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Case Report

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# Can Stricture Urethra Ends with a Neurogenic Bladder? Case Report

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## Abstract

Stricture urethra is a narrowing of the urethral lumen caused by scarring, which functionally has the effect of infravesical obstruction. The consequences of this obstruction can extremely impair the patient's quality of life by causing micturition disturbances; they can also damage the entire urinary tract, resulting in chronic urinary retention that can ends with loss of renal function. Therefore, early diagnosis and appropriate management are extremely important. Urethral stricture disease can be a clinically relevant problem in patients with a urological medical history, since the development of urethral stricture may be related to endourological procedures and treatments. However, idiopathic cases in patients without any past urologic or neurologic history need a high index of suspicion for diagnosis as in our case.

**Keywords**: Ureteroplasty; Ureteral stricture; Neurogenic bladder; Infravesical obstruction

## Case Presentation

A male patient 23 years old presented by a long history of unexplained and persistent mixed LUTS of 3 years duration. Irritative symptoms in the form of (frequency, urgency and drippling) and obstructive symptoms in the form of (weak stream and sense of incomplete emptying). The patient had a history of multiple antibiotic and antimuscarinic therapy but with no improvement. His abdominal examination revealed no significant abnormality except for a mild suprapubic bulge that was dull on percussion with no tenderness. The patient has no operative

history. His ultrasonographic Examination revealed that both kidneys were free but the bladder had thick wall ±13 mm with high post-void residual urine (PVR) about 270 ml estimated by ultrasonographic assessment. Atrial of urodynamic assessment was done but the urodynamic catheter failed to pass. On Uroflowmetry his Q max was 6 ml/sec. Our decision was to perform an urethrogram and as expected a short stricture segment at bulbar urethra was found however the interesting finding was the shape of the bladder (the Christmas tree appearance) **(Figure 1 and 2)**. A full neurogenic assessment was requested (including MRI brain and spine) and interestingly the results were free.

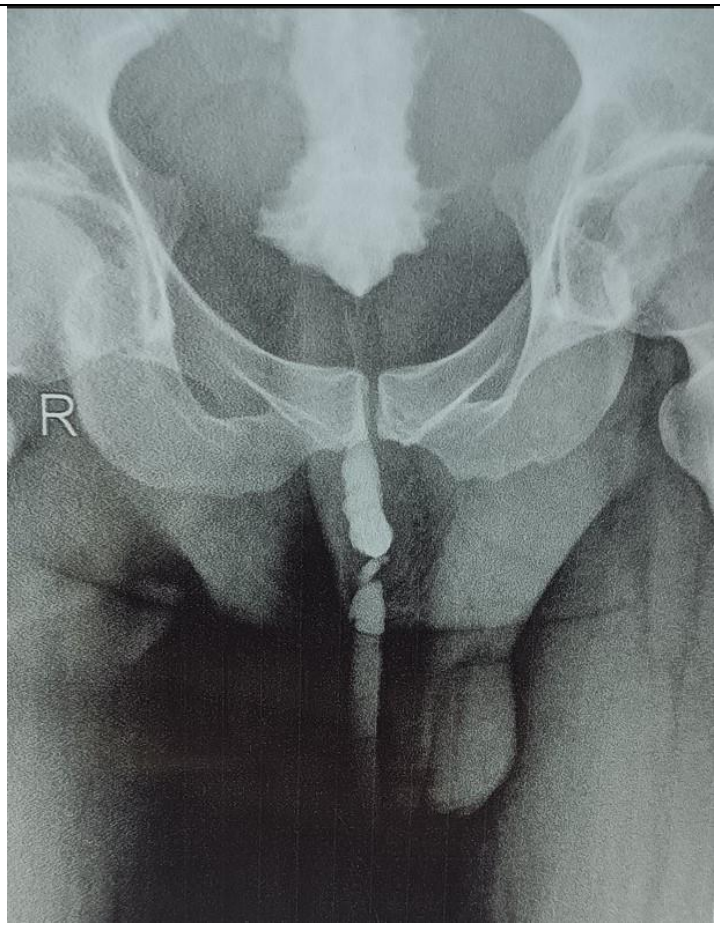


**Figure 1:** Ascending urethrogram anteroposterior view.

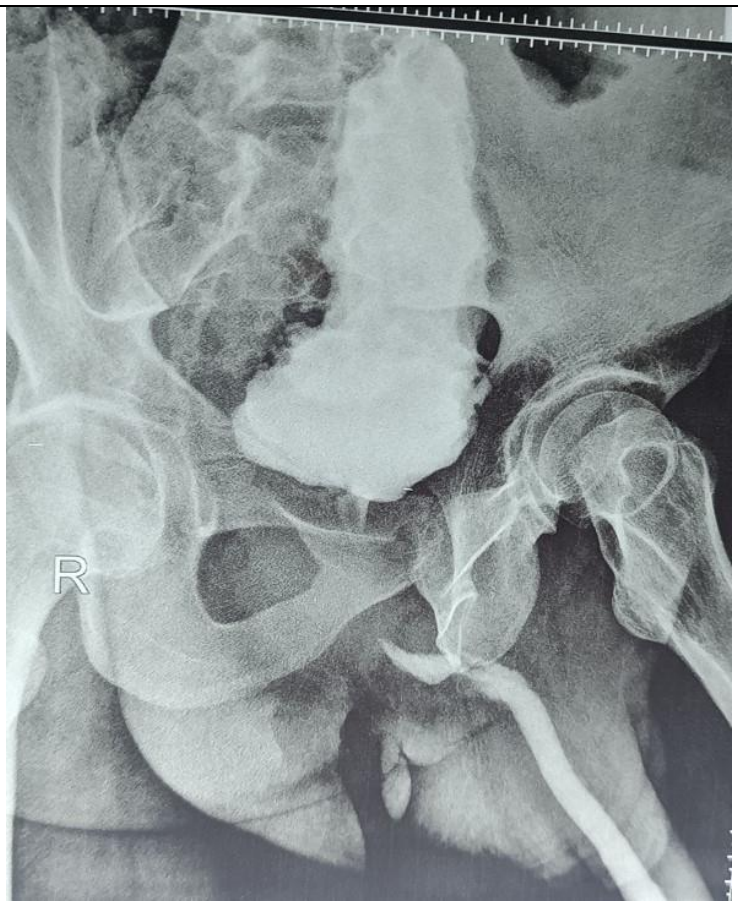


**Figure 2:** Ascending urethrogram oblique view.

Then we proceeded directly into urethroscopy and a ring stricture that only a guide wire can pass through it was found **(Figure 3)**. Direct VIU was performed at 12$^{th}$ O'clock position followed by insertion of Silicone catheter 18Fr.The postoperative coarse was unremarkable and the catheter was removed after one week. The patient had dramatic improvement of his LUTS. And the maximum flow improved to 23 ml /sec. with insignificant PVR (30 ML) **Table 1**.

**Table 1:** Pre and Postoperative patient data.

| | Preoperative | Postoperative |
|---|---|---|
| IPSS | 29 | 6 |
| Bladder wall thickness (mm) | 13 | 11 |
| PVR (ml) | 270 | 30 |
| Q-max (ml/sec) | 6 | 23 |

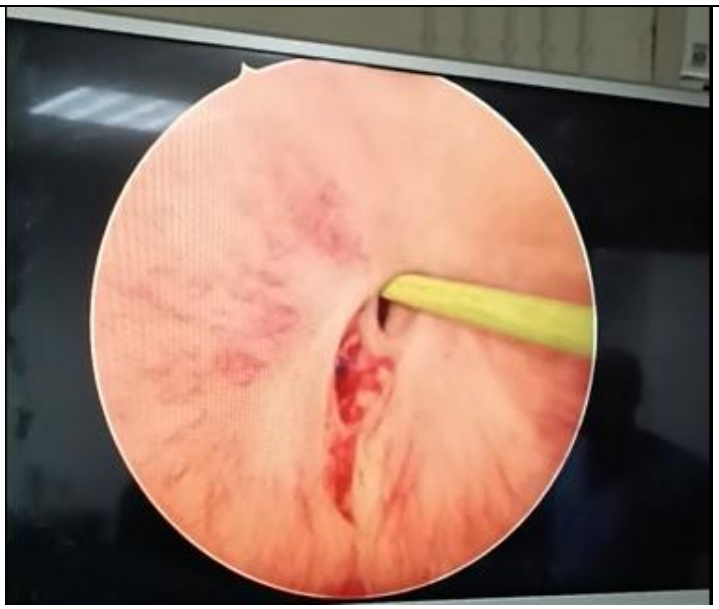

**Figure 3**: Intraoperative cystoscopic view.

## Discussion

Urethral stricture disease currently occurs most often in the bulbar urethra [1-3]. Several contemporary studies have suggested that Idiopathic Urethral Stricture (IUS) now tend to be the most common urethral stricture etiology [2,4]. IUS cases often present in middle-aged males with a remote but indistinct history of Repetitive Perineal Trauma (RPT) as suggested by McAninch who reported that bulbar IUS often present several years following remote unrecognized RPT [5], these kinds of trauma may be in the form of horseback riding and cycling [6,7]. Congenital urethral stenosis is a focal lesion of the proximal bulbar urethra [8], most of these patients tend to present in childhood or adolescence at age much younger than that associated with IUS, with lower urinary tract symptoms and persistent enuresis [9]. In our case the possibility of congenital stricture can be considered, however, the patient's childhood history was unremarkable except for positive cycling and the whole condition started gradually over the past 3 years. Little evidence exists to support traditional proposed mechanisms for IUS formation including inflammation [10], congenital [8], and ischemia [11]. However the criteria of the cystogram (Christmas tree) in our patient were confusing denoting that there may be a neurogenic element. For that reason a full neurological assessment for the patient was done before we proceed for surgery including MRI brain and spine but the results were negative. This also can be supported by the dramatic postoperative improvement and the nearly complete resolution of patient's LUTS without any additional antimuscarinic therapy and the patent is still under regular follow up. Our clinical observation for IUS that occurs in the bulbar urethra of healthy middle-aged men and are associated with excellent treatment outcomes has been noted in other contemporary series [2,4].

## Conclusion

In conclusion we believe this phenomenon is largely related to unrecognized urethral injury or repetitive perineal trauma that has presented in a delayed fashion.

## References


1. Sievert KD, Selent-Stier C, Wiedemann J, Greiner TO, Amend B, Stenzl A, et al. Introducing a large animal model to create urethral stricture similar to human stricture disease: a comparative experimental microscopic study. J Urol. 2012;187(3):1101-9.
2. Lumen N, Hoebeke P, Willemsen P, De Troyer B, Pieters R, Oosterlinck W. Etiology of urethral stricture disease in the 21st century. J Urol. 2009;182(3):983-7.
3. Viers BR, Pagliara TJ, Rew CA, Folgosa Cooley L, Shiang CY, Scott JM, et al. Characteristics of Idiopathic Urethral Strictures: A Link to Remote Perineal Trauma? Urology. 2017;110:228-33.
4. Kinnaird AS, Levine MA, Ambati D, Zorn JD, Rourke KF. Stricture length and etiology as preoperative independent predictors of recurrence after urethroplasty: A multivariate analysis of 604 urethroplasties. Can Urol Assoc J. 2014;8(5-6):E296-300.
5. Baskin LS, McAninch JW. Childhood urethral injuries: perspectives on outcome and treatment. Br J Urol. 1993;72(2):241-6.
6. Park S, McAninch JW. Straddle injuries to the bulbar urethra: management and outcomes in 78 patients. J Urol. 2004;171(2):722-5.
7. Leibovitch I, Mor Y. The vicious cycling: bicycling related urogenital disorders. Eur Urol. 2005;47(3):277-86; discussion 86-7.
8. Mundy AR, Andrich DE. Urethral strictures. BJU Int. 2011;107(1):6-26.
9. Sugimoto M, Kakehi Y, Yamashita M, Matsuki T, Inui M, Taketa S. Ten cases of congenital urethral stricture in childhood with enuresis. Int J Urol. 2005;12(6):558-62.
10. Singh M, Blandy JP. The pathology of urethral stricture. J Urol. 1976;115(6):673-6.
11. Ruutu M, Alfthan O, Heikkinen L, Jarvinen A, Lehtonen T, Merikallio E, et al. "Epidemic" of acute urethral stricture after open-heart surgery. Lancet. 1982;1(8265):218.


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