

Early Removal of Foleys Catheter within 48 Hours of Transurethral Resection of the Prostate

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ABSTRACT

Objectives: To study outcomes of early removal of foley's catheter after transurethral resection of prostate (TURP).

Study Design and Duration: This is a cross sectional study completed in six months duration from May to October 2022.

Setting: study was conducted in the department of urology Shaheed Mohtarma Benazir Bhutto Medical College.

Methodology: All male patients above 50 years of age with prostate more than 30 gm and less than 60 grams with definitive indication of TURP were included in this study. Those with age less than 50 years, prostate less than 30 gram, more than 60, patient with cerebrovascular disease or psychiatric disorder and history of stricture urethra were not included in this study.

Results: Total 60 patients were included in this study with maximum age 70 years and minimum age was 55 years. Average size of prostate determined by trans-abdominal ultrasound was 52 grams, maximum size was 76 grams and minimum size was 30 grams. Foleys catheter was removed in all patients on the second postoperative day within 48 hours after TURP. Patient voided with good stream after Foley's removal. Out of sixty patients one patient (1.7%) developed urinary retention immediately after Foley's removal who was recatheterized and Foley's was kept for further three days and trial of catheter was given which was successful. One patient (1.7%) developed mild hematuria and Foley's was kept for 2 days and trial was successful.

Conclusion: Early removal of Foley's reduces hospital stay, early return to work, prevents catheter related side effects and reduces patients anxiety due to catheter.

Keywords: Foleys Catheter, TURP, Catheterization, BPH

INTRODUCTION

Prostate enlargement causing urinary obstruction is a very common problem among elderly males in our community.¹ Depending on the stage of the disease these patients are treated with transurethral resection of prostate which reduces morbidity of the disease.² Factors related to this procedure include urinary tract infection, prolonged stay at the hospital and prolonged retention of foley's catheter.³ Modifying these factors can reduce the morbidity of the disease. Treatment of enlarged prostate depends on IPS Score.⁴ Life style modifications and observation are recommended in mild score. Medical treatment is required in moderate severity of the symptoms. In prolonged obstruction, severe symptoms, when conservative management has failed surgical intervention is indicated.⁵ There are many options with minimal invasive surgery but despite all TURP is a procedure of choice.⁶ According to a previous study conducted by Chimaobi et al in Nigeria catheter was removed on the first post-operative day with the success rate of 98%.⁷ Another study also reported it safe to remove the catheter on the same post-operative day without any major complication. TURP is an endoscopic technique using bipolar or unipolar current to resect the prostatic lobe with fluid irrigation system. Follow up after TURP is done using uroflowmetry and IPSS.⁸ According to the literature average hospital stay after TURP is 2-7 days with average accommodation cost of 29-33%. So if any method can reduce hospital stay will minimize cost of the procedure. According to recent study conducted in South Korea by Sung et al success rate of early removal of foley catheter within 48 hours was 85%.⁹ Another study conducted by Danny et al in India reported 80% success rate when foley was removed within 48 hours after TURP.¹⁰ Such type of study has not been conducted on our community in last five years. Delayed removal of foley catheter is associated with many complications and prolonged hospital stay so this study has been aimed to determine outcomes of foley's removal on same day after TURP to predict the possibility of TURP as a day care surgery with reduced duration of hospital stay and to minimize the complications.

METHODOLOGY

It is a cross sectional study conducted in the department of urology Shaheed Mohtarma Benazir Bhutto Medical College from May to October 2022. Sixty cases were included in this study using WHO sample size calculator. Nonprobability convenient sampling technique was used in this study. Inclusion criteria stated as age >40 years and ≤75 years with prostate volume between 30-60 grams measured on trans-abdominal ultrasound. Those with prostate carcinoma, diabetes mellitus, hypertension, uncontrolled hematuria, urinary bladder perforation or urethral injury were excluded from the study. Approval was taken from the ethical committee of the institution. Informed consent was taken from the study cases. Detailed history was taken followed by the examination in study cases. They were evaluated by international prostatic symptoms score (IPSS), laboratory and radiological investigations. Patients were planned for TURP after negative urine culture report and obtaining fitness for spinal anesthesia. Patient underwent the procedure next day of the admission using conventional technique of TURP. Procedure time was less than 60 minutes in all cases. Hemostasis was secured after resection of the prostate and cystoscopy was performed to ensure no residual piece of the prostate remained in the bladder. After the procedure a 22-Fr three way silicone urinary catheter was passed, its balloon was dilated and irrigation started using 0.9% normal saline. Vitals and urine output was monitored in the patient. Catheter was removed within 48 hours after the procedure. If urine was not clear the catheter was remained in place. After catheter removal patient was encouraged to void per urethra. Hematuria, urinary retention, patient comfort in urination and IPS score were addressed in the patient and when all these factors were normal patient was discharged to follow up. Success was defined as removal of the catheter within 48 hours after the procedure. Duration more than this was considered as the failure. SPSS version 20 was used for data analysis. Means and standard deviation were calculated for the quantitative variables while frequency and percentages were calculated for the qualitative variables. P-value < 0.05 was statistically significant.

RESULTS

Total 60 patients were included in this study having ages from 41 to 75 years with mean age of 54.7±3.6 years. Average size of prostate determined by trans-abdominal ultrasound was 52 grams, maximum size was 76 grams and minimum size was 30 grams. Foley's catheter was removed in all patients on the second postoperative day within 48 hours after TURP. Mean time for catheter retention was 33.5±4.2 hours. Patient voided with good stream after Foley's removal. Out of sixty patients one patient (1.7%) developed urinary retention immediately after Foley's removal who was recatheterized and Foley's was kept for further three days and trial of catheter was given which was successful. One patient (1.7%) developed mild hematuria and Foley's was kept for 2 days and trial was successful. Mean hospital stay was 53±7.9 hours. Urinary tract infection developed in 2(3.4%) cases. Clot retention happened in one case (1.7%) after stopping bladder irrigation so irrigation started again and managed successfully. In this study success was defined as removal of the catheter within 48 hours after TURP, so successful outcomes were noted in 56(93.4%) cases. Complications reported in 04(6.6%) cases. 58(96.7%) cases successfully voided after catheter removal. No patient needed blood transfusion and no patient developed TURP syndrome. No readmission needed on follow up.

Table-1: Age Distribution of Study Cases (n=60)

Age (years)	Frequency
41-50	14 (23.3%)
51-60	21 (35%)
61-70	18 (30%)
>70	07 (11.7%)

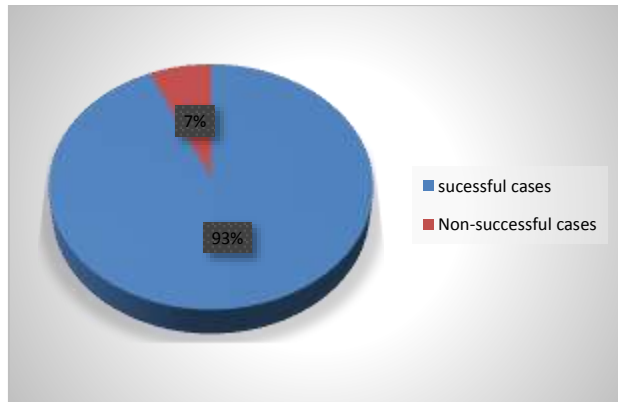


Figure-1: success rate of catheter removal in study group (n=60)

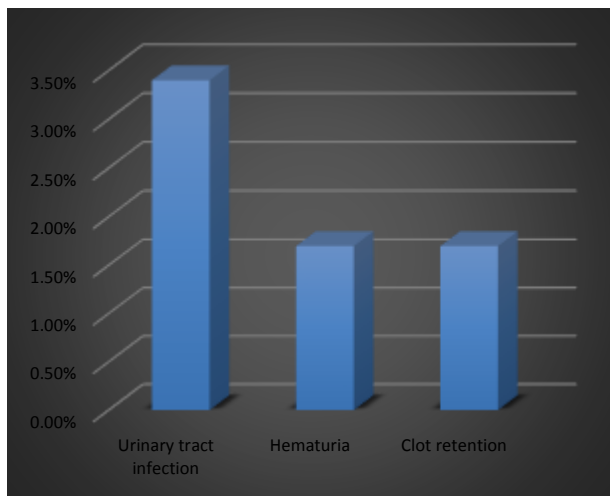


Figure-2: Frequency of postoperative complications in study group (n=60)

DISCUSSION

The prostate gland surrounds the prostatic urethra. There is voluntary sphincter inferiorly and the neck of urinary bladder superiorly. There are three zones of prostate central, transitional and peripheral zone.¹¹The gland has one median and two lateral lobes. Hyperplasia of the lobes leads to urinary obstruction and urinary retention. IPSS score can be used to evaluate obstructive symptoms of the patient.¹²In our study mean duration of catheter retention was 33.5±4.2 hours with the success rate of 93.4%. According to a study conducted on 64 cases by Bhatta et al in Nepal reported removal of the catheter within 24 hours with the success rate of 98%. They stated that TURP can be performed as a day care procedure.¹³ In our study out of sixty patients one patient (1.7%) developed urinary retention immediately after Foley's removal who was recatheterized and Foley's was kept for further three days and trial of catheter was given which was successful. One patient (1.7%) developed mild hematuria and Foley's was kept for 2 days and trial was successful. Mean hospital stay was 53±7.9 hours. A previous study has reported that early removal of urinary catheter reduces hospital duration from 3.1 to 1.2 days.¹⁴ Similar results have been demonstrated by another study by Zulfiqar et al who reported average hospital stay 1.6 days.¹⁵ Mean IPS Score in our study after TURP was 32.41±2.5 with the p-value of 0.66. These results are in comparison to a previous study conducted by Manjuprasad et al who reported mean IPS Score as 27.37± 0.43.¹⁶ Severe IPSS is due to feeling of difficulty in urination by the patients. Despite large caliber of the urinary catheter patient feels hesitation in urination after early removal of catheter. Funda et al in their study conducted on 180 patients did not inserted catheter after TURP. They stated that TURP can be performed as a day care procedure safely. However it is safe to keep the catheter on irrigation in immediate post-operative period.¹⁷ Agarwal et al also support early removal of catheter after TURP.¹⁸ A study conducted by Songwut et al in Thailand reported early urge incontinence reported in 30-40% cases, morbidity rate was <1% and mortality rate as 0-0.25%. They stated that major late developing complications were urethral strictures in 0.3-9.2% and repeated treatment required in 3-14.5% cases after five years.¹⁹ A study conducted in Peshawar Pakistan by Liaqat et al reported mean age of the patients as 65±7.5 years, mean size of the prostate 45.5±6.8 grams. Presenting complaint in majority of the patients was urinary retention in 60.4% cases. In their study mean operation time was 66.3±5.5 minutes and complication rate was 6.9%.²⁰

CONCLUSION

After trans-urethral resection of prostate catheter can be removed within 48 hours safely with minimum complications and shorter hospital stay in selective patients. This effort can reduce post-operative morbidity and expenses of the patient. Prolonged retention of the catheter is associated with more complications that should be avoided.

Conflict of Interest: No

Source of Funding: No

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