

## Study of sonological correlation with IPSS score in benign prostatic hyperplasia patients

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### Abstract

Benign prostatic hyperplasia (BPH) is one of the most common diseases of the aging men with both some lower urinary tract symptoms. We aimed to study the IPSS correlation with sonological grading, to study the quality of life of patients with prostatomegaly and to study the IPSS correlation with Residual Volume (sonologically). Age, IPSS, Quality of life, prostate size, and Post void residual volume were assessed. Symptom score were correlated with the sonological grading according to the prostate size and residual volume. We studied 102 men, above 45 years of age. 47.05% patients had an IPSS score in the moderate range 8-19. Majority (58.8%) of the patients were treated conservatively, with moderate symptom score and grade 2 prostatomegaly (31-50 cc).

**Keywords:** Benign prostatic hyperplasia, International Prostatic Symptom Score, Prostatomegaly, Prostate volume.

### Introduction

Benign prostatic hyperplasia (BPH) is one of the most common diseases of the aging men. It is associated with lower urinary tract symptoms (LUTS) that affect individual quality of life and cause significant economic burden to the society.<sup>(1)</sup> The periodic update on the diagnosis, prognosis, medical treatment and medical invasive therapies are crucial<sup>(1)</sup> Benign Prostatic Hyperplasia (BHP) is a disease suffered almost universally by aging men. With age the prostate gland either atrophies or hypertrophies producing various types of bladder outlet symptoms in a significant number of cases.<sup>(1-5)</sup>

### Aims and Objectives

- To study the IPSS correlation with sonological grading.
- To study the quality of life of patients with prostatomegaly.
- To study the IPSS correlation with Residual Volume (sonologically).

### Materials and Methods

**Source of data:** Between October 2012 to June 2014 we studied 102 men, between the age group of above 45 years, who were attending the outpatient department of Surgery at Lata Mangeshkar Hospital, and attached to N.K.P. Salve Medical College, Nagpur with symptoms likely suggestive of prostatomegaly.

The research study was done according to the ethical principles laid down by the Helsinki declaration and permission from the hospital ethics committee was taken.

**Method of Collection:** Those who willing to participate in the study and had no obvious reasons to

be excluded underwent a complete history taking and physical examination.

The men's symptoms were assessed by International Prostatic Symptom Score (IPSS) /American urological association (AUA) System which assesses the occurrence of seven symptoms characteristics of benign prostatic hyperplasia. The total score reflects the overall severity of the patient's condition (1-7, mild; 8-19, moderate; 20-35, severe). Enlarged prostate was confirmed on trans-abdominal ultra-sonography. This determined the prostatic volume, post void residual urine volume.

### Inclusion Criteria

All male patients aged above 45 years and above presenting with symptoms of BHP.

### Exclusion Criteria

1. All patients with symptoms not likely due to BPH.
2. Those patients who have undergone open prostatectomy

### Study Design

The ethical committee of Lata Mangeshkar Hospital and NKP salve institute of medical sciences approved the study and men included in the study gave written informed consent. 102 patients were selected for this study. Patients were studied according to the IPSS scoring and sonological grading.

### Results

A total of 102 men were enrolled in the study. The baseline IPSS scores was calculated according to the questionnaire and the sonological grading was done. Post void residual volume was calculated and the results were correlated.

**Table 1: Age Distribution**

Age Distribution	Number of patients	Percentage
<50	2	1.9%
51-55	12	11.7%
56-60	12	11.7%
61-65	24	23.52%
66-70	25	24%
71-75	19	18.62%
>75	8	7.84%
Total	102	100%

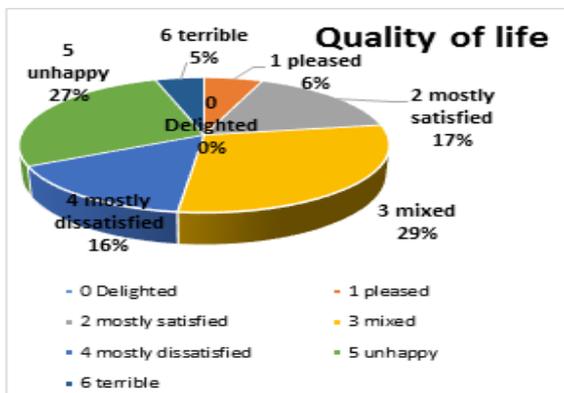
Out of total 102 cases, maximum patients were from age group of 66-70 years (24%) (Table 1).

**Table 2: AUA Scoring System**

AUA Score	Number of patients	Percentage
1-7 Mild	14	13.72%
8-19 Moderate	48	47.05%
20-35 Severe	40	39.21%
Total patients	102	100%

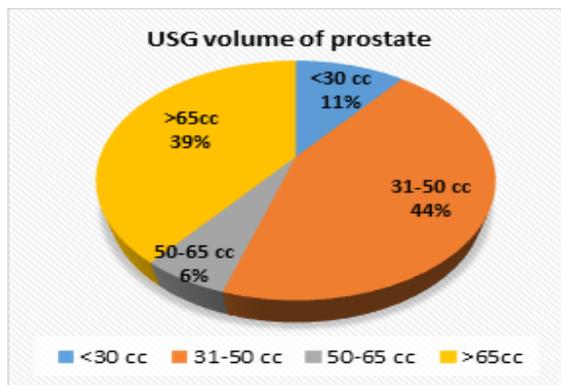
Maximum patients had an IPSS score in the Moderate range 8-19 Comprising 47.05%. With the score of 3 having 30 patients (29.5%)(Table 2).

Out of 102 cases, Maximum number of patients fell into the category of “Mixed”(Fig. 1).

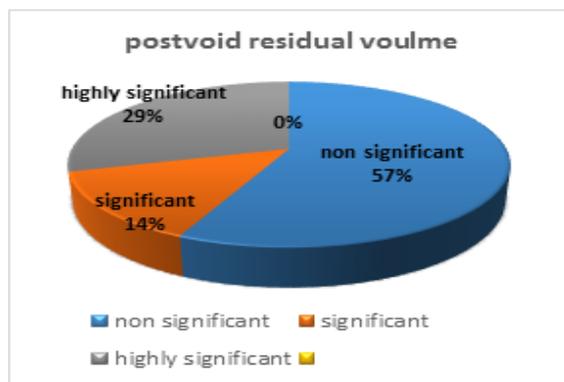


**Fig. 1: Quality of life**

Out of 102 cases, maximum number of patients had prostate size ranging from 31-50 cc (44.11%) (Fig. 2-3).



**Fig. 2: Volume of Prostate**



**Fig. 3: Post void Residual Volume**

**Discussion**

This study was designed to evaluate the IPSS correlation with sonological grading in patients with benign hyperplasia of Prostate. We also evaluated the quality of life of patients with BHP. To study the IPSS correlation with Residual Volume (sonologically).102 patients were selected on the basis of inclusion and exclusion criteria mentioned above.

In our study, maximum patients were from age group of 66-70 years (24%).Junior AM et al<sup>(6)</sup> in his study had a mean age of 59.5 years ± 10.8, while CS Agrawal et al<sup>(7)</sup> found mean age to be 67.5 years. The mean age was 66.7 ± 7.3 years in a study by Gnyawali D et al.<sup>(8)</sup>The mean age of patients was 63.36 years in a study conducted by Alawad AA et al.<sup>(9)</sup> The mean age are well correlated with the literature.

In our study maximum patients had an IPSS score in the moderate range of 8-19 seen in 47.05% of patients. There was a prevalence of patients with moderate symptoms in study by Júnior AM et al<sup>(6)</sup> with upto 38.1%. The mean IPSS score was 23.5±2.8 in study by CS Agrawal et al.<sup>(7)</sup> While Gnyawali D et al<sup>(8)</sup> found mean IPSS score to be 23.6 ± 6.0. The mean value of IPSS was 19±8.22 in a study by Udeh El et al<sup>(10)</sup> The IPSS of the patients ranged 16–24 with a mean IPSS of 20±4 found in a study by Puthenveetil RT et al.<sup>(11)</sup>

Our data from this study is well matched with the current worldwide studies with respect to IPSS Score.In

our study of 102 cases, maximum number of patients fell into the quality of life category of "Mixed" with the score of 3 having 30 patients (29.5%).

Out of 102 cases 44.11% patients had prostate size ranging from 31-50 cc with mean  $58.65 \pm 18.68$  cc. Júnior AM et al<sup>(6)</sup> found prostatic volume of 52 cc  $\pm$  22.3. The mean volume of the prostate was  $42.5 \pm 12.7$  cc in study by CS Agrawal et al,<sup>(7)</sup> while Gnyawali D et al<sup>(8)</sup> found it to be  $47.5 \pm 16.63$  cc. The mean prostate volume was  $72.79 \pm 44.38$  cc by Udeh EI et al<sup>10</sup>. Our findings are well matched with the reviewed data.

Out of 102 patients number of non-significant post void residual volume was found in 58 patients (56.86%). Maximum number of patients were managed conservatively (58.82%). Benign Prostatic Hyperplasia (BPH) is a common cause of Lower Urinary Tract Symptoms (LUTS) in men over 50 years of age, and can have a significant impact on the quality of life of BPH patients. In this study, 102 patients were selected. Parameters of Age, IPSS, Quality of life, prostate size, and Post void residual volume were assessed. 47.05% patients had an IPSS score in the moderate range 8-19. Majority (58.8%) of the patients were treated conservatively, with moderate symptom score and grade 2 prostatomegaly (31-50CC). Patients were managed according to the severity of symptoms. The treatment of clinical BPH is targeted to improve symptoms of prostatism, relieve obstruction, improve bladder emptying, and prevent urinary tract infection and renal function deterioration.

### **Conclusion**

We thus conclude that in this study carried out between October 2012 to June 2014 we studied 102 men, above 45 years of age, majority of the patients were treated conservatively, with moderate symptom score and grade 2 prostatomegaly (31-50CC). The treatment option of BPH has drastically changed over the last decade owing to the availability of several treatment options and an altered perception of the natural history and pathophysiology of the disease process. Advances have been made not only in surgical intervention but also in the development of effective medical therapies. Advances in the management of BPH during the past four decades have led to a major reduction in mortality from this chronic, progressive condition.

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