

Epidemiology of benign prostatic hyperplasia cases in a tertiary care hospital in South India

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Abstract

Introduction: Benign prostatic hyperplasia (BPH) is a common disease affecting the elderly population and surgery for BPH constitutes one of the commonly performed urologic surgeries. An epidemiologic study was done at our hospital to ascertain its prevalence in terms of the age group affected, presenting complaint, size of the prostate and type of surgery performed.

Materials and methods: A retrospective study was done by reviewing records of patients with BPH admitted in the urology department of our hospital over a period of three years from August 2012 to August 2015.

Results: A total of 138 patients were admitted with a diagnosis of BPH and operated in the three years. Mean age at presentation was 62.8 years. Mean size of the prostate on ultrasound was 48 cc. Most common presenting complaint was acute urinary retention (42%). 102 patients underwent endoscopic procedure and 33 underwent open prostatectomy.

Conclusion: BPH is predominantly a disease of old age with acute urinary retention as one of the most common presenting complaint. Diagnosis is predominantly a clinical one and radiologic investigations are useful to guide surgical therapy.

Keywords: Benign prostatic hyperplasia, elderly patient, acute urinary retention, ultrasound, Surgery

Introduction

Benign prostatic hyperplasia (BPH) is basically a histologic diagnosis representing proliferation of smooth muscles, glands and connective tissue of prostate [1]. It causes bladder outlet obstruction and is responsible for lower urinary tract symptoms (LUTS) which may be obstructive or irritative. BPH has both static component (due to compression of urethra by increased prostatic volume) and dynamic component (due to prostatic smooth muscle tone) [2].

Usually a disease of old age it may rarely affect younger population. The presenting symptoms may be varied which may include lower urinary tract symptoms, acute urinary retention, renal failure, bladder calculi, recurrent urinary tract infections(UTI), hematuria or an incidental diagnosis on ultrasound [3]. Though there are several studies there is no consistent relationship between size of the prostate on ultrasound and presenting symptoms. Indications for surgery include renal insufficiency

secondary to BPH, recurrent UTI, bladder stones, gross hematuria due to BPH, and those who have LUTS refractory to other therapies[4]. Both endoscopic and open surgeries are performed depending on the size of the prostate and none has been consistently proved to be superior to the other. This study was performed at our hospital to evaluate the epidemiology of BPH in terms of the age group affected, mode of presentation, average size of the prostate necessitating surgery and type of surgery performed.

Materials and methods

A retrospective study was done by reviewing hospital records over a period of three years at the urology department of our hospital. Patients who were admitted with a diagnosis of BPH and having indications for surgery were included in the study. All patients underwent ultrasound to assess prostate size and to rule out renal pathologies. Renal function tests were done in all patients as a routine. Data was collected in terms of age, presenting symptom, size of the prostate on ultrasound and type of surgery performed. The data was analysed using Microsoft excel software. Results are presented as numbers and percentages.

Results

The total number of cases admitted with a diagnosis of BPH during the three years was 138. Mean age at presentation was 62.8 years with 39% of cases in the age group of 60-65 years. Only 2 cases were less than 50 years of age who were diagnosed as BPH after excluding other causes of bladder outlet obstruction (Table1, Figure1).

Most common presenting complaint was acute urinary retention necessitating catheterization in 42% of cases. Lower urinary tracts were the second most common

presenting complaint (26%) (Table2, Figure2). Mean prostatic volume on ultrasound was 48cc with 28.2% of cases having prostatic volumes between 40-50cc (Table3, Figure3). 102 patients underwent endoscopic surgery; transurethral resection of prostate was done in 98 cases (71%). Transurethral incision of prostate was done in 4 cases who had small size prostates with predominantly dynamic bladder outlet obstruction.

Table 1: Age wise distribution of cases.

Age at presentation (years)	Number	Percentage (%)
Less than 50	2	1.4
50-55	8	5.8
55-60	28	20.3
60-65	54	39.1
65-70	38	27.5
More than 75	8	5.8

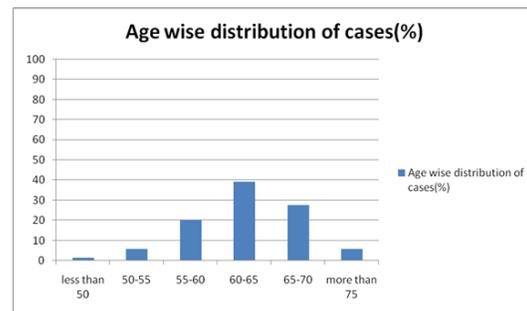


Fig. 1: Age at presentation.

Table 2: Presenting symptom.

Presenting complaint	Number	Percentage (%)
Lower urinary tract symptoms	36	26
Acute urinary retention	58	42
Hematuria	12	8.7
Renal insufficiency	8	5.8
Recurrent Urinary tract infections	6	4.3
Bladder calculus	12	8.7
Incidental diagnosis	6	4.3

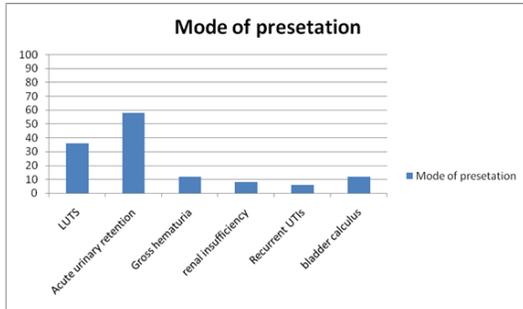


Fig. 2: Mode of presentation.

Table 3: Prostatic size on ultrasound.

Prostatic volume (cc/ml)	Number of cases	Percentage
30-40	12	8.7
40-50	39	28.2
50-60	31	22.5
60-70	21	15.2
More than 75	35	25.3

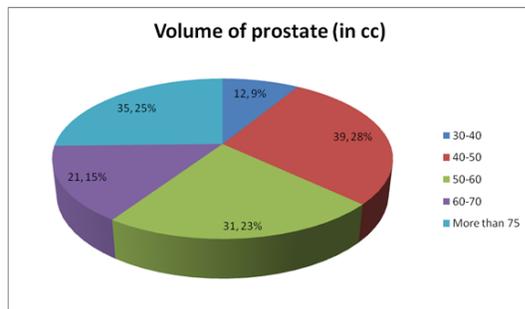


Fig. 3: Prostatic volume on ultrasound.

Table 4: Type of surgery performed.

Type of surgery	Number	Percentage
Transurethral resection of prostate	98	71
Transurethral incision of prostate	4	2.9
Open transvesical prostatectomy	14	10.1
Open retropubic prostatectomy	19	13.8

Open prostatectomy was done in 33 cases with retropubic prostatectomy in 19 cases, transvesical prostatectomy in 14 cases who had large bladder calculus or median lobe hypertrophy (Table 4, Figure 4). Three cases were not operated in view of

cardiopulmonary co morbidities and were discharged after admission.

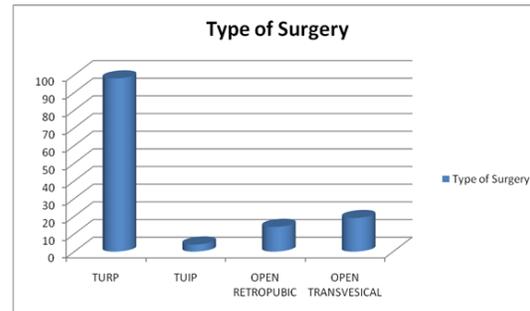


Fig. 4: Type of surgery performed.

Discussion

Benign prostatic hyperplasia is usually diagnosed in patients presenting with bladder outlet obstructive symptoms which may vary from lower urinary tract symptoms (LUTS), urinary retention or obstructive uropathy with renal failure. LUTS represents a common term used to describe the symptoms associated with bladder outlet obstruction [5]. Obstructive LUTS includes poor urine stream, hesitancy, straining to void while irritative LUTS includes urgency, frequency and nocturia. In epidemiologic studies LUTS are measured using symptom severity scores like American Urologic association symptom index (AUA-SI) or International Prostate Symptom Score (IPSS). IPSS is routinely recommended in all patients with BPH [6]. The prevalence of BPH increases with age and genetic factors have also been found to play a role in prostatic enlargement [7]. Several studies have implicated the role of sex steroid hormones, metabolic syndrome, obesity etc in the etiopathogenesis of BPH.

Diagnosis of BPH is basically made after histopathological examination. At the community level BPH is a clinical diagnosis based on the patient's symptoms and digital rectal examination. Ultrasound of prostate to assess prostatic volume is useful to guide therapy. A digital rectal examination is also

useful to exclude malignancy of prostate which is aided by measuring serum prostate specific antigen levels. Patients with mild to moderate IPSS score may be given a trial of medical management with alpha blockers or 5 alpha reductase inhibitors [8]. Patients who have indications for surgery like refractory urinary retention, recurrent UTIs, gross hematuria, renal insufficiency, vesical calculus or symptomatic bladder diverticula can be offered either endoscopic or open surgery to resect or enucleate the prostate [9]. The Vth International Consultation on BPH considered that open prostatectomy remains indicated in patients with prostate larger than 80–100 grams and in patients with coexisting disorders which may benefit from their repair at the same time of prostatectomy: such as hernia, large bladder stone and diverticula.

Conclusion

BPH is one of the commonest geriatric urologic conditions. The incidence increases with age as was proved in several autopsy studies. The presenting symptoms are varied and symptomatic treatment should be offered using a combination of medical and surgical methods. The present study was done to highlight the epidemiologic trend of BPH and its prevalence with respect to patient's age, mode of presentation, degree of prostatomegaly and different surgical modalities of treatment performed.

Conflicts of interest: None

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