

## Direct Vision Internal Urethrotomy for Short Segment Urethral Strictures: A Single Centre Experience

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### ABSTRACT

**Background:** Direct Vision Internal Urethrotomy (DVIU) has significantly reduced the morbidity of open urethroplasty for short segment urethral stricture. Its acceptance has been of significance since its introduction in our centre. Endourology has advanced in developed countries and is rapidly advancing in developing countries. **Aim:** To review the experience of outcomes in direct vision internal urethrotomies for short segment urethral strictures in a single centre in Port Harcourt, Rivers state, Nigeria. **Patients and methods:** This study was a prospective study of all direct vision internal urethrotomies carried out between 2014 and 2019 following history of lower urinary tract symptoms. Initial cystoscopies, uroflowmetry and urethrograms were performed for all 24 patients. The selection criteria included shortsegment urethral strictures. Exclusion criteria were bladder stones, benign prostate enlargement and long segment or complex urethral strictures. Information obtained include age, gender, anatomical location of stricture, procedure, duration of surgery, complications, and were analysed. **Result:** During the period of study, 42 DVIU were performed with age range of 27 - 86years with mean age of 55.8years and mean time of surgery 19.5mins. All were males. Following initial cystoscopies, uroflowmetry and urethrograms DVIU were performed for all 42 patients, 18 patients had penile short segment urethral strictures while 24 patients had bulbar strictures. There were recurrence in 5 patients who required urethral calibration with silastic urethral catheter but there was no mortality recorded. **Conclusion:** DVIU is a safe procedure and is also regularly performed in Port Harcourt Nigeria. This desired technology has greatly reduced the morbidity of open urethroplasty and also reduced the hospital stay to less than 24 hours.

**Keywords:** Urethrotomy, Cystoscopy, Direct vision, Urethral strictures

### INTRODUCTION

Urethral stricture is the narrowing of the urethral lumen which affects the urethral epithelium and underlying corpus spongiosum with attendant fibrosis [1]. Direct Vision Internal Urethrotomy (DVIU) has significantly reduced the morbidity of open urethroplasty for short segment urethral stricture. Its acceptance has been of significance since its introduction in our centre. Endourology has advanced in developed countries and is rapidly advancing in developing countries [2]. Urethral stricture is frequently seen by urologist with the presenting symptoms are commonly those of obstructive lower urinary symptoms, urinary retention and urinary tract infections. The available options for treating urethral stricture include DVIU and urethral calibration and open urethroplasty. DVIU is usually preferred by urologist for short segment urethral stricture as it has minimal morbidity to the patient, the ease of performing and can be done in a side theatre. Recent studies indicate that

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most urologists perform DVIU as the initial management of urethral strictures [3,4], however repeated DVIU has not been associated with an improved outcome and DVIU for longer strictures has usually failed [5]. The aim of this study is to evaluate the outcome of DVIU in the management of patients with short segment anterior urethral stricture and patients were followed for a period of 2 years.

## **PATIENTS AND METHODS**

This study was a prospective study of all direct vision internal urethrotomies carried out between 2014 and 2019 following history of lower urinary tract symptoms. Initial cystoscopies, uroflowmetry and urethrograms were performed for all 24 patients. The selection criteria included short bulbourethral segment stricture. Exclusion criteria were bladder stones and benign prostate enlargement. Information obtained includes age, gender, anatomical location of stricture, procedure, duration of surgery, complications, and were analysed.

## **RESULTS**

Studies carried out between 2014 and 2019, DVIUs were performed for 42 male patients with age range of 27- 86 years with mean age of 55.8 years and meantime of surgery 19.5 mins SD+/- 5.38. Cystoscopies, uroflowmetry and urethrograms investigations preceded the DVIU. 18 (42.8%) patients had penile short segment urethral strictures while 24(57.1%) patients had bulbar strictures. There were recurrence in 3 patients who required urethral calibration with silastic urethral catheter but there was no mortality recorded.

## **DISCUSSION**

Internal urethrotomy refers to any procedure that opens the stricture by incising it transurethrally. The urethrotomy procedure involves incision through the scar to healthy tissue to allow the scar to expand and the lumen to heal enlarged [6]. Urethrotomy incisions have been made at 12 o'clock position of the urethra, some were made at the 10 and 2 o'clock positions while others were made at the 5 and 7 o'clock positions depending on the preference of the surgeon. Blind urethrotomy for stricture of male urethra has been used for over a century but it was only after the introduction of visual technique that it gained an acceptable clinical status [7]. With the introduction of lasers, holmium laser urethrotome was later used in many centres with equal recurrence outcomes as in DVIU [8].

We did not consider the causes of the urethral stricture but was more interested in the outcomes following DVIU for less than 2cm strictures. 57.14% of our study had bulbar strictures while 42.85% had penile strictures which were close to the figure reported by Al-Dabbagh et al [9]. We had a success rate of 88.09% following DVIU for short urethral strictures and 11.90% failure which required urethral calibration and were consistent with findings of Holme – Nelson et al [10]. These patients were followed over 2 years. Postoperative bleeding was very mild requiring bladder irrigation with normal saline with hospital stay less than 24 hours.

## **CONCLUSION**

DVIU is a safe procedure and is also regularly performed in Port Harcourt Nigeria. This desired technology has greatly reduced the morbidity of open urethroplasty and also reduced the hospital stay to less than 24 hours.

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