



THE ROLE OF OPTICAL INTERNAL URETHROTOMY AT PRESENT SCENARIO

Urology

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ABSTRACT

BACKGROUND

Urethral stricture Is a relatively common urological disorder which every urologist encounters in his regular urological practice. They pose a significant Problem from both clinical and economic point of view. The etiology of stricture urethra has changed over times. Trauma has taken Over Infection as the commonest cause. The trauma can be either External (Trauma) Or Internal (Instrumentation). Another Important Cause Is Balanitis Xerotica Obliterans also Known as Lichen Sclerosus. In a Small Group Of Patients, No Particular Cause Can Be Made Out And They are Grouped Under 'Idiopathic.' The Management Of Stricture has also evolved over the times. Despite the availability of various options for the treatment of stricture urethra, Internal Urethrotomy has remained as a popular option among the urologists in view of its Simplicity, Safety and Shorter Learning Curve. Optical Internal Urethrotomy (Oiu) Is Best Suited For Single, Bulbar Strictures shorter than 2 Cm, with minimal spongiosifibrosis and with no past Internal Urethrotomy. Optical Internal Urethrotomy (Oiu) may be contra-indicated In suspected Urethral Malignancy, Coagulation Disorders Or Active Infection. Optical Internal Urethrotomy (Oiu) is not Suited for Long Strictures (>2 Cm), Multiple Strictures, Previous Optical Internal Urethrotomy (Oiu), Strictures Other than bulbar.

AIM OF THE STUDY

- The impact of co morbid factor in the outcome of internal urethrotomy
- Association of the site ,length of the stricture, with the outcome of internal urethrotomy.
- The effect of Pharmacological adjuncts (mitomycin-c) to OIU.
- Duration of catheterization after urethrotomy
- Role of repeat urethrotomy

METHODS

This is a prospective observational and analytical study, conducted at the urology department, **kilpauk medical college hospital and govt royapettah hospital chennai** in the period between february 2016 to march 2017 . A total of 60 male patients, with an age ranged from 15 to 60 years presenting with anterior urethral stricture, were included in the study.

RESULTS

Most common etiological factor is secondary to iatrogenic .Most common site is bulbar urethra.Most common complication is recurrent stricture .Most common age group is 30 to 40 years of age and the most common presenting complaint is strain to void and thin stream of micturation .With OIU alone 76.7 % of patients voiding well ,23.3% came with recurrent stricture . With OIU and mitomycin c 90 % of patients voiding well and the recurrence rate is about 10 % .Diabetes with uncontrolled blood sugar ,length and density of the stricture influencing significantly with results and recurrent stricture formation.

CONCLUSION

Optical internal urethrotomy is a safe,minimally invasive repeatable procedure for anterior urethral stricture with <1.5 cm with less spongiosifibrosis. Mitomycin C significantly reduces the recurrence rate of urethral stricture following OIU,as seen in our study , it is Safe and easily available

KEYWORDS

Optical internal urethrotomy (OIU),urinary tract infection (UTI)

INTRODUCTION

Urethral stricture in the male still presents one of the most common and challenging problems to the urologist.**Treatment options include** Dilation, endoscopic internal urethrotomy,urethroplasty. Optical internal urethrotomy followed by intermittent self dilatation is the most commonly performed intervention for urethral stricture disease. The optical internal urethrotomy offers faster recovery ,less risk of infection and minimally invasive.

OBJECTIVES AND AIM OF THE STUDY

The objective of this paper is to outline the **ROLE OF OPTICAL INTERNAL URETHROTOMY** for the management of anterior urethral stricture at present scenario.

The following factors were evaluated ;

- 1.Age distribution of patients with urethral stricture
- 2.Common etiological factor
- 3.Assessment of stricture by site and length
- 4.Post operative complication
- 5.Outcome of the procedure

AIM OF THE STUDY

The following factors were analysed.The impact of comorbid factor in the outcome of internal urethrotomy ,Association of the site ,length of the stricture, with the outcome of internal

urethrotomy,Pharmacological adjuncts (mitomycin-c) to OIU,which can be injected at the site of OIU to significantly reduce the recurrence rate have been studied,Duration of catheterization after urethrotomy ,Role of repeat urethrotomy .

MATERIALS AND METHODS

This is a prospective observational and analytical study, conducted at the urology department, **kilpauk medical college hospital and govt royapettah hospital chennai** in the period between february 2016 to march 2017 . A total of 60 male patients, with an age ranged from 15 to 60 years presenting with anterior urethral stricture, were included in the study.

Exclusion criteria

patients with neurological deficit, bladder stone, enlarged prostate & meatal stenosis. Evaluated clinically via medical history, physical examination & by doing urinalysis, urine culture & sensitivity, blood urea, serum creatinine levels, blood sugar & complete blood picture along with abdominal & pelvic ultrasonography.

The urethral stricture was diagnosed primarily by performing uroflowmetry & retrograde urethrogram. However, the final diagnosis

was established by urethroscopy.

The procedure was performed under general or spinal anesthesia. Patients were placed in lithotomy position. A 21Fr optical internal urethrotome with 0 degree telescope was introduced into the urethra under the guidance of a guide wire to act as a guide for accurate cutting across the stricture. The stricture was incised at 12 o'clock positions cutting through the entire fibrous tissue until the urethroscope passed easily into the urinary bladder.

Among the 60 patients 40 patients underwent optical internal urethrotomy alone and for 20 patients along with internal urethrotomy mitomycin-c injected at the site of stricture after the procedure.



proximal bulbar urethral stricture



Proximal, mid, and distal bulbar urethral stricture.

The outcome of the procedure

Assessed by, Post operative complications, Improvement of symptoms, The uroflowmetry result, Formation of recurrent stricture.

OBSERVATION AND ANALYSIS

Age distribution

AGE	NO OF PATIENTS	%
15 - 30	13	21.6
30 - 40	22	36.6
40 - 50	16	16.6
50 - 60	9	15

PRESENTING COMPLAINTS

PRESENTING COMPLAINTS	NO OF PATIENTS	%
THIN URINARY STREAM	13	32.5
STRAIN TO VOID	16	40
URINARY RETENTION	7	17.5
RECURRENT UTI	1	2.5
SENSE OF INCOMPLETE VOIDING	1	2.5
WEAK FLOW	2	5

ETIOLOGY

ETIOLOGY	NO OF PATIENTS	%
TRAUMA	11	18.3
IATROGENIC	23	38.3
INFECTIVE/INFLAMMATORY	20	33.3
IDIOPATHIC	6	10

—SITE OF THE STRICTURE

36 patients (60 %) had stricture in bulbar urethra and 24 (40 %) patients had in penile urethra.

COMPLICATION

— Immediate post operative complications included minor bleeding in 6 (10 %) patients, no one of them needed blood transfusion managed with perineal compression bandage. 3 (5%) patients had urinary tract infection which were treated with oral antibiotics

.Recurrent stricture was noted in 14 (23.3 %) patients among the 40 patients who were underwent OIU alone. There were no complication like fluid extravasation and erectile dysfunction in 40 patients.

- Among the 14 patients with recurrent stricture 7 patients lost follow up after 2 to 3 months of regular dilatation and came back with c/o thin stream after 6 months, in 6 patients the length of the stricture was more than 2 cm and 7 patients were diabetic
- 20 Patients underwent OIU with mitomycin c injection at the site of stricture . 2 patients came with recurrence and the percentage of recurrence is about 10%.

RESULTS

Most common etiological factor is secondary to iatrogenic and next most common cause is inflammatory. Most common site is bulbar urethra. Most common complication is recurrent stricture, next common is bleeding. Most common age group is 30 to 40 years f age and the most common presenting complaint is strain to void and thin stream of micturation . 76.7 % of patients voiding well with OIU alone , 23.3% came with recurrent stricture . 90 % of patients voiding well with OIU along with mitomycin c and the . Recurrence rate is about 10 % Diabetes with uncontrolled blood sugar , length and density of the stricture influencing significantly with results and recurrent stricture formation

DISCUSSION

Different treatment modalities that are used for treatment of urethral stricture disease are Dilatation, urethrotomy, stent placement, and urethroplasty. Internal urethrotomy is a safe first line treatment for urethral strictures independent of etiology and location, with an overall primary success rate of 60–70%. Endoscopic treatment is recommended before various forms of urethroplasty. Ho:YAG laser urethrotomy is a safe and effective minimally invasive therapeutic modality for urethral stricture with results comparable to those of conventional urethrotomy .

In intervention for recurrent urethral stricture holmium laser treatment is safe and effective Application of steroid at time of urethrotomy produces better result than urethrotomy alone. Mitomycin C is useful in delaying the healing process by preventing replication of fibroblasts and epithelial cells and inhibiting collagen synthesis. It is also proposed that it can delay wound contraction . Hyaluronidase instillation during OIU may decrease the incidence of urethral stricture recurrence . Intralesional injection decreases fibroblast proliferation, collagen, and glycosaminoglycan synthesis and suppresses proinflammatory mediators in wound healing process .

CONCLUSION

Optical internal urethrotomy is a safe, minimally invasive repeatable procedure for anterior urethral stricture with <1.5 cm with less spongiofibrosis. Mitomycin C significantly reduces the recurrence rate of urethral stricture following OIU, as seen in our study, it is safe and easily available . Regular followup and intermittent self dilatation is must to prevent recurrent stricture formation. Self dilatation once in a week gives better outcome. No need of catheterization >3-4 days post operatively. Repeat OIU more than two times associated with increased chance of recurrence .

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