

Prospective Study of 500 Cases of TURP

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ABSTRACT

Introduction: Clinical benign prostatic hyperplasia (BPH) is one of the most common cause of lower urinary tract symptoms in ageing men. Gold standard for BPH now days, is transurethral resection of the prostate (TURP). Hence; the present study was planned to prospectively analyse 500 TURP cases.

Material and methods: 500 patients who underwent TURP after failed medical therapy for BPH or with absolute indication for TURP were analyzed. All patients underwent ultrasonography for post void residual urine and prostate size, Serum PSA, DRE and uroflowmetry. Urine routine and culture along with renal function test was done in all patients. Urodynamic study was done in patients suspected for neurogenic bladder. Data in relation to intraoperative parameters and postoperative follow-up were analysed.

Results: In the present study, data of a total of 500 patients was analysed. Fever, haematuria and clot retention was found to be present in 20, 25 and 18 patients respectively. Death occurred in 1 patient due to cardiac complication. Blood transfusion was required in 50 patients. Stricture and bladder neck contracture was seen in 16 and 9 patients respectively as a manifestation of late complication. Incontinence was found to be present in 1 patients.

Conclusion: TURP is one of the best minimally invasive treatment for BPH. Along with being cost-effective, it is also associated with significantly shorter hospital stay and minimum morbidity.

Keywords: Benign Prostatic Hyperplasia, Transurethral Resection of the Prostate

which was updated to a solid glass rod lens with fibroptic lightning by Hopkins.⁵ Hence; the present study was planned to prospectively analyse 500 TURP cases. Other common endoscopic modalities for BPH are HOLEP, Thulium and Bipolar TURP.

MATERIAL AND METHODS

This was a prospective study done at Mahatma Gandhi Hospital from jan 2014 to dec 2018 of 500 patients who underwent TURP after failed medical therapy for BPH or with absolute indication for TURP. All patients undergone ultrasonography for post void residual urine and prostate size, Serum PSA, DRE and uroflowmetry. Urine routine and culture along with renal function test was done in all patients. Urodynamic study was done in patients suspected for neurogenic bladder. Patients with BPH presented with obstructive or irritative symptoms. Obstructive symptoms as poor stream of micturition, hesitency, intermittency, sense of incomplete evacuation and post void dribbling of urine. Irritative symptoms as frequency urgency and nocturia.

Prostate size >30gm, S. PSA <4, uroflow suggestive of obstruction, sterile urine culture and DRE suggesting benign prostate were considered for TURP. Some gray zone prostate on ultrasonography (heterogeneous echo-texture)/S PSA >4/ suspicious DRE were first considered for trans rectal prostatic biopsy, if found benign was taken for TURP. Patients with urinary retention, b/l hydronephrosis on USG, fever, derranged RFT and UTI first optimised with per urethral catheterization and antibiotics if required and then taken up for surgery after optimization.

Surgery

Patients were admitted with pre-anaesthetic fitness and all preoperative investigations. Patients with prostate size >80gm and waiting for surgery because of comorbidities were given 5 alpha reductase (Dutasteride) 5 days before planned surgery to decrease intraoperative blood loss. Patient taken in lithotomy position with cystoscopy done in all patients. On cystoscopy prostate was found enlarged

INTRODUCTION

Clinical benign prostatic hyperplasia (BPH) is one of the most common causes of lower urinary tract symptoms in ageing men. Bladder outlet obstruction (BOO) is defined as the obstruction of urinary flow at the base of the urinary bladder, and benign prostate obstruction (BPO) remains one of the main causes of BOO in men.¹

The medical treatment of clinical BPH involves the use of α -blockers and 5- α -reductase inhibitors. When medical therapy fails, surgical intervention is often required. The current-day urologist may face a dilemma of choosing between the various techniques of transurethral procedures and instruments available for surgical treatment of the BPO.²⁻⁴

Gold standard for BPH now days, is transurethral resection of the prostate (TURP). The first transurethral resection was developed in United States during early 20th century. The original optical system was a small series of lenses,

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obstructing bladder neck, bladder found trabeculated and in some cases bladder diverticula was found.

TURP was done with monopolar system with cutting @ 120 W and coagulation @ 80 W. a non ionic irrigation solution Glycine is use in all patients for irrigation. Hemostasis secured. 22 Fr, 3 way urethral catheter placed and traction applied along with irrigation with Normal Saline.

Post-Operative Care

Irrigation was continued for 12-24 hrs. Patients was orally allowed for liquids in evening and solids next days of surgery. Traction was removed in morning next day of surgery. Patients was discharged on POD 2 with foley catheter in situ and stool softners. Foley catheter was removed on postoperative day 5.

RESULTS

In the present study, data of a total of 500 patients was analysed. Age of the patients ranged from 50 to 90 years. Mean post void residual urine was found to be 250 ml. Irritative symptoms were present in 100 patients while the obstructive symptoms were present in all the 500 patients. Operative time was found to be within range of 30 to 90 minutes, whereas irrigation was found to be within 3 L to 20 L. Blood loss was found to be 50 to 500 ml. Range of weight of prostate resected was 15 to 100 gm. As far as early complications are concerned, fever, haematuria and clot retention was found to be present in 20, 25 and 18 patients respectively. Death occurred in 1 patient due to cardiac complication. Blood transfusion was required in 50 patients. Stricture and bladder neck contracture was seen in 16 and 9 patients respectively as a manifestation of late complication. Incontinence was found to be present in 10 patients, 9 patients recovered in 1-2 months. 1 patient developed permanent incontinence.

Post op result were analysed on the basis of improvement in IPSS score, improvement in flow rate and improved Quality Of Life(QOL). IPSS imroved from 7-13 (average 10), flow rate improved from 7ml/min-19ml/min (average 13ml/min). QOL improved significantly after TURP in most of BPH patients.

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Parameter	Value
Age range (yrs)	50-90
Post void residual urine (ml)	250
Prosate size (range) (gms)	30-125
Irritative symptoms	100
Obstructive symptoms	500
Mean S PSA (ng/ml)	2.5

Table-1: Demographic and preoperative variables

Operative variables	Values
Operative time (minutes)	30-90
Irrigation (l)	3-20
Blood loss (ml)	50-500
Weight prostate resected (gm)	15-100

Table-2: Operative variables

Post Op variables	Value
Irrigation (l)	5-10
Catheter duration (days)	4-10
Decrease in hemoglobin (gm)	0.2-2
Hyponatremia	1

Table-3: Post- Operative variables

Early complications	Number of patients
Fever	20
Hematuria	25
Tur syndrome	1
DVT	0
Clot rention	18
Bladder injury intraoperatively	0
Mortality	1 (due to cardiac complications)
Late complications	
Stricture	16
Bladder neck contracture	9
Incontinence	1

Table-4: Complications

like stricture urethra. Erectile dysfunction was not a major problem in our series. Death noticed in two cases in post operative ward due to cardiogenic shock. The outcome of their study showed that TURP is an excellent minimally invasive procedure for the management of symptomatic BPH.⁶

Kang YJ et al assessed the efficacy of transurethral resection of the prostate (TURP) and the change in the International Prostate Symptoms Score (IPSS) storage sub-score after the procedure according to prostate size in patients with BPH. 186 patients were divided into two groups according to prostate size measuring using transrectal ultrasonography: In group 1, prostate size was less than 30 ml (51 patients), and in group 2, prostate size was greater than 30 ml (135 patients). All of the patients underwent TURP. We examined whether the degree of change in the IPSS, voiding symptoms, storage symptoms, and quality of life (QoL) differed before and after TURP and according to prostate size. After three months of TURP, the subjects in both groups showed significant

improvement in the IPSS, voiding symptoms, storage symptoms, QoL, and maximum flow rate ($p < 0.05$). The scores for the IPSS, voiding symptoms, storage symptoms, and QoL of group 1 and 2 after three months of TURP were 16.36, 14.25 ($p = 0.233$), 8.21, 8.24 ($p = 0.980$), 8.11, 5.16 ($p = 0.014$), 2.89, and 2.10 ($p = 0.030$), respectively. From the results, they concluded that TURP is an effective treatment for patients with BPH, regardless of prostate size.⁷

Blood loss was found to be 50 to 500 ml. Range of weight of prostate resected was 15 to 100 gm. As far as early complications are concerned, fever, haematuria and clot retention was found to be present in 20, 25 and 18 patients respectively. Death occurred in 1 patient due to cardiac complication. Blood transfusion was required in 50 patients. Stricture and bladder neck contracture was seen in 16 and 9 patients respectively as a manifestation of late complication. Incontinence was found to be present in 1 patients. Many attempts have been made to search surgical alternatives or advance new resectoscope and electrosurgical devices such as holmium laser enucleation of the prostate, photoselective vaporization of the prostate and thulium laser resection of the prostate, all of which are considered extremely promising technologies.⁸⁻¹¹ Schatzl G et al compared the efficacy or transurethral resection of the prostate (TURP) versus four less invasive treatment options during a 2-year follow-up. 95 elderly men with lower urinary tract symptoms due to benign prostatic hyperplasia (BPH) were assigned prospectively to the following five treatment arms; transurethral resection of the prostate (TURP; $n = 28$), transurethral electrovaporization (TUVP; $n = 17$), visual laser ablation of the prostate (VLAP; $n = 17$), transrectal high intensity focused ultrasound (HIFU; $n = 20$) and transurethral needle ablation (TUNA; $n = 15$). Preoperative workup included the International Prostate Symptom Score (IPSS), uroflowmetry, post-void residual volume (PVR), prostate volume determined by transrectal ultrasonography and a multichannel pressure flow study. Postoperative follow-up at 6, 12, 18 and 24 months included assessment of IPSS, PVR and uroflowmetry. At study entry, patients assigned to one of the five treatment arms were comparable with respect to age, peak flow rate ($Q(\max)$), IPSS, prostate size and the degree of bladder outflow obstruction. During study, 1 patient in the TURP group (4%) required a secondary TURP, as compared to 23.5% ($n = 4$) after TUVP, 26.7% ($n = 4$) after VLAP, 15% ($n = 4$) after HIFU and 20% ($n = 3$) following TUNA. In patients not subjected to a secondary procedure, the IPSS decreased a mean 13.9 after TURP, as compared to 12.7 after TUVP, 12.9 after VLAP, 7.0 after HIFU, and 9.8 after TUNA. $Q(\max)$ increased 11.5 ml/s (mean) after TURP, as compared to 11.1 ml/s after TUVP, 5.6 ml/s after VLAP, 2.5 ml/s after HIFU and 2.3 ml/s after TUNA. In up to a quarter of the patients, a secondary TURP is performed within the first 2 years after 'less invasive' procedures.¹²

CONCLUSION

From the above results, the authors concluded that TURP is one of the best minimally invasive treatment for BPH.

Along with being cost-effective, it is also associated with significantly shorter hospital stay. TURP also leads to improvement in IPSS score, flow rate and QOL.

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