

Etiological Factors for Male Urethral Stricture, A Cross Sectional Study at Independent Medical University, Faisalabad

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ABSTRACT

Background: Urethral stricture in male is a constricting fibrosis involving corpus spongiosum leading to bladder outlet obstruction. There are different etiological factors for development of urethral stricture for which data was missing in our part of country. So, this study was conducted for determination of etiological factors for development of urethral stricture.

Objective: To determine risk factors for development of urethral stricture in males. **Study Design:** Cross sectional study.

Settings: Department of Urology, Independent Medical University, Faisalabad Pakistan. **Duration:** 6 months from July 2022 to Dec 2022.

Methods: Patients presenting in Urology outdoor and indoor facility with lower urinary tract symptoms or supra pubic catheterization secondary to urethral stricture being diagnosed on retrograde urethrogram were included after informed consent and data taken. **Results:** 60 patients were enrolled from age 15-75 years with mean age of 42 years \pm 2.1 years. Patients presented with lower urinary tract symptom or suprapubic catheter in situ. Data suggested that trauma was leading cause of urethra stricture formation (35%) followed by sexually transmitted infection (25%), past urethral surgeries (11.7%) while other factors were urinary tract infection (55), prolonged catheter in situ (5%), faulty urethra catheterization (6.7%), instrumentation (1.7%), urinary stone passage (8.3%) and urethral malignancy (1.6%). **Conclusion:** Urethral strictures is one of the most common surgical ailment in Urology facilities with traumatic cause of stricture as most common cause followed by infection.

Keywords: Urethral stricture, Trauma, Sexually transmitted infection.

INTRODUCTION

Urethral stricture, an ailment being defined as fibrotic constriction being developed in corpus spongiosum leading to symptoms related to bladder outlet obstruction.¹ Urethral strictures are a common surgical diagnosis being encountered in Urological outdoor department as the figures show that associated prevalence of 229-627 per 100,000 males, or 0.6% of the at risk population.²

Urethral stricture is very common in our of world too and is a frequent diagnosis and surgery being conducted in all urological floors across the country. Urethral stricture may present with variety of symptoms ranging from lower urinary tract symptoms to complex symptoms of urinary retention frequently associated with inability to being catheterized per urethra.³

Urethral strictures affect's all age group people and cause of urethral stricture varies different age groups.⁴

Treatment of urethral strictures has got wide range of options starting from blind urethral dilatation to endoscopic procedure like direct vision internal urethrotomy to open procedures like end-to-end anastomosis, augmentation and substitution urethroplasties.⁵ Etiology for development of urethral stricture is multifactorial and most common factors responsible for development of urethral stricture are trauma, sexually transmitted infection, trauma, surgeries, prolonged catheterization and faulty per urethra catheterization.

However, there is no data available for our country which can show burden of these risk factors for development of urethral stricture. So, this study was conducted to find out burden of risk factors for development of urethral stricture.

The objective of the study was to determine risk factors for development of urethral stricture in males.

METHODS

This Cross-sectional study was conducted at Department of Urology, Independent Medical University, Faisalabad Pakistan. The duration of the study was 6 months from July 2022 to Dec 2022. Sample size of the study was, 60 patients by using non probability consecutive sampling technique.

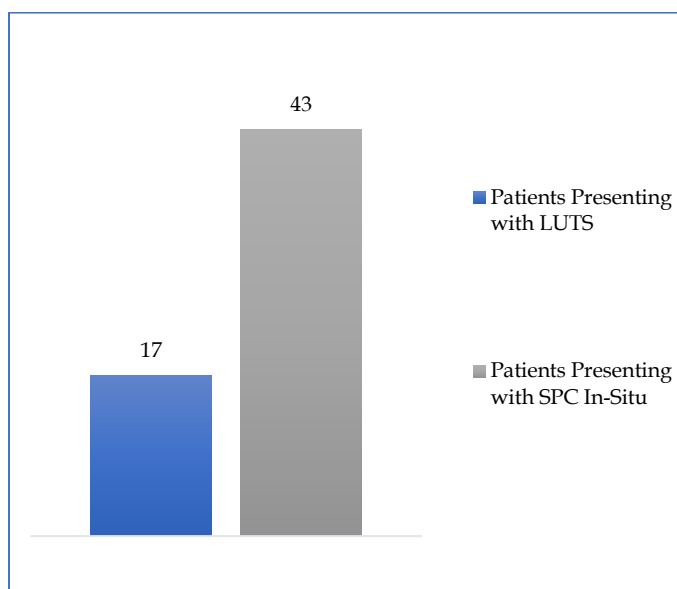
Male patients of age between 15-75 years presenting with urethral strictures were included in the study. Patients with enlarged prostate, bladder stone medically unfit patients excluded from study.

Ethical review evaluation done from institutional ethical review committee. Patients presenting in Urology outdoor and indoor facility with lower urinary tract symptoms or supra pubic catheterization secondary to urethral stricture being diagnosed on retrograde urethrogram were included after informed consent and data taken. Data was analyzed for age and etiological factors for development of urethral stricture noted. Risk factors were determined and frequency was obtained. Data was analyzed using SPSS-24.

RESULTS

60 patients were enrolled from age 15-75 years with mean age of 42 years \pm 2.1 years. Patients presented with lower urinary tract symptom or suprapubic catheter in situ. (Figure 1)

Figure 1: Patients presented with lower urinary tract symptom or suprapubic catheter in situ



LUTS: Lower Urinary Tract Symptom, SPC: Suprapubic Catheter

Etiological factors as cause of urethral stricture were determined frequency was determined for each risk factor. (Table 1)

Table 1: Etiological factors

Etiological Factor	No. of Patients	Frequency
Trauma	21	35%
Urinary Tract Infection	3	5%
Sexually Transmitted Infection	15	25%
Past Urethral/prostatic Surgeries	7	11.7%
Prolonged urethral Catheterization	3	5%
Faulty Catheterization	4	6.7%
Instrumentation	1	1.7%
Urinary Stone Passage / Urethral Stone Impaction	5	8.3%
Urethral Malignancy	1	1.6%

Data suggested that urethra trauma either indirect or direct is leading cause of urethral stricture development followed by sexually transmitted infection and past urethral/prostatic surgeries.

DISCUSSION

Urethral stricture is a common diagnosis in Urological facilities with different modes of presentation. Usually, patients with urethral strictures present with lower urinary tract symptoms or presents with acute urinary retention with inability to get catheterized per urethra and percutaneous cystostomy or supra pubic catheterization is performed for symptomatic relief.⁶

Treatment option for treatment of urethral stricture include urethral dilatation, endoscopic management and complex open surgical procedures depending upon location of urethral stricture and adversity of stricture.⁷ There are different etiological factors for development of urethral strictures. A study documented that idiopathic stricture were 34%, iatrogenic were 32%, stricture due to inflammatory etiology were 20 and traumatic were 14%.⁸ Another study showed that iatrogenic causes (transurethral resection, prostatectomy, urethral catheterization, cystoscopy, brachytherapy and hypospadias surgery) were the etiology in 45.5% of all patients with stricture urethra.⁹

Our study showed that urethra trauma either indirect or direct is leading cause of urethral stricture development followed by sexually transmitted infection and past urethral/prostatic surgeries with urethral malignancy with malignancy as least etiological factors.

CONCLUSION

Urethral strictures are one of the most common surgical ailments in Urology facilities with traumatic cause of stricture as most common cause followed by infection.

LIMITATIONS

It is a single center study with less number of patients.

SUGGESTIONS / RECOMMENDATIONS

Trauma management and urinary tract infection particularly sexually transmitted infection management must be considered in priority to avoid development of urethral stricture and follow up after surgery must be ensured.

CONFLICT OF INTEREST / DISCLOSURE

None.

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