

A Comparative Study of Post Turp Outcome and Complications between BPH Patients Presenting with or without Acute Urinary Retention

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ABSTRACT

Introduction: Benign prostatic hyperplasia (BPH) is a most common urological condition affecting men in elder age group. Study aimed to compare the outcome and complications of TURP for BPH patients with and without acute urinary retention

Material and methods: A detailed history about the symptoms and post operative complications was obtained in both groups. All the patients were followed up for 3 months. Outcome and complications of turp were assessed in both groups.

Results: POST TURP complications like persistent haematuria, blood transfusion rate, post op UTI, sepsis, recatheterisation, lower urinary tract stricture, resurgery, TUR syndrome, length of hospital stay were higher in patients who presented with AUR than patients without AUR.

Conclusion: It is better to intervene earlier before the patients develop AUR in order to minimize the complications and to maximize the outcome

Keywords: Post Turp Outcome, BPH Patients, Acute Urinary Retention

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a most common urological condition affecting men in elder age group. Even though there are many other causes now being considered, Benign prostatic hyperplasia still remains one of the most common causes in men that can give rise to lower urinary tract symptoms, with or without bladder outlet obstruction (BOO). Histopathologically, BPH is characterized by an increased number of epithelial and stromal cells in the periurethral area of the prostate and thus is correctly referred to as hyperplasia and not hypertrophy. This condition affects the quality of life (QOL) in a significant way in many of the patients. Even though most seek medical intervention, because of bothersome symptoms, BOO was found in 60% in those symptomatic and 52% in those asymptomatic.^{1,2} Lower urinary tract symptoms affect the patient's quality of life. Intervention may be needed for bothersome symptoms in around 30% of men who are older than 65 years.³

Acute urinary retention

It is defined as a sudden and painful inability to void voluntarily.^{4,5} AUR is for several reasons one of the most significant complications or long-term outcomes resulting from BPH. It has in the past represented an immediate

indication for surgery. Between 25% and 30% of men who underwent TURP had AUR as their main indication in older series, and today most patients failing to void after an attempt of catheter removal still undergo surgery.^{4,5,6}

BPH is most common cause for AUR. Several studies have shown that the morbidity is high in BPH patients with AUR after TURP surgery.^{7,8}

In western countries many patients around 20 to 42% were having chief complaints of AUR who have undergone TURP for same. Many case series reported that increased postoperative complications and longer hospital stays in men with BPH who develop AUR.^{8,9,10} There are many studies available describing the complications of BPH. Comprehensive comparative analysis of post-TURP complications between patients with and without AUR is lacking.

In our study we tried to compare the post TURP outcomes & complications between patients who presented with and without AUR.

Study aimed to compare the outcome and complications of TURP for BPH patients with and without acute urinary retention

MATERIAL AND METHODS

This is a retrospective analytical study. The patients with complaints suggestive of LUTS were thoroughly evaluated with History & Physical examination, DRE, USG KUB, Uroflow & PVR and patients with BPH were selected. Patients who presented with and without AUR were assigned as group A and Group B respectively

Inclusion criteria

- 1) Prostate sizes between 30 and 60 gms

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	AUR	Without AUR	P value
TUR syndrome	3	0	0.198
Hematuria	14	3	0.108
Blood transfusion	6	1	0.236
Post-op UTI	19	2	0.008
Recatheterisation	10	1	0.002
Sepsis	2	0	0.295
LUTS	15	5	0.228
Stricture	4	1	0.471
Resurgery	10	0	0.060
Length of stay	8	3.85	0.000

Table-1:

- 2) Maximum flow rate (Qmax) less than 10 ml/s,
- 3) Men more than 45years and less than 70 years
- 4) Post void residual urine (PVR) exceeding 100 ml,
- 5) Patients who gave informed consent for the study were included

Exclusion criteria

1. Urethral stricture,
2. Neurogenic bladder, and
3. Previous prostate or urethral surgery
4. Prostate cancer

The ethical committee of our institution has given approval to conduct this study. Totally 148 patients were enrolled in this study, of which 96 were patients presented with AUR and 52 were patients who presented without AUR. The diagnosis of BPH was confirmed both by clinical evaluation and by radiological method. IPSS grading system was used to assess the patient symptoms. For patients who presented with AUR, urinary symptoms prior to AUR were recorded. Surgical therapy was Transurethral resection of prostate (TURP). Procedure was done using bipolar current under spinal anaesthesia. Post operative variables (PVR, Uroflowmetry) were compared. Post operative complications like urinary tract infection, sepsis, haematuria, blood transfusion, post operative LUTS, recatheterisation, length of hospital stay, stricture, and resurgery were recorded compared between two groups.

RESULTS

All patients were followed for a period of three months. The results have been tabulated in the Table 1

DISCUSSION

Benign prostatic hyperplasia is a common urological problem affecting men in older age group. Acute urinary retention may be the presenting symptom. The prevalence rate of AUR in men with BPH varies.

In western countries, the incidence rate is lower, ranging from 20 to 40%. Where as in developing countries the rate is quiet higher, can reach even more than 50%.

The reason for the increased incidence of AUR in men with BPH in developing countries is unawareness of the symptom of BPH, fear of surgery, and cost factors. factors.

Chen JS and Chang CH et al from Taiwan conducted a retrospective study and found that post TURP complications

were more in patients who presented with acute urinary retention when compared to those who presented without retention.¹¹

There are few more studies which found that the complication rates are more for the patients with acute urinary retention. The purpose of this study is to find whether there is any difference in the Post TURP complications and outcome of surgery for BPH patients with and without acute urinary retention in our population, so that we can prevent and make ourselves as well as the patient to get ready to tackle these complications and create awareness among people.

TUR syndrome

Three (3.1%) patients in the AUR group developed TUR syndrome immediately at the end of the procedure. It was suspected clinically and serum electrolytes were done which showed hyponatremia and it was corrected with 3% saline , none of them had any neurological symptoms . No patients in AUR minus group developed this syndrome.

Haematuria

In our study 14.6 % of patients with AUR and 5.8% of patients without AUR had persistent haematuria after TURP. The p value is 0.108 which is not significant.

Jeng- Sheng- Chen et al study showed haematuria in 8.1% of patients with AUR and 7.4% of patients without AUR. Our study the incidence of hematuria is more in AUR group and Non-AUR group compared to above study.¹¹

Mebust et al study showed haematuria and blood transfusion in 6.4%¹², Rassweiler J et al showed 2%¹³, where as it was higher in a study done by Doll et al- 22%.

Blood transfusion

Blood transfusion rate was 6.3% and 1.9% for patients with and without AUR respectively with a p value of 0.0236 which is not significant.

Jeng- Sheng- Chen et al study showed blood transfusion rate of 3.2% and 1.5% for patients who presented with and without AUR. Compared to this study transfusion rates are almost same in Non-AUR group off our study but high in AUR group.¹¹

Post operative UTI

In our study 19 . 8% of patient with AUR and only 3 . 8% of patients without AUR had UTI as documented by urine culture. These patients were given a course of culture specific antibiotics. The occurrence of UTI is higher in patients with AUR with a p value of 0.008 which is highly significant. The reason for this increased occurrence of UTI may be due to prolonged catheterization and hospital stay in patients with AUR.

Jeng- Sheng- Chen et al study reported the UTI rate as 18.6% in AUR group and 15.6% in AUR minus group.¹¹ Mebust et al showed 3.9%.¹²

Sepsis

In our study 2 (2.1%) patients with AUR developed sepsis after TURP. No patient without AUR had sepsis. Difference was not statistically significant as evidenced by p value of 0.295 Patient was treated intensively with IV fluids and

higher antibiotics

Jeng- Sheng- Chen et al study reported sepsis in 1.4% only in patients with AUR group.¹¹ Mebust et al and Haupt et al showed urosepsis in 0.2% of patients after TURP.¹²

Recatheterisation

In our study 10.4% of patients with AUR developed urinary retention after catheter removal in TURP, which was quiet higher when compared to 1.9% of patients without AUR. This is statistically significant with a p value of 0.002.

Jeng- Sheng- Chen et al study showed recatheterisation rate in 13.8% and 0% for patients with and without AUR respectively. Mebust et al has 6.5%, Doll et al 3% Borboroguli et al 7.1% recatheterisation rate after TURP.¹⁴ The reason for increased rate of recatheterisation in patients with AUR may be due to hypoactive detrusor after chronic obstruction, inadequate resection due to increased gland size, or early cessation of procedure due to patient factor.

LUTS

15 (15.6%) patients in the AUR group developed irritative lower urinary tract symptoms like incontinence, increased frequency and urgency. In the AUR minus group only 5(9.6%) patients developed irritative LUTS. P value 0.228. These patients with LUTS were treated with anti-cholinergics. The difference between the two groups is not statistically significant as evidenced by p value.

Lower urinary tract stricture

In our study totally 5 patients developed lower urinary tract stricture 4(4.2%) in the AUR arm and 1(1.9%) in the non AUR arm. This was diagnosed 2 to 3 months after TURP, when the patient c/o thin stream and strain to void. We did AUG for these patients and diagnosed the stricture. We advised optical internal urethrotomy for all these patients. The reasons for the stricture formation may be due to instrumental injury, diathermy injury during TURP or due to prolonged catheterization. The difference in stricture rates between two groups were not statistically significant as evidenced by p-value.

Jeng- Sheng- Chen et al study showed 2.6% and 3.2% for patients with and without AUR.¹¹

Re surgery

Total of 10 patients needed Resurgery among AUR group and none in Non AUR group. 7 of them underwent resurgery in view of inadequate resection because of patient factor , poor Qmax and poor stream and 3 for Hemostasis and clot evacuation. The difference was not statistically significant with a p value of 0.06.

Mean length of hospital stay

It was 8 and 3.85 days for patients with and without AUR. This was statistically significant with p value of 0.000

CONCLUSIONS

- Our study was a retrospective observational study to compare the post TURP outcome and complication of patients with and without AUR.
- Our study shows that post TURP UTI, recatheterisation

rate and length of hospital stay were statistically significant in AUR group when compared to AUR minus group.

- There was no difference in post TURP complications like persistent haematuria, blood transfusion rate, sepsis, lower urinary tract stricture, resurgery, TUR syndrome between two groups.
- So, it is better to intervene earlier before the patients develop AUR in order to minimize the above-mentioned complications and to maximize the outcome.
- Our study gives an insight in educating patients with BPH to undergo early intervention.

REFERENCES

1. Reynard JM, Yang Q, Donovan JL, et al. The ICS- BPH Study: uroflowmetry, lower urinary tract symptoms and bladder outlet obstruction. *Br J Urol* 1998;82:619–23.
2. Botker-Rasmussen I, Bagi P, Balslev Jorgensen J. Is bladder outlet obstruction normal in elderly men without lower urinary tract symptoms? *NeurourolUrodyn*1999;18:545–52.
3. Hutchison A, Farmer R, Chapple C, et al. Characteristics of patients presenting with LUTS/BPH in six European countries. *Eur Urol* 2006;50:555–62
4. Briganti A, Capitanio U, Suardi N et al. Benign Prostatic Hyperplasia and Its Aetiologies. *European Urology Supplements* 2009; 8:865–871
5. McConnell, J. D., Barry M. J., Bruskewitz R. E. et al: Benign Prostatic Hyperplasia: Diagnosis and Treatment. *Clinical Practice Guideline*, No 8.
6. Tan et al., 2003b. Tan AH, Gilling PJ, Kennett KM, et al: A randomized trial comparing holmium laser enucleation of the prostate with TURP in large glands (40 to 200 grams). *J Urol* 2003; 170:1270-1274.
7. Westenberg A, Gilling P, Kennett K, et al: Holmium laser resection of the prostate versus transurethral resection of the prostate: Results of a randomized trial with 4-year minimum long-term follow-up. *J Urol* 2004; 172:616-619.
8. Costello et al., 1992. Costello AJ, Bowsher WG, Bolton DM, et al: Laser ablation of the prostate in patients with benign prostatic hypertrophy. *Br J Urol* 1992; 69:603-608.
9. Costello and Crowe, 1994. Costello AJ, Crowe MR: A single institution experience of reflecting laser fiber over 4 years. *J Urol* 1994; 152:229A.
10. Costello et al., 1994. Costello AJ, Shaffer BS, Crowe MR: Second generation delivery options for laser prostatic ablation. *Urology* 1994; 43:262-266
11. Jen-sheng chen et al Acute urinary retention increases the risk of complications after transurethral resection of the prostate: A population-based study. *BJU International* October 2012 110(11C)
12. 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 Feb;141(2):243-7.
13. Rassweiler J, Teber D, Kuntz R, Hofmann R. Complications of transurethral resection of the prostate (TURP)--incidence, management, and prevention. *Eur*

Urol. 2006 Nov;50(5):969-79; discussion 980. doi: 10.1016/j.eururo.2005.12.042.

14. Borboroglu PG, Kane CJ, Ward JF, Roberts JL, Sands JP. Immediate and postoperative complications of transurethral prostatectomy in the 1990s. J Urol. 1999 Oct;162(4):1307-10.

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