

Symptoms of benign prostatic hyperplasia: Does prostate size matter?

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Objective: To asses the symptoms and size of prostate in male population of same age group.

Methodology: This study was carried out in the department of Radiology and Urology Chandka Medical College Hospital, Larkana, Pakistan from January 2014 to April 2014. We studied 201 consecutive men aged 50-90 years who came for ultrasound scanning. Measurements of prostate gland were performed by just vision 400 ultrasound machine in supine position. The volume of the prostate was calculated in grams.

Results: 103 patients with clinically diagnosed PBH and 98 patients without any urinary

symptoms of same age group underwent ultrasound. Mean age of symptomatic patients was 62.29 ± 7.67 and that of asymptomatic patients was 59.14 ± 7.54 year. The mean volume of prostate gland in symptomatic and asymptomatic patients was 52.3 ± 2.76 and 49.87 ± 3.57 grams, respectively. There was no statistically significant difference in the volume of prostate gland in symptomatic and asymptomatic patients.

Conclusion: The size of prostate does not matter for developing symptoms of BPH. (Rawal Med J 201;40: 286-288).

Key words: Prostate, BPH, prostatism.

INTRODUCTION

The prostate is a walnut-sized gland that forms part of the male reproductive system.¹

A normal, healthy prostate weighs approximately 15 grams in young men and around 30 grams (about an ounce) in men age 50 or older.² As a man matures, the prostate goes through two main periods of growth. The first occurs early in puberty, when the prostate doubles in size. At around age 25, the gland begins to grow again. This second growth phase often results, years later, in benign prostatic hyperplasia (BPH).³

The clinical manifestations BPH include lower urinary tract symptoms (LUTS), poor bladder emptying, urinary retention, detrusor instability, urinary tract infection, hematuria, and renal insufficiency. However, the majority of men with BPH present with LUTS only.⁴ The term benign prostatic hyperplasia (BPH) has different connotations to the pathologist and practicing urologist. To the pathologist, BPH is a microscopic diagnosis. To the practicing urologist, it is LUTS that develop in the male population.⁵

The prevalence of BPH increases with age.⁶ Because of the diverse connotations associated with the term, it is necessary to define BPH as microscopic BPH, macroscopic BPH, or clinical BPH.⁷

It has been observed that many large prostate glands cause no urinary symptoms and urinary problems can occur in men with normal sized glands.⁸ In the past, urologists often assessed the prostate by such imaging modalities as urethrocystoscopy, intravenous urography, voiding cystourethrography, or retrograde urethrography; if the prostate was significantly enlarged, surgery was indicated. A more recent position has been that prostate size is completely unimportant in determining the need for treatment.⁹ It is symptoms on which BPH patients can be treated. In this study we tried to asses the symptoms and size of prostate.

METHODOLOGY

This study was conducted in the department of Radiology and Urology, Chandka Medical College Hospital, Shaheed Mohtarma Benazir Bhutto Medical University, Larkana, Pakistan from January 2014 to April 2014. We studied 201 consecutive men aged 50-90 years who came to radiology department for ultrasound scanning. Among these, 103 men who had presented to urologist with symptoms that suggested BPH, and that had gone a standard evaluation. Individuals who had undergone previous prostate or lower urinary tract surgery or who had prostate cancer or PSA level exceeding 10 mg/ml were excluded. 98

men with out any urinary symptoms came to the department of radiology for ultrasound for any other complaint were also included in this study.

Informed consent was taken from all patients.

All measurements were performed with full bladder, which was determined as the patient having the urge to micturate. Measurements were performed by just vision 400 (Toshiba, Japan) ultrasound machine using 3.5 MHz probe in the supine position. The transverse (width), craniocaudal (length), and anteroposterior (height) dimensions of the prostate were measured. The volume of the prostate was calculated in grams using Simpson's formula, which is automatically calculated by the machine.

RESULTS

The mean age of symptomatic patients was 62.29 ± 7.67 and that of asymptomatic patients was 59.14 ± 7.54 . Frequency of symptomatic and asymptomatic and age of the patient is shown in the Table No.1. Out of total 103 symptomatic patients 29 belonged to urban area while 74 were from rural area and from asymptomatic patients 37 patients were from urban area and 61 from rural area.

Table 1. Age of patients.

Age of patient	Symptomatic	Asymptomatic	Total
50-59	36	55	91
60-69	39	32	71
70-79	26	08	34
80-89	02	02	04
90-99	0	01	01
Total	103	98	201

Table 2. Symptoms of BPH patients. (n=103)

Symptoms	Frequency	Percent
1. Frequency of micturation	46	22.9
2. Dribbling of urine	22	9
3. Sense of incomplete emptying of bladder	8	4
4. Hesitency	8	4
5. Nocturia	3	1.5
6. Haematuria	7	3.5
7. Urgency	10	5
8. Incontinence of urine	4	2
9. Retention of urine	25	12.4
10. Burning micturation	13	6.5

The symptoms of BPH patients for which they consult with the urology department are shown in Table 2. The mean volume of prostate in symptomatic and asymptomatic patients was 52.3 ± 2.76 and 49.87 ± 3.57 grams, respectively. There was no statistically significant difference ($P=0.09$) observed in the volume of prostate gland in symptomatic and asymptomatic patients (Table 3).

Table 3. Size of prostate in (grams).

Symptomatic	Mean 52.3223 ± 2.79487
	Median 46.0000
	Minimum 11.00
	Maximum 177.00
Asymptomatic	Mean 49.8712 ± 3.52511
	Median 33.0000
	Minimum 13.00
	Maximum 13.00

DISCUSSION

BPH is a common surgical problem accounting for 20% of elective admissions in surgical ward. It is unusual before the age of 45,¹⁰ this is also consistent with our study, in which mean age of symptomatic and asymptomatic patients was 62.29 and 59.14, respectively. The symptoms of BPH can be divided into obstructive and irritative complaints. Obstructive symptoms include hesitancy, decreased force and caliber of stream, sensation of incomplete bladder emptying, double voiding (urinating a second time within 2 h of the previous void), straining to urinate, and post-void dribbling. Irritative symptoms include urgency, frequency, and nocturia.¹¹ In our study, symptomatic patients have almost same symptoms as shown in Table 2.

The mean volume of prostate in symptomatic and asymptomatic patients was 52.3 ± 2.76 and 49.87 ± 3.57 grams, respectively. There was no statistically significant difference ($P=0.09$) in the volume of prostate in symptomatic and asymptomatic patients, which suggest that size of prostate does not matter for developing the lower urinary tract symptoms.

This is also evident from another study conducted by Bosch et al that, "the size of the prostate does not always determine how severe the obstruction or the symptoms will be. Some men with greatly enlarged

glands have little obstruction and few symptoms while others, whose glands are less enlarged, have more blockage and greater problems".¹²

CONCLUSION

We concluded that size of prostate does not matter for developing symptoms of benign prostatic hyperplasia.

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Conception and design: Amanullah Abbasi

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