

## **Retrograde Cystourethrogram Findings in Patients with Suspected Urethral Strictures In Yenagoa, Nigeria**

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**Abstract:** A retrograde cystourethrogram (RCUG) in conjunction with a voiding cystourethrogram (VCUG) or intravenous urethrogram (IVU) serve as the gold standard for the diagnosis of a urethral stricture. In this study, we reviewed the findings in 25 patients who had RCUG done for suspected urethral strictures. The mean age of the patients in this study was 51.44 ±17.67 and bulbomembranous junction stricture was the commonest pathology noted.

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### **I. Introduction**

Urethral strictures are a common cause of bladder outlet obstruction and are associated with both short and long term morbidities and have an effect on the quality of life lived by men affected by the condition<sup>1, 2</sup>. Their occurrence is usually post inflammatory with inflammation being either due to infective or traumatic causes<sup>3</sup>. Trauma is now thought to be the leading cause of strictures in the southern part of Nigeria<sup>3, 4</sup>. Urethral strictures arising from post infective causes appear to be commoner in the northern part of Nigeria<sup>5</sup>.

While complaints of obstructive and irritative lower urinary tract symptoms by the patient and the inability of a clinician to pass a urethral catheter of appropriate size is suggestive of a urethral stricture, a retrograde cystourethrogram followed by a voiding cystourethrogram or intravenous urogram remains the gold standard for the diagnosis of a urethral stricture<sup>6, 7</sup>. The use of ultrasound for the diagnosis of a urethral stricture<sup>6, 7</sup> while the computed tomography (CT) scan and magnetic resonance imaging (MRI) scan may serve as adjuncts in difficult cases<sup>7</sup>. The management of urethral strictures may be surgical and options include blind bougy procedures, endoscopic division of strictures and open urethroplasty. The mode of treatment chosen depends a lot on the type of stricture as shown by the images. A scoring system<sup>8</sup> has been proposed in which radiographic images will be used in predicting the type of care a patient with a urethral stricture should receive. There is yet to be any correlation between this scoring system and clinical outcomes.

This is a review of twenty five (25) radiographs for patients with a clinical suspicion of urethral strictures.

### **II. Methods And Materials**

This is a retrospective study carried out in the radiology department of the Niger Delta University Teaching Hospital, Okolobiri, Bayelsa State between 1st of January and 31st of August 2015. Approval for the study was obtained from the ethical committee of the hospital. All studies were carried out using standard radiographic techniques. A total of 25 cases were analyzed using SPSS 19 version. Age and sex of the patients were retrieved from the request forms.

### **III. Results**

All patients in this study were male with a mean age of 51.44 ±17.67. The ages ranged between 13 and 88. A non passable bulbomembranous junction stricture occurring in 36% (9/25) of patients was the commonest pathology found on RCUG. Multiple urethral strictures were found in 16% (4/25) of patients. A single anterior stricture was found in 8% (2/25) of patients. One of these strictures was passable while the other was not passable. A single bulbous stricture was noted in 8% (2/25) of patients. One of the bulbous strictures was passable while the other was not passable. The remaining 32% (8/25) of patients were considered to have a normal urethra as no abnormality was detected on RCUG.

Table 1: Table showing location of urethral defect

|       |  | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|-----------|---------|---------------|--------------------|
| Valid | Normal                                 | 8         | 32.0    | 32.0          | 32.0               |
|       | Single passable anterior stricture     | 1         | 4.0     | 4.0           | 36.0               |
|       | BMJS non passable                      | 9         | 36.0    | 36.0          | 72.0               |
|       | multiple urethral strictures           | 4         | 16.0    | 16.0          | 88.0               |
|       | Single non-passable anterior stricture | 1         | 4.0     | 4.0           | 92.0               |
|       | passable bulbous                       | 1         | 4.0     | 4.0           | 96.0               |
|       | non passable bulbous                   | 1         | 4.0     | 4.0           | 100.0              |
|       | Total                                  | 25        | 100.0   | 100.0         |                    |

Other pathologies found in patients were; decreased bone density (2/25), sclerotic bone changes (1/25), pelvic bone fracture (1/25), elevated bladder base (1/25) bladder diverticuli (2/25) and irregular bladder outline (1/25). The base of the bladder and the bladder outline could not be evaluated in 3 patients who did not have a suprapubic catheter and did not give consent for an intravenous urogram despite being counselled on the need for the procedure.

#### IV. Discussion

The bulbomembranous junction stricture (BMJS) was the commonest stricture noted in our review. It is thought to occur mainly due to pelvic fractures with fall astride injuries affecting mainly the bulbar urethra. This is in keeping with the findings of traumatic injuries being the more common cause of urethral strictures in our environment<sup>3,4</sup>. This transition from strictures due to sexually transmitted infections to those due to trauma may be due to exposure from the mass media which has been associated with improved sexual behaviour<sup>9</sup>. The widespread availability of the internet in Nigeria in recent times has made it easier to disseminate health promotional messages.

Important factors to consider in deciding treatment modality for a urethral stricture include the age of the patient, aetiology of the stricture and the presence of significant co-morbidities that may contraindicate extensive reconstruction procedure (e.g. radiation induced strictures or strictures resulting from genitourinary malignancies require special approach to management for better outcomes).

There is hardly a consensus on whether a repair for a traumatized urethra should be immediate or delayed<sup>10, 11</sup>. Most urologists in Nigeria have indicated a preference for a delayed urethroplasty following a diagnosis of urethral stricture<sup>12</sup>.

There is a paucity of data on iatrogenic strictures in our environment. This is particularly important considering that the mean age of patients in this study corresponds to the age at which prostatic problems begin to be seen in Nigerian men<sup>13</sup>. Although the aetiology of urethral stricture could not be ascertained in this study, iatrogenic causes such as passage of a urethral catheter cannot be ruled out.

Stricture recurrence following initial repair has been reported<sup>12</sup> and there is a need to counsel patients on this as well as the long term complications of erectile dysfunction and urinary incontinence.

#### V. Conclusion

Urethral strictures cause significant morbidity in those affected by the condition. The management option chosen is influenced by a number of factors. There is a need to evaluate how a stricture affects the quality of life in Nigerian men. We look forward to the outcome of the evaluation of the scoring system developed by Ahidjo and colleagues<sup>8</sup>.

#### COMPETING INTERESTS: NONE

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