

## **Is it necessary to remove Foleys catheter late after Transurethral Prostatectomy in patients who presented with Acute Urinary Retention secondary to Benign Prostatic Hyperplasia?**

Sonmukh Das Bhagia, Syed Mamun Mahmud, Salman El Khalid  
The Kidney Centre Postgraduate Training Institute, Karachi, Pakistan.

### **Abstract**

**Objective:** To assess the influence of early versus late removal of catheter after Transurethral Prostatectomy (TURP) in patients who presented with Acute Urinary Retention (AUR), at our centre.

**Methods:** The records were reviewed of patients presenting to the Emergency Room (ER) or out patient department (OPD) with AUR, after TURP done between April 2004 to June 2008, at The Kidney Centre PGTI, Karachi.

Total 60 patients were enrolled. Age, size of prostate, days catheterized before TURP, the post operative day of catheter removal and results after catheter removal were recorded.

**Results:** Fifty two (86.7%) patients had successful voiding while 8 (13.3%) patients, 4 from each group, went into retention again.

There was no significant difference in the results of patients who had catheters for either shorter or longer periods prior to surgery.

**Conclusion:** There is no difference in early versus late removal of catheter after TURP in patients who present with AUR (JPMA 60:739; 2010).

### **Introduction**

TURP is considered the reference standard in the surgical therapy of symptomatic bladder outlet obstruction (BOO),<sup>1</sup> secondary to BPH. Acute Urinary Retention may be the first manifestation of bladder outlet obstruction due to BPH in up to 25% of cases.<sup>2,3</sup>

In general, treatment failure after transurethral prostatic resection is related to persistent urethral obstruction, decreased or absent detrusor contractility or a learned voiding dysfunction in which the patient fails to relax sufficiently.<sup>4</sup>

Although older series<sup>5-8</sup> report failure to void following TURP in 0.5%-11% of cases, more recent audits of outcome,<sup>9-13</sup> make little or no mention of a complication that may not be a very infrequent experience in clinical practice.

Early catheter removal studies showed a relatively high rate of re-catheterization (11 of 77 cases after transurethral resection,<sup>14</sup> and 4 cases of clot retention among 78 transurethral resections<sup>15</sup>).

The interval to catheter removal following transurethral resection of the prostate is variable, ranging from 24 hours<sup>14-16</sup> to 5 days.<sup>17</sup>

There is no defined criteria for removal of foleys catheter following transurethral resection of the prostate in patients who presented with AUR.

With this background we hypothesize that early removal of Foleys catheter is inherent with more failure to void after TURP in patients presenting with AUR.

We conducted this study at The Kidney Centre PGTI Karachi, to help us in deciding the interval for catheter removal following TURP in this cohort of patients.

### **Patients and Methods**

We retrospectively reviewed the records of patients who presented to us in Emergency Room (ER) or Out patient department (OPD) with acute urinary retention (AUR), who had undergone TURP from April 2004 to June 2008, at The Kidney Centre PGTI, Karachi.

Total 60 patients were enrolled. Age, size of prostate, days catheterized before TURP, the post operative day of catheter removal and results after catheter removal were recorded.

Patients with Diabetes mellitus, Cerebrovascular accident, Spinal cord injury, stricture urethra or who were subjected to a simultaneous endoscopic procedure, as cystolitholapaxy or internal urethrotomy were excluded. Patients with biopsy proven prostate carcinoma were also excluded.

Acute urinary retention was defined as a painful inability to void with a urine volume on catheterization of less than 1500ml. All patients were operated on by one of the two

consultant urologists.

Standard TURP was performed on all patients. We basically divided the patients in two groups. Group I included 33 patients in whom catheters were removed on 3rd post operative day and Group II included 27 patients in whom catheters were removed after 5th post operative day (within 2 weeks).

In group I patients, the catheter was removed during admission and were discharged after two or three successful voids. In group II, patients were discharged and advised to come for catheter removal on the scheduled day. Patients failing to void were recatheterized and deemed unsuccessful.

## Results

The mean age of the patients were  $69.9 \pm 9.61$  years. On ultrasound mean size of prostate was  $54.86 \pm 20.74$ gms. Catheterization prior to surgery was done in all patients, 43 had it for 3 days to one month, 10 had it for 31 days to two months and 7 had it for 61 days to more than three months. In

**Table-1: Influence of number of days of Prior ( Pre-TURP) catheterization on Post-TURP trial without catheter.**

No. of days of Prior (Pre-TURP) catheterization	Post-TURP Trial without catheter n= 60		p-value
	Successful (developed retention)	Unsuccessful (voiding)	
1-30 days	37	6	0.944
31-60 days	9	1	
≥ 61 days	6	1	

**Table-2: Early Vs Late Removal of Foleys Catheter Post-TURP in patients presenting with AUR.**

Catheter removal	Post-TURP Trial without catheter		p-value
	Successful	Unsuccessful	
Group A (<5 days) n= 35	31	4	0.608
Group B (>5 days ) n= 25	21	4	

extreme cases it was almost a year.

Trial without catheter was given to all patients. Those found to have retention were defined unsuccessful and those voiding were labeled successful.

Fifty two (86.7%) patients had successful voiding while 8 (13.3%) patients, 4 from each group, went into retention again.

The catheter was removed post operatively 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.

There was no significant difference in trial without catheter in patients who had catheters for either shorter or longer periods prior to surgery (Table-1).

There was no statistical difference in early versus late removal of catheter after TURP in patients who presented with AUR (Table-2).

## Discussion

Failure to void after TURP is reported to occur in 0.5% to 11% of patients.<sup>5,7,13</sup>

In Mebust's series,<sup>3</sup> 2.4% of patients were discharged with an indwelling catheter. The most common cause for this was thought to be hypotonic bladder. In a series of 90 patients older than 80 years of age under going TURP, Wyatt et al<sup>6</sup> reported failure to void on initial TWOC in 27%.

Most patients in this series had either acute, chronic, or acute on chronic retention. Djavan et al.<sup>18</sup> concluded that age older than 80, retention volume greater than 1500ml, and low maximal detrusor pressure were significant predictive factors for an unsuccessful out come and counseled against offering TURP to such patients. We did not find age to be a significant predictive factor for failure to void.

The interval to catheter removal after transurethral prostatic surgery has decreased significantly during the last 15 years.<sup>3</sup> The benefit from such a decrease is medical, with a theoretical diminution of known complications of an indwelling catheter (stricture and infection). However, the interval to removal had no influence on complications in our study or in a prior retrospective study on a much more significant scale.<sup>3</sup> Another benefit is economic, with shorter hospitalization being one of the few effective ways of combating growing health budget deficits. This objective has even led some urologists to practice transurethral resection<sup>17</sup> and transurethral incision of the prostate<sup>18</sup> on an outpatient basis.

Presently, most studies report an interval of 24 to 48 hours postoperatively.<sup>19</sup>

The interval to catheter removal following transurethral resection of the prostate is variable, ranging from 24 hours<sup>14-16</sup> to 5 days.<sup>17</sup>

The most commonly adopted interval is 3 days.<sup>3</sup>

## Conclusion

There is no difference in early versus late removal of catheter after TURP in patients who presented with AUR.

The overall incidence of failure to void after foleys catheter removal post TURP in cases presenting with AUR is 7.5% in our series.

## References

- Gordon NS, Hadlow G, Knight E, Mohan P, Transurethral prostatectomy: still

- the gold standard. *Aust NZ J Surg* 1997; 67: 354-7.
2. Anderson JB, Grant JB. Postoperative retention urine: a prospective urodynamic study. *BMJ* 1991; 302: 894-6.
  3. Mebust WK, Holtgrewe HL, Cockett AT, Peters PC. Transurethral prostatectomy: immediate and postoperative complications. A cooperative study of 13 participating institutions evaluating 3,885 patients. *J Urol* 1989; 141: 243-7.
  4. Radomski SB, Herschorn S, Naglie G. Acute urethral retention in men: a comparison of voiding and non-voiding patients after prostatectomy. *J Urol* 1995; 153: 685-8.
  5. Chilton CP, Morgan RJ, England HR, Paris AMI, Blandy JP. A critical evaluation of the results of transurethral resection of the prostate. *Br J Urol* 1978; 50: 542-6.
  6. Wyatt MG, Stower MJ, Smith PJ, Roberts JB. Prostatectomy in the over 80 year old. *Br J Urol* 1989; 64: 417-9.
  7. Malone PR, Cook A, Edmondson R, Gill MW, Shearer RJ. Prostatectomy: patients' perceptions and long term follow-up. *Br J Urol* 1988; 61: 234-8.
  8. Doll H, Black N, McPhesron KT, Flood AB, Williams GB, Smith JC. Mortality, morbidity and complications following transurethral resection of the prostate for benign prostatic hypertrophy. *J Urol* 1992; 147: 1566-73.
  9. Thorpe AC, Cleary R, Coles J, Vernon S, Reynolds J, Neal DE. Deaths and complications following prostatectomy in the northern region of England, Northern Regional Prostate Audit Group. *Br J Urol* 1994; 74: 559-65.
  10. Emberton M, Neal DE, Black N, Harrison M, Fordham M, McBrien MP, et al. The National Prostatectomy Audit: the clinical management of patients during hospital admission. *Br J Urol* 1995; 75: 301-16.
  11. Emberton M, Neal DE, Black N, Fordham M, Harrison M, McBrien MP, et al. The effect of prostatectomy on symptom severity and quality of life. *Br J Urol* 1996; 77: 233-47.
  12. Pickard R, Emberton M, Neal DE. The management of men with acute urinary retention. National Prostatectomy Audit Steering Group. *Br J Urol* 1998; 81: 712-20.
  13. Feldstein MS, Benson NA. Early catheter removal and reduced length of hospital stay following transurethral prostatectomy: a retrospective analysis of 100 consecutive patients. *J Urol* 1988; 140: 532-4.
  14. Agarwal SK, Kumar AS. Early removal of catheter following transurethral resection of the prostate. *Br J Urol* 1993; 72: 928-9.
  15. Mamo GJ, Cohen SP. Early catheter removal vs. conventional practice in patients undergoing transurethral resection of prostate. *Urology* 1991; 37: 519-22.
  16. McLoughlin MG, Kinahan TJ. Transurethral resection of the prostate in the outpatient setting. *J Urol* 1990; 143: 951-2.
  17. Drago JR. Transurethral incision of prostate. *Urology* 1991; 38: 305-6.
  18. Djavan B, Madevsbacher S, Klingler C, Marberger M. Urodynamic Assessment of Patients with Acute Urinary Retention: Is treatment failure after Prostatectomy Predictable? *J Urol* 1997; 158: 1829-33.
  19. Dubey D, Kumar A, Kapoor R, Srivastava A, Mandhani A. Acute urinary retention: Defining the need and timing for pressure flow studies. *BJU Int* 2001; 88: 178-82.
-