

Original Article

Early Removal of 3 Way Foleys Catheter after Transurethral Resection of Prostate is Beneficial?

1. Javed Altaf Jat 2. Shafique-ur-Rehman Memon 3. Jai Pal Paryani 4. Muhammad Shahzad Laghari 5. Atif Jawed Bhatti

1: Sen. Registrar of Urology 2. Prof. of Urology 3. Asstt. Prof. of Urology 4. Prof. of Urology 5. Resident Urology
Dept. Liaquat University of Medical & Health Sciences Jamshoro

ABSTRACT

Objective: To compare the outcome of three way foleys catheter removed on 2nd and 5th day after Transurethral resection of Prostate for BPH regarding postoperative retention of urine, urine culture and hospital stay.

Study Design: Quasi Experimental study.

Place and Duration of Study: This study was carried out in Department of Urology, University of Medical & health sciences Jamshoro from July 2010 to December 2011.

Materials & Methods: This study consisted of 50 patients were divided in two groups. Group A for catheter was removed on 2nd post operative day of Trans Urethral resection of prostate and group B for catheter was removed on 5th Post Operative Day of Trans Urethral resection of prostate, each group consist of 25 patients. Detailed History was taken from all the patients with special regard to the urinary retention. Inclusion criteria were that all diagnosed as case of BPH on the basis of history and investigations. Exclusion criteria included unfit patients for general anesthesia, presented with chronic urinary retention, hematological disorders, pre operative infected urine and concurrent urethral stricture.

Results: Re-catheterization were in 2 patients (8%) group A and 1 patient (4%) in group B. Post operative urine culture growth of organism (bacteriuria) were 1 patient (4%) in group A and 3 patients (12%) in group B. Duration of hospital stay in group A was 5.68 days as compared to the patients in group B was 8.44 days.

Conclusion: In conclusion, early catheter removal had a dramatic impact on hospital stay. Catheters can be removed early after transurethral resection of prostate with no increase in morbidity and maintain the efficacy of the procedure, resulting in considerable savings to their patients. Our study confirms the safety of an irrigation-free and early catheter removal policy after TURP.

Key Words: Benign prostatic hyperplasia, 3 way foleys catheter, transurethral resection of prostate.

INTRODUCTION

Benign prostatic hyperplasia (BPH) is the most common urological disease of old age¹. About half of the male population over the age of 50 can be diagnosed with histological BPH, and this prevalence increases with age to about 90% over the age of 80². Histological BPH leads to anatomical changes in prostate, causing bladder outlet obstruction and secondary physiological and anatomical changes in bladder and in tissue causing symptoms, which then impairs health status³. There are various procedures for the management of benign prostatic hyperplasia but transurethral resection of prostate is considered the gold standard and is the most commonly performed procedure in developed world^{4,5}. Symptoms of BPE are hesitancy, decreased force and caliber of stream, sensation of incomplete bladder emptying, double voiding, straining to urinate, dribbling and irritative symptoms include urgency, frequency and nocturia⁶. Various modes of treatment for BPH are available i.e. watchful waiting, medical (i.e. drugs like alpha adrenargic blockers, 5 alpha reductase inhibitors are being considered as alternative to surgery), surgical (conventional), and endourological methods like transurethral resection, transurethral incision of

prostate⁷. Catheter related urinary tract infection accounts for 40% of nosocomial infections, urinary tract infection is the complication of long-term urinary catheterization⁸. Catheterization increases the risk for urinary tract infection. A single catheterization is associated with upto 5% infection rate, and if the catheter remains in place, there is a 5% increase per catheter day in the rate of associated infection⁹. E.coli is the major cause of catheter associated urinary tract infection and the most common nosocomial pathogen. Urethral meatal flora is an important source of bacteriuria, the likelihood of which increases with the duration of catheterization. It is suggested that the density, but not the prevalence of meatal colonization by potentially pathogenic bacteria is a risk factor for catheter associated bacteriuria¹⁰. Catheterization during transurethral resection of prostate can cause severe infective disorders, that is, urinary tract infection, bacteriuria, septicemia, epididymitis and urethral strictures¹¹. This study is aimed to see whether early catheter removal has any bad outcome as still controversy is presented in available literature.

MATERIALS AND METHODS

This study was conducted at department of urology, Liaquat University of Medical & Health Sciences,

Jamshoro from July 2010 to December 2011. This study consisted of 50 patients were divided in two groups. Group A for catheter was removed on 2nd post operative day of Trans Urethral resection of prostate and group B for catheter was removed on 5th Post Operative Day of Trans Urethral resection of prostate, each group consist of 25 patients admitted through the outpatient department, as well as from casualty department of Liaquat University Hospital Jamshoro/Hyderabad. Detailed History was taken from all the patients with special regard to the urinary retention. Inclusion criteria were that all patients after counseling for study and taking voluntary consent and diagnosed as case of BPH on the basis of history and investigations. Exclusion criteria included unfit patients for general anesthesia, presented with chronic urinary retention, hematological disorders, pre operative infected urine and concurrent urethral stricture. Data was analyzed through SPSS software.

RESULTS

In our study, we compared the results in both the groups regarding the number of patient who underwent retention of urine followed by re-catheterization after removal of 3 way Foley's catheter after 2nd and 5th post transurethral resection of prostate. In group A, 2 patients (8%) went into the retention of urine after removal of Foley's catheter and eventually they require re-catheterization as compared 1 patient (4%) in group B went into the retention of urine and require re-catheterization (Chart No.1).

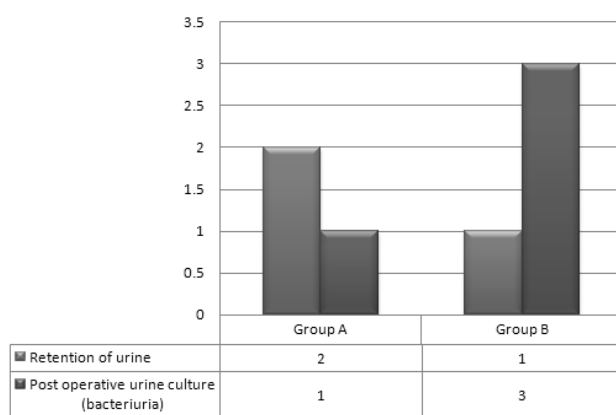


Chart No.1: Comparison of two groups

Retention of urine in both groups were compared by Chi- Square test. A high significance P- value = 0.552 of Chi- test indicates that there is no relationship between groups and retention of urine variables. Post operative urine culture group A, 1 patient (4%) out of 25 patients had positive urine culture growth of organism (bacteriuria), as compared to group B, 3 (12%) patients out of 25 patients had positive urine culture growth of organism (bacteriuria) (Chart No.1). A positive urine culture in two groups is compared by

Chi-square test. A high significance P- value = 0.297 of Chi- test indicates that there is no relationship between group and positive urine culture variables. Duration of hospital stay in group A was 5.68 days as compared to the patients in group B was 8.44 days. Compare the means of the duration of hospital stay of the patients of two groups, a low significance value (P- value <0.001).

DISCUSSION

The duration of Foley's catheter drainage after transurethral resection of prostate varies amongst surgeons. In our study 2 patients (8%) out of 25 patients went into retention of urine followed by re-catheterization in group A, as compared to 1 patient (4%) went into retention of urine followed by re-catheterization in group B. In study which was conducted by Koh KBH in which 30 patients whose catheter was removed on 2nd post transurethral resection of prostate¹². Only 3 patients went into retention of urine followed by re- catheterization. In another study conducted by Dodds et al. in which 41 patients whose catheter was removed on 2nd post operative day of transurethral resection of prostate, 7/41 that 14% of the patients went into retention of urine followed by re-catheterization¹³.

In our study only 1 patient in group A had positive urine culture after removal of 3 way Foley's catheter on the 2nd post operative day of transurethral resection of prostate as compared to group B in which only 3 patients had positive urine culture. In the study of Agarwal SK in which 83 patients were included and their 3 way Foley's catheter was removed in 24 hrs shows that only 2 patients have positive urine culture and finally in discussion of his study he stated that the early removal may reduce the incidence of urinary infection, catheter related dysuria and possible urethral stricture formation¹⁴.

Early catheter removal have significant impact on overall duration of hospital stay, as proved in our study with mean of 5.68 days in group A as compare to 8.44 days in group B. However in the study of Bhagia SD reported catheter was removed post operatively TURP at day 2 in 12 patients, at day 3 in 19 patients, day 4 in 3 patients, day 5 in 1 patient, day 6 in 7 patients, day 7 in 7 patients, day 8 in 4 patients, day 9 in 1 patient, day 10 in 4 patients and day 12 in 2 patients and the duration of hospital stay depends upon catheter removed¹⁵. Some other international studies reported catheter removal following transurethral resection of the prostate is variable, ranging from 24 hours¹⁶ to 5 days¹⁷.

CONCLUSION

In conclusion, early catheter removal had a dramatic impact on hospital stay. Urologist can be reassured that catheters can be removed early after transurethral resection of prostate with no increase in morbidity and

maintain the efficacy of the procedure, resulting in considerable savings to their patients. Our study confirms the safety of an irrigation-free and early catheter removal policy after TURP.

REFERENCES

1. Asimakopoulos A, Tubaro A, De Nunzio C, Miano R. Treatment of Benign Prostatic Hyperplasia in the Geriatric Patient. *European Urological Review* 2009;4(1):15-9.
2. Speakman MJ. Lower Urinary Tract Symptoms Suggestive of Benign Prostatic Hyperplasia (LUTS/BPH): More Than Treating Symptoms? *European J Urology* 2008;7:680-89.
3. Barry MJ, Cochet ATK, Holtgrew HL, McConnells JD, Sihelnik SA. Relationship of symptoms of prostatism to commonly used physiological and anatomical measures of the severity of BPH. *J Urol* 1993;150: 351-8.
4. Kacker R, Williams SB. Endourologic Procedures for Benign Prostatic Hyperplasia. *Urol J* 2011; 8(3):171-6.
5. Kuntz RM, Lehrich K, Ahyai SA. Holmium laser enucleation of the prostate versus open prostatectomy for prostates greater than 100 grams: 5-year followup results of a randomised clinical trial. *Eur Urol* 2008;53:160-6.
6. Wein AJ, Fitzpatrick JM, Chapple CR, Drach GW, Andersson KE. BPH and Male LUTS. *Urotoday* 2007 [cited 6th March 2007]; Available from: http://www.urotoday.com/161/browse_categories/bph_male_luts/diagnosis_evaluation.html.
7. Thorpe A, Neal D. Benign prostatic hyperplasia. *Lancet* 2003; 361(9366):1359-67.
8. Gomolin IH, McCue JD. Urinary tract infection in the elderly patient. *Infect Urol* 2000; 13: 7-13.
9. Bacheller CD, Bernstein JM. Urinary tract infections. *Med Clin N Am* 1997;81: 719-29.
10. Barford JMT, Coates ARM. The pathogenesis of catheter-associated urinary tract infection. *J Infection Prevention* 2009;10(2):50-6.
11. Nielson OS, Maigaard S, Moller NF, Madsen PO. Prophylactic antibiotics in the transurethral prostatectomy. *J Urol* 1981; 126: 60-2.
12. Koh KBH, MacDermon JP, Smith PH, Whelan P. Early catheter removal following transurethral prostatectomy - impact on length of hospital stay. *Br J Urol* 1994; 74: 61-3.
13. Dodds L, Lawson PS, Crosthwaite AH, Wells GR. Early catheter removal: a prospective study of 50 consecutive patients undergoing transurethral resection of prostate. *BJU Int* 1995;75:755-57.
14. Agrawal SK, Kumar ASM. Early removal of catheter following transurethral resection of the prostate. *Br J Urol* 1993;72:928-9.
15. Bhagia SD, Mahmud SM, Khalid SE. Is it necessary to remove Foleys catheter late after Transurethral Prostatectomy in patients who presented with Acute Urinary Retention secondary to Benign Prostatic Hyperplasia?. *JPM* 2010;60(9):739-741.
16. Mamo GJ, Cohen SP. Early catheter removal vs. conventional practice in patients undergoing transurethral resection of prostate. *Urology* 1991;37:519-22.
17. Drago JR. Transurethral incision of prostate. *Urology* 1991;38:305-6.

Address for Corresponding Author:

Dr. Shafique-Ur-Rehman Memon

House No. P-9, Diplai Memon Housing Society
Behind Rajputana Hospital Hyderabad Sindh.
Cell: 0300-3018112