



ORIGINAL RESEARCH PAPER

Urology

PREDICTIVE FACTORS FOR IMPROVEMENT OF INTERNATIONAL PROSTATIC SYMPTOM SCORE FOR PATIENTS FOLLOWING TRANSURETHRAL RESECTION OF PROSTATE

KEY WORDS: Lower urinary tract symptoms, Benign prostatic hyperplasia, Transurethral resection of prostate, International prostatic symptom score.

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ABSTRACT

Introduction: Prostate is one of the major accessory sex gland of male reproductive system. Benign prostatic hyperplasia (BPH) is one of the most common problems of aging males all over the world. Benign prostatic hyperplasia produces variety of lower urinary tract symptoms (LUTS) which can lead to simple disturbances in work to severe restriction of day today activities leading to poor quality of life. International prostatic symptom score (IPSS) is widely used as a tool to quantify symptoms related to benign prostatic enlargement. IPSS is the available best tool to grade the symptom severity, assessment of responsiveness to therapy and used to detect the symptom progression in patients with BPH.

Materials and Methods: Single institute study of predictive factors for improvement of IPSS score following bipolar TURP over a period of 2 years is done. All patients undergoing TURP preoperative factors like Age, Size of the gland, History of Acute urinary symptom episode, Predominantly obstructive symptoms, Failed medical therapy, Presence of significant post void residue, presence of Median lobe, Resection time were considered and their pre and post operative IPSS score is considered.

Results : 80 patients were included in the study. The above mentioned factors were studied and their pre and post operative IPSS score is compared showing significant improvement in IPSS score when gland size, predominantly obstructive symptoms, episode of AUR, failed medical treatment and presence of median lobe are considered.

Conclusion : IPSS can be used to assess the symptomatic response to therapy. The factors like gland size, predominantly obstructive symptoms, episode of AUR, failed medical treatment and presence of median lobe can predict the improvement in IPSS following TURP in patients with BPH.

INTRODUCTION :

Prostate is one of the major accessory sex gland of male reproductive system. Benign prostatic hyperplasia (BPH) is one of the most common problems of aging males all over the world¹. Benign prostatic hyperplasia produces variety of lower urinary tract symptoms (LUTS) which can lead to simple disturbances in work to severe restriction of day today activities leading to poor quality of life. The development of BPH starts as early as 40 years of age. BPH prevalence is greater than 50% by the age of 60 years and by the age of 85years BPH prevalence is as high as 90%². Enlargement produce wide variety of symptoms which are known as lower urinary tract symptoms (LUTS) and they can classified as obstructive and irritative. Obstructive – hesitancy, narrow stream, intermittency, post void dribbling, decreased force of urination, straining, Irritative – Nocturia, Frequency, Dysuria³.

IPSS is the available best tool to grade the symptom severity, assessment of responsiveness to therapy and used to detect the symptom progression in patients with BPH who are managed with conservative management⁴. Every question have zero to five points when all added together gives a score between zeros to thirty five. Point 0 stands for not at all patient experienced the symptom and 5 for almost always patient having the symptoms. Based on total IPSS patients can be classified into having mild, moderate or severe symptoms. 0-7 - Mild symptoms , 8-19 - Moderate symptoms , 20-35 - Severe symptoms.

We compared preoperative and postoperative IPSS score of the patients who underwent bipolar TURP and factors which can predict the improvement in IPSS score following TURP.

Materials and methods :

After institutional ethical committee approval a retrospective

observational study is done in patients who underwent bipolar TURP. The preoperative factors considered are

1. Age
2. Size of the gland
3. History of Acute urinary symptom episode
4. Predominantly obstructive symptoms
5. Failed medical therapy
6. Presence of significant post void residue
7. presence of Median lobe
8. Resection time.

The IPSS scores are compared preoperative and postoperatively. Results were studied and statistically analysed with paired t test. p value <0.05 is considered significant.

Results :

80 patients were included in the study

Age : Out of 80 patients included in the study 50 patients were between 60-80 years of age

Table no 1 : age of the patients

Age (yrs)	Number
40-60	20
60-80	50
>80	10

Gland size : in 40 patients gland size is in between 60-90grams

Table no 2 : gland size

Gland size(gms)	Number of patients
30-60	25
60-90	40
>90	15

Table 3 : other factors

Symptom	Present	Absent
Episode of AUR	30	50
Failed medical treatment	20	60
Significant PVR	20	60
Median lobe	50	30
Predominantly obstructive symptom	70	10

Table 4: resection time

Resection time (mins)	Number of patients
<40	20
40-90	40
>90	20

When the preoperative and postoperative results are compared the results are

Table no 5: comparison of IPSS scores

variable	Preop IPSS score	postop IPSS score	p value
predominantly obstructive	21.4305	8.3925	0.009
episode of AUR	20.613	8.1	0.027
significant PVR	21.0085	8.608	0.069
failed medical treatment	21.0085	7.975	0.02
presence of median lobe	20.506	8.206	0.003

Age

Table no . 6

Age(yrs)	Preop IPSS	Postop IPSS	P value
40-60	20.64	7.48	0.07
60-80	21.66	7.34	0.09
>80	20.9	8.6	0.07

Gland size

Table no. 7

Gland size(gms)	Preop IPSS	Postop IPSS	P value
30-60	20.64	7.48	0.003
60-90	21.8	7.70	0.012
>90	21.26	7.6	0.04

Resection time

Table no. 8

Resection time (mins)	Preop IPSS	Postop IPSS	P value
<40	20.5	7.45	0.102
40-90	21.625	7.97	0.90
>90	21.5	7.15	0.84

P value is significant in gland size, predominantly obstructive symptoms, episode of AUR, failed medical treatment and presence of median lobe

DISCUSSION:

BPH is a common problem that affects aging men. Treatment of this condition includes medical and surgical approaches. Despite availability of medical treatment, about twenty percent of patients with symptomatic BPH require surgical intervention⁵. Even with new advances in minimally invasive techniques, TURP remains the standard surgical therapy. Large amount of data currently available allows adequate assessment of the efficacy of TURP compared with these new minimally invasive techniques.

IPSS questionnaire is recommended by the American Urological Association during the work up of a patient with LUTS. Apart from helping the clinician in assessing the severity of the symptoms of a patient, it also acts as a guide in selecting the appropriate mode of treatment which can vary from watchful waiting to surgery.

In our study

- mean age of the patients were 66.3 yrs.
- Mean gland size is 69.16 gms
- Predominantly obstructive symptoms present in 87% patients
- Episode of AUR present in 87%
- Failed medical treatment and significant postvoid residue present in 75%
- Average resection time is 64.75mins
- Median lobe is present in 62.5%

Average pre operative IPSS score - 21.31

Average post operative IPSS score is 7.63

Significant p value is noted in factors gland size, predominantly obstructive symptoms, episode of AUR, failed medical treatment and presence of median lobe.

p value is not significant in factors like resection time, significant postvoid residue and age.

Chang-Jun et al⁶ studied in 102 patients and noted improvement in IPSS score with factors –

- Age – not significant (p value -0.864)
- Operative time – significant (p value – 0.45)
- Resected tissue – significant (p value – 0.5)

Riccardo Autorino et al⁷ studied in 70 patients and follow up results shown up to 4yrs postoperatively after TURP.

Improvement in IPSS seen when considered factors are prostatic volume, significant postvoid residue with insignificant p value.

Dirk P. J. Michielsen et al⁸ studied in 120 patients with follow up for 18 months noted that significant improvement in IPSS seen when factors like age and resected tissue are considered with insignificant (p value – 0.536, 0.872) respectively.

CONCLUSION:

The present study shows that Pre – operative factors like

- Gland size
- Predominantly obstructive symptoms
- Presence of episode of Acute urinary retention
- History of failed medical therapy
- Presence of median lobe

are predictive factors to show a significant improvement in IPSS score postoperatively in patients undergoing TURP.

This study contributes to the evidence that IPSS score can be used postoperatively to know the symptomatic improvement following trans-urethral resection of prostate when compared with preoperative IPSS. This study also contributes to the evidence that improvement in IPSS can be predicted when the above factors are considered preoperatively.

Larger number of patients and a longer follow up period are necessary to reinforce the present findings.

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