



ORIGINAL RESEARCH PAPER

Urology

A COMPARATIVE STUDY OF UROFLOWMETRY AND IPSS IN PRE AND POST TURP

KEY WORDS:

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ABSTRACT

Benign prostatic hyperplasia (BPH) is one of the most common urological disorders affecting aging males and is a major cause of lower urinary tract symptoms (LUTS). Trans urethral resection of prostate (TURP) remains the gold standard surgical treatment for bladder outlet obstruction secondary to benign enlargement of prostate (BEP). Objective evaluation using uroflowmetry and subjective assessment using the international prostate symptom score (IPSS) are widely employed to determine disease severity and Post operative outcomes. This study evaluated changes in uroflowmetric parameters and IPSS before and after TURP among patients with symptomatic BEP. The findings of the study demonstrated significant improvement in objective parameters such as maximum urinary flow rate (Q max) and post void residual urine (PVR), along with substantial reduction in IPSS scores following TURP. These results emphasize the effectiveness of TURP in relieving bladder outlet obstruction and improving quality of life in patients with BPH.

AIMS AND OBJECTIVES OF THE STUDY.

Aim

To compare various uroflowmetric parameters and IPSS in patients with bpe before and after TURP.

Objectives

1. to assess uroflowmetric parameters such as Q max, pvr, and uroflowmetric findings.
 2. To assess IPSS before and after TURP.
- Study population

All the male patient with bpe admitted in the inpatient ward satisfying the inclusion criteria are included in the study.

INCLISION CRITERIA

1. Age between 50-80 years
2. symptomatic bph patients planned for turp.

EXCLUSION CRITERIA

1. Patients with carcinoma of prostate
2. urethral stricture disease
3. neurogenic bladder.
4. Acute urinary retention
5. previous prostate surgery.

PROCEDURE

The patients who satisfied the inclusion criteria were included in the study after getting informed consent. A thorough physical examination and digital rectal examination was done and necessary investigations like usg kub, x ray kub, sr psa, uroflowmetry, urine culture were done pre operatively.

Post operatively patients were followed up at 4th week with the following parameters such as physical examination, uroflowmetry, usg kub, and IPSS score.

OBSERVATIONS AND RESULTS

Age distribution

Most patients belonged to elderly age group consistent with the epidemiology of bpe.

Pre operative findings

Patient had

- 1) reduced q max in average ml/sec 6.5 ± or - 2.8 ml/sec.
- 2) increased pvr 190 ± or - 48 ml.
- 3) moderate IPSS score in 76% and severe 24%.

Postoperative improvement

Following turp

Improvement in qmax 20.25 ± or - 1.9 ml/sec.

Reduction in pvr to 64.28 ± or - 2.8 ml.

Grading of IPSS:

Score	Grading of severity
0-7	Mild
8-19	Moderate
20-35	Severe

International Prostate Symptom Score (I-PSS)

Patient Name: _____		Date of birth: _____			Date completed: _____		
In the past month:	Not at All	Less than 1 to 5 Times	Less than Half the Time	Almost Half the Time	More than Half the Time	Almost Always	Your score
1. Incomplete Emptying How often have you had the sensation of not emptying your bladder?	0	1	2	3	4	5	
2. Frequency How often have you had to urinate less than every two hours?	0	1	2	3	4	5	
3. Intermittency How often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5	
4. Urgency How often have you found it difficult to postpone urination?	0	1	2	3	4	5	
5. Weak Stream How often have you had a weak urinary stream?	0	1	2	3	4	5	
6. Straining How often have you had to strain to start urination?	0	1	2	3	4	5	
	None	1 Time	2 Times	3 Times	4 Times	5 Times	
7. Nocturia How many times did you typically get up at night to urinate?	0	1	2	3	4	5	
Total I-PSS Score							

Score: 1-7: Mild 8-19: Moderate 20-35: Severe

Quality of Life Due to Urinary Symptoms	Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?	0	1	2	3	4	5	6

Mean Q max before the surgery and at the end of follow up period

Qmax	Mean ± Standard deviation	P value
Pre - operative period	6.5 ± 2.86	<0.0001
At the end of study period	20.25 ± 1.96	

Among the study population, there was significant difference between the means of Qmax observed during the pre - operative period (6.5 ml/sec) and at the end of follow up period (20.25 ml/sec) with a P value of <0.0001.

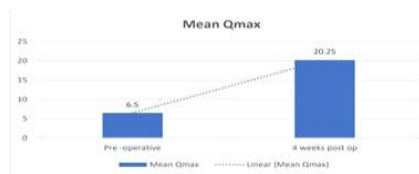
Mean PVR before the surgery and at the end of follow up period

PVR	Mean ± Standard deviation	P value
Pre - operative period	192 ± 48.89	<0.0001
At the end of study period	64.42 ± 4.86	

Among the study population, there was significant difference between the means of PVR observed during the pre - operative period (192 ml) and at the end of follow up period (64.42 ml) with a P value of <0.0001.

Table 6: Mean voiding parameters during the follow up period

Time period	Qmax	PVR
Pre operative period	6.5±2.86	192 ± 48.89
4 weeks post operatively	20.25 ± 1.96	35.28 ± 10.42



Graph 3: Mean Qmax during the study period

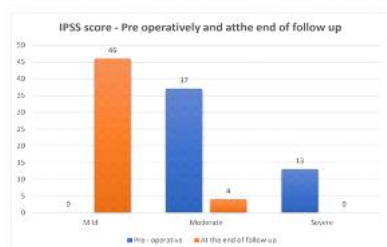


Graph 4: Mean PVR during the study period

Association between IPSS score before the surgery and after the follow up period

Severity	IPSS score		P Value
	Pre - operative	At the end of follow up	
Mild	0	46	Chi square value: 85.56 Degree of freedom 2 P value: <0.0000001
Moderate	37	4	
Severe	13	0	
Total	50	50	

There was significant difference between the IPSS score observed preoperatively and at the end of follow up with P value of <0.0000001.



IPSS score before the surgery and at the end of follow up

DISCUSSION

This study highlights the utility of combining uroflowmetry and ipss in evaluating outcomes after TURP.

Uroflowmetry provides objective evidence of relief of bladder outlet obstruction. Increase in q max and reduction in pvr correlate with improved urinary dynamics. Ipss quantifies symptom burden and quality of life from patients perspective. Reduction in symptom scores after turp reflects meaningful clinical improvement. This study supports routine use of uroflowmetry for objective assessment. Ipss for symptom evaluation. Combined assessment for postoperative follow up.

CONCLUSION

Benign prostatic hyperplasia is a major cause of lower urinary tract symptoms in elderly men. Accurate evaluation requires both objective and subjective assessment. This study demonstrates significant improvement in Post operative uroflowmetric parameters and IPSS following turp. qmax increased, pvr reduced, and symptom severity improved markedly after surgery. This study confirms that Turp remains an effective and reliable surgical treatment for bladder outlet obstruction secondary to benign enlargement of prostate. Combined use of uroflowmetry and ipss provides comprehensive evaluation of treatment outcomes.

REFERENCES

1. Josef Marx F, Karenberg A (2009) History of the term prostate. Prostate 69: 208-213.
2. Guler C, Tuzel E, Dogantekin E, Kiziltepe G (2008) Does sildenafil affect uroflowmetry values in men with lower urinary tract symptoms suggestive of benign prostatic enlargement? Urol Int 80: 181-185.
3. Djavan B, Margreiter M, Dianat SS (2011) An algorithm for medical management in male lower urinary tract symptoms. Curr Opin Urol 21: 5-12.
4. Von GB (1957) Analysis of micturition; a new method of recording the voiding of the bladder. Acta Chir Scand 112: 326-340.
5. Neveus T, von-Gontard A, Hoebeke P, Hjalmas K, Bauer S, et al. (2006) The standardization of terminology of lower urinary tract
6. Berry SJ, Coffey DS, Walsh PC, Ewing LL (1984) The development of Human benign prostatic hypertrophy with age. J Urol 132: 474-449.
7. Hakenberg OW, Pinnock CB, Marshall VR (1997) Does evaluation With the International prostate symptom score predict the outcome of Transurethral resection of the prostate? J Urol 158: 94-99.
8. Songra MS, Rajiv Kumar (2004) A study on the correlation between Clinical outcome and residual prostatic weight ratio after transurethral Resection of the prostate for benign prostatic hyperplasia. IJU 20: 42-46.
9. Nielsen KT, Christensen MM, Madsen PO, Bruskewitz RC (1989) Symptom analysis and uroflowmetry 7 years after transurethral Resection of the prostate. J Urol 142: 1251-1253.
10. Abrams PH, Farrar DJ, Turner Warwick RT (1979) The results of Prostatectomy: a symptomatic and urodynamic analysis of 152 Patients. J Urol 121: 640-642.