



ASSOCIATION OF INTERNATIONAL PROSTATE SYMPTOM SCORE (IPSS SCORE) WITH TRANSURETHRAL PROSTATECTOMY (TURP) OUTCOME IN PATIENTS OF BENIGN PROSTATIC HYPERPLASIA.

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ABSTRACT **INTRODUCTION:** The enlargement of the prostate gland having proliferation in the connective tissue and/ or glandular epithelium is known as Benign Prostatic Hyperplasia or BPH. The patient has either obstructive or irritative voiding symptoms or both. Not much studies have been carried out regarding the correlation between the outcome of IPSS score with TURP and its outcome in the patients of BPH. 5 As the international prostate symptoms score acts as a subjective scoring system for reading and understanding the symptoms it is going to help us for accessing the methods of subjective improvement in the symptoms of BPH along with developing the quality of life in the patients who are undergoing TURP. 6 **AIMS AND OBJECTIVES:** The aim of the study is to find the association of IPSS score to predict the outcome of TURP surgery in patients of BPH and thereby study predictive correlation between IPSS score before and after TURP surgery. **MATERIALS AND METHODS:** Study is conducted on 96 patients of benign prostatic hyperplasia with IPSS score >8 requiring surgery, attending the surgical opd and emergency of TMMC&RC, Moradabad. Relevant examination was done and IPSS score was noted for the patients preoperatively and postoperatively. The patients then are classified in to groups of mild, moderate and severe based on the IPSS score at presentation. Following the patient underwent TURP surgery and post-operatively the IPSS score was re-evaluated and the changes in the score and quality of life was noted at 12 weeks of surgery. **Conclusion:** The international prostate symptoms score is a very significant tool for grading as well as evaluating the outcome of Trans urethral prostatectomy and its outcome in the patients.

KEYWORDS :

Introduction:

The enlargement of the prostate gland having some and regulated proliferation in the connective tissue, glandular epithelium and the smooth muscle is known as Benign Prostatic Hyperplasia or BPH . Benign prostatic hyperplasia is also considered to be a most general reason for LUTS in males as it can easily lead to growing lower urinary tract symptoms. However the relation between benign prostatic hyperplasia and these lower urinary tract symptoms are still complex because all men suffering from BPH do not develop LUTS or vice versa. Men having benign prostatic hyperplasia might present with the Bladder Outlet Obstruction / BOO or some symptoms of Lower Urinary Tract and might also have a combination of both these symptoms.¹ The measurements of the severity of these lower urinary tract symptoms might be carried out with a reliable process through some scoring systems having numerous validated questionnaires. Sometimes physicians refer to carrying out urethroscopy since it is also another standard procedure of evaluating the endoscopic variations in the lower tract of urinary system. Depending on the size, reason, severity of the prostate obstruction, the prostatic occlusion in the urethra, along with an estimation of the prostate size; some useful and validated information is being provided to the patient from the side of the physician. Sometimes endoscopy is also referred for carrying out only before the surgery or the invasive therapy and it mainly depends on the shape and size of the prostate. ⁴ The question is if such scoring systems can only be used for measuring the severity of the symptoms or can be used as diagnostic tests which are required for determining if the symptoms are because of benign prostatic hyperplasia. ² With the help of the International Prostate Symptoms Score the symptoms of Benign Prostatic Hyperplasia as well as the quality of life can be studied. Not much studies have been carried out regarding the correlation between the outcome of IPSS score with TURP and its outcome in the patients of BPH. ⁵ The aim of this benign prostatic hyperplasia management is for delivering the patients from the symptoms of this disease besides improving their quality of life. As the international prostate symptoms score acts as a subjective scoring system for reading and understanding the symptoms it is going to help us for accessing the methods of subjective improvement in the symptoms of BPH along with developing the quality of life in the patients who are undergoing TURP. ⁶

MATERIALS AND METHODS:

This is a prospective interventional study done at The Department of General Surgery, Teerthankar Mahaveer Medical College & Research

Centre on 96 patients who are admitted in the surgery department from November 2019 to October 2021, with a diagnosis of benign prostatic hyperplasia and indication for TURP surgery.

INCLUSION CRITERIA

1. All consecutive patients above 50 years of age, admitted in the ward with diagnosis of benign prostatic hyperplasia and having IPSS score >7.³

EXCLUSION CRITERIA

1. Patient with large prostate adenoma.⁷⁻⁹
2. Patient with bladder diverticuli.
3. Patient with prostate carcinoma or Serum PSA levels >4ng/ml.
4. Patient with vesical stone.
5. Patients with neurological co-morbidities.

METHODOLOGY:

Informed consent was taken from all the subjects. As per proforma, detailed case history was recorded and physical examination was done. Patients were selected based on Inclusion and exclusion criteria. The patient symptoms were scored and severity was assessed. Patient underwent TURP surgery. The patient symptoms were scored after 6 weeks of TURP surgery. The improvement of symptoms before and after surgery was assessed and association of IPSS score was studied with TURP outcome.

OBSERVATIONS AND RESULTS

Mean age and SD of 96 patients was 64.97 ± 13.02 years

Preoperatively:

Mean IPSS score and SD was 23.61 ± 7.79 (Range (Min-Max) 7-35)
 Means and SD Quality of Life (QOL) was 4.56 1.45
 Means and SD maximum flow rate was 7.65 1.72 ml/sec
 Means and SD residual urine was 90.86 35.17 ml
 Means and SD prostate size was 52.53 17.72 gms
 Median quality of life score was 5 (Rang 1-6) with 76 % having a score of 4 or more.

Postoperatively:

At the end of twelve weeks, only IPSS score mean and SD was 15.71 5.04 years (Range (Min-Max) 5-23)
 Means and SD Quality of Life (QOL) was 1.60 0.94

Median quality of life score was 1 (Rang 0-4) with 90% having a score of 3 or less.

Level of Significance

There was a significant mean improvement in IPSS score of and SD was 7.9 2.75 years (p<.05)

There was a significant mean improvement in maximum flow rate of 5.68 and SD was 0.72 ml/sec (p<.05)

The median quality of life improvement was 4with 85% having an improvement of 2 or more points.

Table No. 1 Distribution of Cases according to IPSS score in the patients

S. No.	IPSS Score	Pre operative (%)	Post operative (%)
1.	MILD	9 (9.36%)	9 (9.36%)
2.	MODERATE	17 (17.70%)	42 (43.75%)
3.	SEVERE	23 (23.96%)	45 (46.86%)
4.	VERY SEVERE	47 (48.96%)	0 (0.0%)
	Total	96 (100.0%)	96 (100.0%)

The above mentioned table deals with the data of cases according to IPSS score in Pre operative and Post operative . Majority (48.96%) was Pre operative cases in the very severe patients and Post operative cases majority (46.86 %) in the severe patients.

Table No. 2 Pre OP

	Minimum	Maximum	Mean	Std. Deviation
AGE	39.0	87.0	64.115	12.0349
IPSS SCORE	7.0	35.0	23.615	7.7858
UROFLOWMETRY MLS	3.8	9.6	7.657	1.7238
RESIDUALURINE ML	42.0	170.0	90.865	35.1791
PROSTATESIZEGM	23.0	88.7	52.536	17.7260
EMPTYING	1.0	5.0	2.677	1.0711
FREQUENCY	1.0	5.0	2.865	1.4841
INTERMITTENCY	0.0	5.0	2.479	1.5147
URGENCY	0.0	5.0	2.115	1.5209
WEAKSTREAM	0.0	5.0	2.490	1.4509
STRAINING	0.0	5.0	3.000	1.4216
NOCTURIA	1.0	5.0	3.427	1.2290
QOL	1.0	6.0	4.563	1.4568

The Mean and SD of age, IPSS score, Uroflowmetry, Residual Urine, Prostate Size, Emptying, Frequency, Intermittency, Urgency, Weak Stream, Straining, Nocturia and QOL Was Found 64.11 ±12.03, 23.61 7.785, 7.65 1.72, 90.86 35.17, 52.5317.72, 2.67 1.07, 2.86 1.48, 2.47 1.51, 2.11 1.52, 2.49 1.45, 3.0 1.42, 3.42 1.22 and 4.56 1.45 respectively.

Table No. 3 Post OP

	Minimum	Maximum	Mean	Std. Deviation
AGE	39.0	87.0	64.11	12.03
IPSS SCORE AT 12 WEEKS	5.0	23.0	15.71	5.04
EMPTYING	0.0	2.0	.95	.67
FREQUENCY	0.0	3.0	1.38	.98
INTERMITTENCY	0.0	3.0	.95	.81
WEAKSTREAM	0.0	3.0	.77	.90
URGENCY	0.0	2.0	.94	.73
STRAINING	0.0	3.0	1.33	.79
NOCTURIA	0.0	2.0	1.05	.67
QOL	0.0	4.0	1.60	.94

The Mean and SD of age, IPSS score at 6 weeks, Emptying,

Frequency, Intermittency, Weak Stream, Urgency, Straining, Nocturia and QOL Was Found 64.11 ±12.03, 15.71 5.04, 0.95 0.67, 1.38 0.98, 0.950.81, 0.77 0.90, 0.94 0.73 , 1.33 0.79, 1.05 0.67 and 1.60 0.94 respectively.

There was significance difference between preoperative and postoperative (p value<0.05)

Table No. 4 Correlation between Pre & Post operative cases

	Correlation	P value
Pre OP IPSS Score & Post OP IPSS Score	0.935	0.001
Pre OP QOL & Post OP QOL	-0.12	0.09
Pre OP IPSS Score & Pre OP QOL	0.719	0.002
Post OP IPSS Score & Post OP QOL	0.126	0.23
Pre OP IPSS Score & Improvement in IPSS	0.785	0.01

There was a significant difference between preoperative IPSS score and postoperative IPSS score and strong correlation was found (r=0.935, p value<0.05).

There was no significant difference between preoperative and postoperative QOL and negative correlation was found (r=- 0.12, p value>0.05).

There was a significant difference between preoperative IPSS score and preoperative QOL and strong correlation was found (r=0.719, p value<0.05).

There was no significant difference between postoperative IPSS score and postoperative QOL and weak correlation was found (r=0.126, p value>0.05).

There was a significant difference between preoperative IPSS score and improvement in IPSS score and strong correlation was found (r=0.785, p value<0.05).

DISCUSSION:

We have carried out the research at Teerthanker Mahaveer Medical College and Research Center Moradabad. 96 patients were being considered for this survey who have presented with transurethral prostatectomy outcome of benign prostatic hyperplasia. Both the records of pre operative period and post operative period have been taken and the level of significance has been set at the P value of < 0.05. The analysis of the results have been carried out by using the SPSS 23 software because it is very efficient and for the diagrammatic representation bar diagrams have been chosen.

The severity of the patients using the IPSS score has shown that it was divided into four parts namely mild, moderate, severe and very severe and from those four parts most of the cases belong from the very severe group at pre operative times which accounted for 48.96% and at the post operative time period the cases were mostly observed in the severe group that accounted for 46.8 %.

Keeping in accordance with our results the researchers Tai et al., Have also noticed that before the operation, the majority of the cases in their study had been represented to belong to the very severe group which accounted for 43.8 % and it was followed by the severe group which had 31.6 %.¹⁰

Table number 2 shows all the records of the pre operative cases that brings in front that the highest mean value was noticed in residual urine which was 90.865, it was followed by the mean value of age which was 64.11 and then came the prostate size which was 52.536. The mean values of some of the other categories like that of straining, nocturia, QOL, weak stream , urgency and intermittency were 3, 3.427, 4.563, 2.49 and 2.479 respectively.

On the other hand, table number 15 represents various factors of the post operative period. Over here the highest mean value was noticed in the category of age which accounted for 64 point 11% which was followed by the IPSS score at 12 weeks and accounted for 15.71. The mean values of some of the other categories like that of straining, nocturia, QOL, weak stream , urgency and intermittency were 1.33, 1.05, 0.94, 0.77, 0.94 and 0.95 respectively.

Huang et al., carried out a similar study for identifying the differences after the operation and noticed that the IPSS score was 22.9 and the quality of life score was 4.8 and around 57.2 % of the score was being contributed through the obstructive symptoms. After following up for continuous 3 months the mean value of the IPSS score got reduced to 7.5 while the score of quality of life got improved to 1.8. Both these changes were significant statistical and even correlated along with the severity of the preoperative symptoms.¹³

After this the correlation between the pre and post operative cases was being carried out which showed that a significant correlation was observed between the IPSS score of pre operative and post operative categories as the P value was 0.001. Choi et al., similarly found out that the average change in their IPSS score was around 14.9% and it was of statistical significance for them too.¹¹

However, no such significant difference was being observed between the pre-operative and post-operative values of QOL as the P value was identified as 0.09 that is > 0.05 . Even similarly there was no such significant difference between the pre-operative and post-operative IPSS score as the p-value was identified to be 0.23. Tsukamoto et al., similarly observed that no such significant differences in the value of quality of life score before and after their 3 months check up was being observed and the p-value was 0.08.¹²

Contrastingly a significant difference between the pre operative IPSS score and the pre operative QOL was being observed along with a strong correlation as the P value was 0.002 that is < 0.05 .

Lastly, a strong correlation was also observed between the pre operative IPSS score to that with the improvement in the IPSS score as the P value was 0.01 which is < 0.05 .

CONCLUSION

Maximum of the patients who were presented with the severe symptoms are usually associated with a decreased level of quality of life score. But from the results it is clear that there was a noticeable improvement in both the quality of life score as well as IPSS score after TURP surgery. It can also be identified from the results that the quality of life also gets increased after the operation as before the operation the score was very low as score 6 which got improved to score 2 for majority of them after the operation was being carried out. A strong correlation was being observed between the pre-operative IPSS score and the pre-operative QOL score. Additionally, a strong correlation was also observed between the pre-operative IPSS score to that with the improvement in the IPSS score. Thus, this study is able to determine the correlations between the IPSS score along with the clinical parameters like that of residue on urine and Uroflowmetry.

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