mucosa may prolapse through the urethral meatus, encircling the urethral meatus, and with the development of vascular congestion there may be tissue strangulation appearing as a friable polypoid mass.[5] The identification is easy thanks to the catheterisation of the urethral meatus in the centre of the lesion, in contrast to an exteriorised ureterocoele which can be circumscribed.[6] The differential diagnosis includes prolapse of an ureterocoele, para-urethral cyst and sarcoma botryoides. For this reason, complete evaluation of the genitourinary tract is indicated.[4]

The socio-economic status of the parents was classified into three groups: high, middle and low according to the National Institute of Statistics and Economic Analysis (INSAE) of the Republic of the Benin criteria.

RESULTS

There were nine cases of urethral prolapse. Patients' age ranged from 2.5 to 10 years (mean age: 5.08 years).

Common presenting complaints included vaginal mass in two cases, vaginal bleeding in five, and painful micturation with burning sensation and perineal pain in two patients. Seven children were initially seen by the gynaecologists who diagnosed them as cases of sexual abuse and referred them to paediatric surgeon

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for further treatment. Seven patients (80%) belonged to low socio-economic group.

Physical sign was essentially that of a ring of congested, oedematous, non-tender tissue protruding from the urethral opening that bled on contact in six cases [Figure 1], with a length ranging from 0.75 to 1 cm. The identification is easy thanks to the catheterization of the urethral meatus in the center of the lesion [Figure 2]. None of the patients had any associated anomalies or particular syndrome.

The microscopic examination of urine revealed urinary infection in four patients, showing *Escherichia coli* in three cases and *Staphylococcus aureus* in one.

Initial treatment consisted of parental reassurance that urethral prolapse was a benign urological pathology and not sexual abuse. Three of the nine patients had non-surgical treatment. The non-surgical treatment consisted of the regulation of a vulvar toilet with application of povidone iodine and prophylactic antibiotic (which is readjusted according to the sensitivity result) and oral or suppository anti-inflammatory drugs.

The remaining six patients had surgical treatment under a general anaesthesia. After a rigorous asepsis of the operative field, with a Foley's urethra catheter Ch 6–10 in place, a circumferential resection of the prolapsed urethral mucosa followed by immediate muco-mucous suture was achieved [Figure 3].

Post-operatively, the urethral Foley catheter was left inside for 4–8 days, after which it was removed. One patient had acute urinary retention when the catheter was removed at 72 hours after intervention, which necessitated recatheterisation. Hospitalisation after surgical management ranged from 5 to 10 days (mean hospitalisation duration was 7 days). One patient had a recurrence 20 months after surgery, and was treated successfully without operation. All the nine patients are cured and are presently symptom free.

DISCUSSION

Urethral prolapse is a pathological situation which occurs when the urethral mucosa evaginates beyond urethral meatus, resulting in vascular congestion and oedema of the prolapsed tissue.[7,8] The cause of this lesion is uncertain, but it has been linked to the hypoestrogenic state.[5] We do not have any clues to explain the development of this condition in our cohort. A racial predisposition to develop this pathology has been suggested in Black African girls.[3,9-11]

Urethral prolapse in children is a disease of the prepubertal girls; Akpo *et al*.[12] also share this view. This condition occurred in girls commonly under 10 years; usually the patients' age ranged from 4 to 7 years.[2,3] The 5.08 years mean age in our study is in agreement with



Figure 1: Post-operative aspects of vulvar



Figure 2: Physical examination showing urethral mucosa prolapsed



Figure 3: Urethral meatus catheterisation

the 4.9 years reported by Anveden-Hertzberg *et al.*[13]

Urethral prolapse is a rare cause of consultation, probably due to under reporting of cases.[10] The main presenting symptom is vaginal bleeding,[9,11,12,14] as in our experience given in this report. In contrast to the reports by other authors,[15] none of our patients presented with acute urine retention. Diagnosis was achieved by physical examination that revealed a soft mass tissue that bleeds on touch. The mass could be mistaken for a malignant tumour or for injuries related to sexual abuse,[7,8,10] which may make the very anxious parents to consult the gynaecologists at first instance. Urethral prolapse can be definitively diagnosed without laboratory or radiographic evaluation by demonstrating that the oedematous tissue surrounds the meatus circumferentially. Trotman *et al*,[14] identified 31% of patients having associated urinary infection and 97% belonged to low socio-economic group. In our study, seven patients (80%) belonged to low socio-economic group.

Initial treatment consists of parental reassurance, observation and warm soaks.[7] Most often, the prolapse responds to these conservative measures, including sitz baths and oestrogen cream application. If the prolapsed mucosa becomes necrotic, excision with approximation of the mucosal edges may be necessary.[5]

The catheter could be removed at 48 hours and leads to reduced hospitalization according to Belman *et al*.[4] But in spite of the simplicity of the procedure which could be done in outpatient basis, we suggest according to our environment that it is necessary that patient stay in hospital for 24 hours after the removal of the catheter, in order to monitor a possible acute urinary retention.

In Cotonou, we routinely undertake surgical repair because the long-term follow-up of the children is erratic and unreliable as in other reports.[16] The surgical method gives us satisfactory results with one recurrence. In the three cases that had conservative treatment, this option was not predetermined, but during the work up time we noticed a reduction of the oedema of prolapsed tissue only under sitz baths and anti-inflammatory treatment. This observation prompted us not to proceed with the surgical option. Generally, the surgical repair produced excellent results in our experience as in that of other authors,[10-12] but in contrast, Trotman *et al*,[15] after their study concluded that treatment should be medical rather than surgical. Anveden *et al*,[13] obtained five recurrences among eight cases treated non-operatively; they suggested medical treatment to be appropriate for asymptomatic girls with a mild degree of urethral prolapse.[13,14] Falandry[10] demonstrated that the treatment of choice for urethral prolapse is surgical *resection* which is simple, safe, and effective in Cotonou.

In conclusion, urethral prolapse is a disease of prepubertal girls, occurring mainly in the low socio-economic group. The diagnosis is clinical. The treatment could either be medical or surgical, but our experience and that of others indicate that the treatment of choice is surgical which is simple and without complications.

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