

To Evaluate the Stricture of Posterior Urethra before & after 'U' Shape Urethroplasty by Uroflowmetry, RCU/MCU, Patient Satisfaction and Urethroscopy

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Conflict of interest: Nil

Abstract

Background & Method: The aim of present study is to evaluate the stricture of posterior urethra before & after 'U' shape urethroplasty by uroflowmetry, RCU/MCU, patient satisfaction and Urethroscopy. The detailed history and physical examination will be carried out. Dye studies will be done both pre and postoperatively. Then patient satisfaction will be noted both objectively and subjectively and patient will be counselled for urethroscopic examination postoperatively.

Result: The youngest patient was 10 years old and the oldest was 68 years. From the above table it is seen that maximum no. of cases (33.6 %) belong to 21-30 years age groups i.e. 18. Mostly catheter was removed on 21 to 30 day as keeping catheter for long duration would increase the chances of infection. Thus, it can be seen that stricture in membranous urethral is the most common site in the stricture involving the posterior urethra.

Conclusion: Various modalities of treatment have evolved over the years, primary suturing, endoscopic realignment and initial SPC followed by delayed anastomosis for posterior urethral stricture which is considered as gold standard. 33.6 % of posterior urethral stricture was in the age group of 21-30 yrs. Pelvic injuries were responsible for 67.27% of posterior urethral stricture. Perineal approach has been proven to be the best approach since it preserves the neurovascular bundles hence there are lower chances of impotence, restenosis.

Keywords: Stricture, Posterior, Uroflowmetry, RCU/MCU & Urethroscopy.

Study Designed: Observational Study..

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Introduction

Urethral Stricture is defined as a decrease in the calibre of the Urethra, due to a scar resulting from tissue injury or destruction. [1]

In most instances a urethral stricture is a narrowing of the calibre of the urethra caused by the presence of a scar consequent on infection or injury. However, not all

strictures are caused by scarring, if a scar is taken to mean only fibrosis. So-called congenital strictures of the bulbar urethra have substantial smooth muscle content and are thought to arise from failure of normal canalization rather than fibrotic restriction of a normal-- calibre urethra. There is also a difference between a partial constriction

of the urethra caused by, e.g. inflammation (in which the epithelial lining is retained) and a fibrotic obliteration between the distracted ends of a ruptured urethra. Thus not all strictures are the same. [2&3]

Earliest record of urethral stricture is available in 1520 AD .Major cause of stricture in ancient time was gonorrhoea and epidemics of gonorrhoea have been reported but with gradual improvement of antibiotics incidence of infective stricture has gone down .The earliest treatment option used for urethral stricture was urethral dilator and that was kept for 1 day. Urethra presents a double curve while the penis is in its ordinary flaccid state. Except during the passage of fluid along it the urethral canal is a mere slit; in the prostatic part the slit is transversely arched in transverse section, in the preprostatic and membranous portions it is stellate, in the spongiose portion transverse while at the external orifice it is sagittal in orientation[4].

Material & Method

The present study is conducted at Atal Bihari Vajpayee Government Medical College, Vidisha for One Year. The detailed history and physical examination will be carried out. Dye studies will be done both pre and postoperatively. Then patient satisfaction will be noted both objectively and subjectively and patient will be counselled for urethroscopic examination postoperatively.

Per abdomen examination, external genitalia examination, per rectal examination, routine examination of blood, urine, respiratory, cardiovascular, nervous system examination will be carried out. Patients with posterior urethral trauma were initially managed by fluid resuscitation, if required blood transfusions and suprapubic cystostomy to divert urine.

Results

Table 1: Age Distribution

S. No.	Age (Years)	Total Number of cases	Percentage
1.	1-10	01	1.8%
2.	11-20	07	12.7%
3.	21-30	18	32.7%
4.	31-40	15	27.2%
5.	41-50	08	14.5%
6.	51-60	04	07.2%
7.	61-70	02	03.6%

The youngest patient was 10 years old and the oldest was 68 years. From the above table it is seen that maximum no. of cases (33.6 %) belong to 21-30 years age groups i.e. 18.

Table 2: Various etiology of posterior stricture urethra

S. No.	Etiology	Number of cases	
		Number	% of cases
1.	Pelvic trauma	37	67.27%
2.	Previous catheterization	15	27.27%
5.	Spontaneous	02	3.6%
6.	Straddle injury	01	1.8%

Table 3: Duration of postoperative catheterization

S. No.	Nos. of days	Total Number of patients	
		Number	% of cases
1.	< 20	05	9.09%
2.	21-30	47	85.45%
3.	31-40	01	1.8%
4.	> 40	02	3.6%

Mostly catheter was removed on 21 to 30 day as keeping catheter for long duration would increase the chances of infection.

Table 4: Location of stricture segment on retrograde urethrogram (preoperative)

S. No.	Stricture segment	Number of cases	% of cases
1.	SMU	31	56.3%
2.	SMU+SPU	15	27.2%
3.	SMU+SBU	05	9.09%
4.	SMU+SBU+SPU	01	1.8%
5.	PUS	01	1.8%
6.	SMU+SPU+Partial SBU	01	1.8%
7.	SMU+U.C.Fis	01	1.8%

Thus, it can be seen that stricture in membranous urethral is the most common site in the stricture involving the posterior urethra.

Discussion

Urethral injury is not uncommon in today's industrialized society where accidents are part and parcel of our life. Pelvic fracture being the main culprit causing posterior urethral injuries. Posterior urethra is most commonly injured by direct shearing forces which rupture the puboprostatic ligaments[5]. Earlier it was believed that posterior urethra is ruptured at the prostate-membranous junction at the urogenital diaphragm[6]. The concepts have changed it is seen that proximal bulbar urethra is almost always involved in the fibrous process so it is the bulb membranous junction and not the prostate membranous junction that is ruptured in pelvic fracture[7]. In children posterior urethral injuries involve proximal prostatic urethra and even the bladder neck because prostate is underdeveloped and provide less protection.[8] Occasionally urethra and bladder neck are directly by sharp bony fragments.

We can foresee the example of urethral injury based on type pelvic break. Most noteworthy gamble of urethral injury is found in ride break joined with diastasis of sacroiliac joint [9] For each 1 mm increment of pubic symphysis diastasis or removal of inferomedial pubic bone crack parts the gamble of urethral injury increments 10 % [10].

Feebleness after back urethral injury because of pelvic break is because of the actual injury instead of the careful technique. Barrenness after pelvic crack can result from neurovascular disturbance of huge nerves and inner pudendal courses when they pass in the locale prostatic zenith subsequently there is a connection among's weakness and interruption of prostatic peak from the urogenital diaphragm[11].

Conclusion

Various modalities of treatment have evolved over the years, primary suturing, endoscopic realignment and initial SPC followed by delayed anastomosis for posterior urethral stricture which is considered as gold standard. 33.6 % of posterior urethral stricture was in the age group of 21-30 yrs. Pelvic injuries were

responsible for 67.27% of posterior urethral stricture. Perineal approach has been proven to be the best approach since it preserves the neurovascular bundles hence there are lower chances of impotence, restenosis.

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