Intermittent Self Dilation – An Option For The Prevention of Urethral Stricture Recurrence After Filliform Follower Urethral Dilation

Shrestha NM

ABSTRACT
Background: Urethral stricture and its recurrence is still a major problem in male. Several procedures are present for the treatment of the disease. Lapides introduced the concept of intermittent self dilatation (ISD) which has decreased the incidence of recurrence of urethral stricture if doing properly. The aim of the this study was to report the outcomes of ISD for the treatment of urethral stricture after Filliform follower urethral dilatation (FFUD). Method: This was a prospective comparative study, conducted in the department of surgery, urology unit from March 2013 to February 2016. Total of 49 patients were enrolled and were randomly divided into Group A and Group B. In Group A, all the patients were taught ISD with Nelaton Catheter after FFUD. In group B, all patients underwent only FFUD for urethral stricture. In both groups, Foley’s catheter was removed after 2 weeks of FFUD. These patients who had difficulty in passing urine or having lower urinary tract syndrome after removal of catheter, were evaluated for urethral stricture recurrence by clinical symptoms, ultrasonography, urine test for culture and sensitivity, cystoscopy/urethrogram as necessarily. Result: In Group A, 4 patients out of 20(20%) developed urethral stricture recurrence where as in Group B, 18 patients out of 23 (78.26%) developed urethral stricture recurrence. Therefore, the rate of urethral stricture recurrence is significantly more in group B than the Group A (p< 0.001). Conclusion: ISD is an effective way for the prevention of urethral stricture recurrence after FFUD.

Key words: FFUD, ISD, recurrence urethral stricture

INTRODUCTION
Urethral Stricture is a scarring process involving either urethral mucosa / submucosa spongy erectile tissue of the corpora. This scar reduces the internal size of the urethral lumen which causes blockage or reduction in the flow of urine leading to complications such as urosepsis and renal failure. So it is still one of major problem in male population. In general, urethral stricture refers to mainly anterior urethral constriction. The length of stricture may vary from less than 1 centimeter to full length of it.

In previous days, Gonorrhoea was supposed to be the most common cause for stricture. However, at present concept has been changed. It is idiopathic and iatrogenic disease. Unnecessary urethral catheterization and repeatedly urethral instrumentation are often cause stricture. Therefore, these methods should be minimized to prevent urethral stricture. Other causes include noticed / unnoticed straddle injury, Balanitis xerotica obliterans (BXO). There are various treatment option which aimed to widen narrow part of urethra. However, the best technique has not been clearly defined yet. Internal urethroscopy and urethral dilatation are the most commonly performed treatment for the urethral stricture. The other treatment options are laser urethroscopy, urethroplasty.

Optical internal urethrotomy by cold knife and laser are first line of surgical treatment for short length of urethral stricture.

However, there is chance of recurrence of urethral stricture after any type of surgery for stricture. So needs some additional procedure to prevent from recurrence after primary treatment. Temporary intermittent self dilatation after any type of primary surgical treatment is also described by some authors for the prevention recurrence of it.

Lapides introduced the concept of self dilatation to prevent recurrence of urethral stricture. ISD is the simple, short and cheap procedure in which patient himself catheterizes with well lubricated hydrophilic catheter or Nelaton catheter twice, once a day or in different time interval. Therefore, present study compares incidence of recurrence of urethral stricture with or without self dilatation after FFUD at Nepalgunj Medical College.

MATERIALS AND METHOD
It is a comparative study conducted in the Department of Surgery, Urology unit, in NGMC from March 2013 to February 2016. All patients having difficulty in passing urine, were examined with Ultrasonography, x ray kidney ureter bladder (KUB), urine for routine, culture and sensitivity, retrograde urethrogram and cystourethroscopy. In patients who had stricture, Urethroscopy was done. Strictured site were located, guide wire inserted through the strictured area and gradual urethral dilatation was done with Filliform follower dilator up to 20 Fr. 16 Fr Foley’s catheter was placed which was kept for 2 weeks. After 2 weeks, Foley's catheter was removed.

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INTRODUCTION

Urethral stricture and its recurrence is still a major problem in male. Several procedures are present for the treatment of urethral stricture. However, the best technique has not been clearly defined yet. Internal urethrotomy by cold knife and laser are first line of surgical treatment for short length of urethral stricture if doing properly. The aim of this study was to report the outcomes of ISD for the treatment of urethral stricture.

METHOD

A total of 49 patients were enrolled in this study however 43 patients completed this study. Group A consisted 25 patients in which 4 patients discontinued ISD and 1 patient lost the follow up. Group B consisted 24 patients in which 1 patient lost the follow up. Grouping and treatment:

In Group A, all the patients were taught ISD with Nelaton Catheter after FFUD. In group B, all patients completed this study. Group A consisted 25 patients, Group B consisted 24 patients. However, 43 patients had completed this study. Group A consisted 25 patients in which 4 patients discontinued ISD and 1 patient lost the follow up. Group B consisted 24 patients in which 1 patient lost the follow up. Group B consisted 24 patients in which 1 patient lost the follow up. Group B consisted 24 patients in which 1 patient lost the follow up. Patients who had difficulty in passing urine or having lower urinary tract syndrome after removal of catheter, were evaluated for urethral stricture. Urethroscopy was done. Stricture site were examined with Ultrasonography, x ray KUB. Retrograde urethrogram and cystourethroscopy. In patients who had retained catheter, the LUTS was present but the imagings and the urine culture were normal.

Data analysis was performed with SPSS version 17. For the parametric test of two groups, independent samples t-test was used. A p-value less than 0.05 was considered statistically significant.

RESULT

A total 49 patients were enrolled in this study however 43 patients completed this study. Group A consisted 25 patients in which 4 patients discontinued ISD and 1 patient lost the follow up. Group B consisted 24 patients in which 1 patient lost the follow up. In group A mean age of the patients was 49±14.261 and in group B the mean age was 51.09±13.714.
Urethral stricture recurrence rate:
In group A, out of 20 patients 6(30%) patients even doing ISD complained ofLUTS at different time interval during follow up. These patients were investigated to find out the cause. In 2 patients urinary tract infection was found and 4 patients had urethral stricture. In group B, out of 23 patients, 18 (78.26%) patients had LUTS and restructure formation on investigations(p<0.001) Table I.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group A</th>
<th>Group B</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>20</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Urethral stricture recurrence rate</td>
<td>4(20%)</td>
<td>18(78.26%)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**Table I : Urethral stricture recurrence**

**DISCUSSION**
This is the first prospective study conducted at Nepalgunj Medical College Kohalpur about the role of ISD for the prevention of recurrence of urethral stricture after FFUD. The present study has revealed that 20% in Group A patients developed a recurrence of urethral stricture within three months which was significantly less when compared with Group B patients in which 78% of patients developed recurrence of urethral stricture. But ISD did not prevent the recurrence in all patients. These findings are supported by the study of Khan S et al (2011)⁰. To evaluate the effect of ISD, this study did follow up of patient for 3 months and in the study of Khan S et. al the follow up was done for one year. Therefore, there is an evidence that till one year ISD decreases the reoccurrence of urethral stricture. However, the long term follow up is needed to evaluate the long term effect of ISD in prevention of the urethral stricture.

The drop-out patients in the Group A is significantly higher than Group B. In Group A, 5 patients stopped to do self calibration due to laziness. These patients came again with LUTS. Cystoscopy revealed urethral stricture. This revealed that all patients do not have much interest to perform ISD with interest, however, the study of Mubasher H et, al mentioned that ISD has considerable social advantage and patients can easily handle the ISD at home. And is economy by reducing the cost by preventing recurrence of stricture ¹¹.

**CONCLUSION**
The present study showed that ISD is the effective method of reducing the stricture recurrence after FUDD. Therefore, all the patients must be taught about the intermittent self dilatation after FFUD.

**REFERENCES**