



International Journal of Surgery Science

E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2019; 3(4): 202-204
Received: 03-08-2019
Accepted: 06-09-2019

Dr. RK Mathur
Professor and Head, Department
of General Surgery, M.G.M.
Medical College & M.Y. Hospital,
Indore, Madhya Pradesh, India

Dr. Sudarshan Odiya
Associate Professor, Department of
General Surgery, M.G.M. Medical
College & M.Y. Hospital, Indore,
Madhya Pradesh, India

Dr. Yash Madnani
PG Resident, Department of
General Surgery, M.G.M. Medical
College & M.Y. Hospital, Indore,
Madhya Pradesh, India

To assess the short-term functional outcomes on urinary symptoms, erectile function, urinary continence after Urethroplasty

Dr. RK Mathur, Dr. Sudarshan Odiya and Dr. Yash Madnani

DOI: <https://doi.org/10.33545/surgery.2019.v3.i4d.240>

Abstract

The study was conducted in Department of General Surgery Maharaja Yeshwantrao Holkar Hospital, Indore. The study was conducted prospectively and on 50 patients presenting with symptoms of urethral stricture. It included both anterior and posterior stricture. A detailed preoperative assessment along with careful history-taking and physical examination was carried out and patients were evaluated by means of retrograde Urethrogram, Urethrosonogram, and uroflowmetry (pre-operatively possible only in cases not having SPC).

Using patients as their own control, we have observed in patient-reported outcomes, significant improvement in urinary symptoms and QOL scores with preservation or improvement of erectile function after urethroplasty. After urethroplasty surgery the patient concerns with pain, sexual function and voiding complaints are the primary determinants of patient satisfaction. Patients with objective evidence of recurrent stricture were more likely to be satisfied if they reported minimal pain, erectile and voiding dysfunction.

Keywords: Urethroplasty, life, erectile function & urinary continence

Introduction

As there is an increasingly widespread use of Urethroplasty for urethral stricture treatment ^[1], the potential complications of the surgery need to be better understood in order to reduce their probability of occurrence and enable the specialist to provide the right information during counseling.

Urethral stricture disease occurs in 0.6% of the general population, and despite known risk factors (including trauma, endoscopic interventions, inflammation, and infection), the most common etiology is idiopathic

Urethral stricture disease causes obstructive and Irritative voiding symptoms however, hematuria, recurrent urinary tract infection, inability to catheterize at the time of unrelated surgeries, or bladder stone also occur that might have an impact on the patient's quality of life. Different techniques of Urethroplasty in the treatment of urethral stricture disease are well described ^[2, 3]. Although international accepted guidelines about the treatment are lacking, some recommendations have been made ^[4-6] on timely basis. The primary outcome parameter of papers assessing the different techniques of Urethroplasty has been stricture recurrence.

Material and Method

The study was conducted in Department of General Surgery Maharaja Yeshwantrao Holkar Hospital, Indore. The study was conducted prospectively and on 50 patients presenting with symptoms of urethral stricture between the time periods from January 2018 to August 2019. It included both anterior and posterior stricture. A detailed preoperative assessment along with careful history-taking and physical examination was carried out and patients were evaluated by means of retrograde Urethrogram, Urethrosonogram, and uroflowmetry (pre-operatively possible only in cases not having SPC).

Sample size

- Minimum number of cases 50.

Corresponding Author:
Dr. Sudarshan Odiya
Associate Professor, Department of
General Surgery, M.G.M. Medical
College & M.Y. Hospital, Indore,
Madhya Pradesh, India

Inclusion criteria

1. Patients with a urethral stricture treated with Urethroplasty
2. Patients who give written informed consent.
3. Male patients of 18 years and above.
4. Patients having history of urethral trauma are also included.

Exclusion criteria

1. Patients not willing to come up for regular follow-up.
2. Patients not willing to give written consent.
3. Patients taking drugs for erectile dysfunction.

Total 50 patients were taken for urethroplasty after proper consent & anesthetic fitness. After surgery per urethral silicon catheter was kept for three weeks in simple strictures and for six weeks in cases of complex strictures. The functional outcome on urinary and sexual function was assessed using validated questionnaires that were offered to the patient before operation and at the 6 weeks and 6 months follow-up visits.

Results**Table 1:** Comparison of Preop & postop mean value of urinary score as per IPSS method

Parameter	Time Interval	Mean Urinary Score	N	Std. Deviation	Paired T Test	P Value	Result
Urinary Score [International Prostate Symptom Score (IPSS)]	PREOP	24.700	50	2.765	15.827	0.000	Significant
	After 6 Week	15.360	50	6.366			
	PREOP	24.700	50	2.765	24.215	0.000	Significant
	After 6 Month	10.200	50	6.411			

Table 2: Comparison of Preop & postop mean value of quality of life score as per IPSS method

Parameter	Time Interval	Mean QoL Score	N	Std. Deviation	Paired T Test	P Value	Result
Quality of Life Score International Prostate Symptom Score (IPSS)	PRE	4.200	50	1.161	13.252	0.000	Significant
	After 6 Week	2.560	50	0.884			
	PRE	4.200	50	1.161	23.125	0.000	Significant
	After 6 Month	1.980	50	0.958			

Table 3: Comparison of Preop & postop mean value of index as per iief-5 method

Parameter	Time Interval	Mean Index (IIEF-5)	N	Std. Deviation	Paired T Test	P Value	Result
International Index of Erectile Function (IIEF-5)	PRE	9.420	50	1.214	23.426	0.000	Significant
	After 6 Week	17.140	50	3.245			
	PRE	9.420	50	1.214	25.212	0.000	Significant

Discussion

Patient-reported outcome measures (PROMs) are health questionnaires that patients complete before and after an intervention to determine whether their symptoms or health-related quality of life (HRQoL) have changed [7, 8].

An urethral surgery PROM comprising a LUTS construct consisting of six summative questions is used in European centres [9]. It is derived from the International Consultation on Incontinence Questionnaire Male Lower Urinary Tract Symptoms (ICIQMLUTS) module [10, 11] a LUTS-specific quality-of-life (QoL) question; and Peeling's voiding picture [12]. The EQ-5D [13] was included to assess overall HRQoL, supplemented with two further questions addressing overall patient satisfaction. The tool is statistically valid and reliable according to established psychometric criteria as responsiveness to change, acceptability to patients, content and criterion validity, test-retest reliability, and internal consistency.

IPSS

It included 8 questions (7 urinary symptom questions + 1 quality of life question)

While comparing preoperative urinary symptoms with postoperative urinary symptoms, the difference in Urinary Score between the two intervals of both the pairs at 6 weeks and 6 months was found to be statistically significant ($P < 0.05$).

The mean Urinary Score preoperatively was 24.7 which is significantly higher than that at 6 weeks which was 15.36 and at 6 months which was 10.2. It implies that the mean Urinary Score as Per IPSS Method differs significantly on comparing preoperative symptoms with post operative symptoms of the same patient.

On the other hand While comparing preoperative quality of life

with postoperative quality of life score, the difference in Quality of Life Score between the two intervals of both the pairs (Preop; 6 weeks and preop; 6 months) was found to be statistically significant ($P < 0.05$).

The mean Quality of Life Score preoperatively was significantly higher at 4.2 compared to 2.56 at 6 weeks and 1.98 at 6 months.

Conclusion

Using patients as their own control, we have observed in patient-reported outcomes, significant improvement in urinary symptoms and QOL scores with preservation or improvement of erectile function after urethroplasty. After urethroplasty surgery the patient concerns with pain, sexual function and voiding complaints are the primary determinants of patient satisfaction. Patients with objective evidence of recurrent stricture were more likely to be satisfied if they reported minimal pain, erectile and voiding dysfunction.

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