

Post Transurethral Resection of Prostate Histopathological Proven Chronic Prostatitis

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ABSTRACT

Objective To find out frequency of chronic prostatitis (CP) in benign prostatic hyperplasia.

Study design Cross-sectional study.

Place & Duration of study Department of Urology, Lyari General Hospital and Shaheed Mohtarma Benazir Bhutto Medical College (SMBBMC) Karachi, from January 2013 to January 2015.

Methodology Patients of benign prostatic hyperplasia (BPH) with moderate to severe lower urinary tract symptoms, having failed trial of voiding urine, not responding to medical therapy, having renal dysfunction and recurrent urinary tract infection were selected through purposive non-probability sampling method. Following transurethral resection of prostate, specimen was sent for biopsy.

Results Eighty men with benign prostatic hyperplasia were included. A high frequency of chronic prostatitis was found (n=44%). Frequency of cancer of prostate was found in 5% specimens.

Conclusions In patients with BPH high frequency of CP was found. Prostate cancer was found in four patients. *E coli* was the most frequent organism isolated in catheterized patients.

Key words Benign prostatic hyperplasia, Trans urethral resection (TUR) - Prostate, Chronic prostatitis, Urinary tract infection.

INTRODUCTION:

Benign prostatic hyperplasia (BPH) is characterized by an increase in epithelial and stromal cell numbers in the periurethral area of the prostate.¹ The principal cause of bladder outflow obstruction (BOO) in men is BPH. The pathophysiological basis of BOO due to benign prostatic enlargement (BPE) is secondary to BPH. Benign prostatic obstruction (BPO) has been studied more than any other type

of obstruction. BPO has two components; dynamic and static. Benign prostatic hyperplasia affects an estimated 70% of men aged 61-70 year and 90% of those aged 81-90 year. By 2025 BPH is likely to affect 20% of the total male population.²

Chronic prostatitis (CP) is defined as an increase number of inflammatory cells within the prostatic parenchyma, most commonly lymphocytic infiltrate in stroma, immediately adjacent to the prostatic acini.³ Chronic prostatitis has a very marked tendency to relapse, and patients should be informed of this and counseled that further courses of treatment may become necessary. Currently, there is no convincing evidence that any invasive procedure, such as transurethral resection of the prostate or thermotherapy, is effective in treating or preventing recurrence of CP.⁴

As many as 44% of the prostatic tissue samples from

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men without any definitive prostatic disease have chronic prostatitis, BPH or prostatic cancer.³ It is undoubtedly true that CP is often accompanied by BPH and affects the progressions and pathology of the disease as BPH and prostatitis are both histologic diagnoses.⁵ In a study conducted in Iran it was noted that 20% of BPH patients with lower urinary tract symptoms (LUTS) might had symptoms of prostatitis but how pathology of one disease is affecting the other, is still controversial.⁶ Such studies are scarce in Pakistan. Therefore this study was conducted to find out the frequency of CP in post TURP patients and frequency of UTI and CP in catheterized patients.

METHODOLOGY:

This cross-sectional study was conducted at the Department of Urology, Shaheed Mohtarma Benazir Bhutto Medical College and Lyari General Hospital Karachi, from January 2013 to January 2015. Non-probability purposive sampling was used. All the patients who underwent TURP were included. The prostatic tissue was sent for histopathology. Patients with moderate to severe LUTS, those in whom trial of voiding failed, those who failed to respond to medical therapy, patients with BPH causing renal dysfunction and recurrent UTI, were included in this study. Patients with positive growth on urine culture and with severe co-morbidities were excluded. IRB approval for the study was obtained. Patients were enrolled after written informed consent.

Data were entered and analyzed in statistical software Statistical Package for Social Sciences (SPSS) version 17. Mean, minimum, maximum and standard deviation were calculated for continuous variables. Frequency and percentage were calculated for categorical variables.

RESULTS:

Total of eighty patients were enrolled in the study. Mean age of the patients was 66 + 7 year (range 60 – 90 year). Most of the patients were between 60 and 70 year of age. More than 50% of the patients with prostate related problems were brought from

Baluchistan. Four (5%) patients had prostate carcinoma and 44% (n=36) had chronic prostatitis. BPH was present in 40 patients. E.coli was the most common uropathogen (n=29 – 44.62%) isolated on urine culture (table I).

DISCUSSION:

In this study the age range of men with BPH was 60 to 90 year with mean of 66 year. In a study from Nigeria the age range of men with BPH was from 40 to 90 year and BPH was the commonest prostatic lesion.⁷ These findings are nearly consistent with our study. In the index study the frequency of CP in BPH was 44% and 72 patients had positive urine culture. In a study from Michigan, USA the frequency of CP in BPH was 6.7%.⁸ In another study conducted in Scandinavia, frequency of CP in BPH was found 71%.⁹ In another study conducted in Khatmandu the number was 15%.¹⁰

Sciarra and colleagues showed histological evidence of inflammation in approximately 40% of cases of BPH which is a significant risk factor for acute urinary retention.¹¹ In a study of 405 men presenting with urinary retention, histological evidence of prostatitis was found in 48% of men with BPH.¹² Men with BPH and prostatic inflammation had a high chance of disease progression.¹³ At 4-year follow up, only BPH patients with inflammation developed acute urinary retention. A study showed prostatic inflammation in 5-15.3% of autopsy specimens of patients over the age 60 year.¹⁴

In this study 85% of the patients with urinary catheter in-situ developed UTI while in non catheterized patients it was 75%. In a study conducted in Switzerland it was found that 1.5% of the catheterized patients developed UTI.¹⁵ This significant difference of occurrence of UTI following urinary catheterization, between the two countries could be due to the strict aseptic measures taken in developed countries for urinary catheterization. Such strict measures should also be taken in the developing countries to reduce occurrence of UTI following urinary catheterization.

Table I: Organisms Isolated on Urine Culture

Organism Frequency	Number of patients (n)	Percentage (%)
<i>E coli</i>	29	(44.62%)
<i>Klebsiella</i>	16	(24.62%)
Insignificant bacterial growth	08	(12.31%)
<i>Pseudomonas aeruginosa</i>	07	(10.77%)
<i>Staphylococcus aureus</i>	03	(4.62%)
<i>Acetino bacter</i>	02	(3.08%)

In this study frequency of CP was nine times that of cancer prostate while in the other study CP was found twice as common as prostate with neoplastic changes.¹⁶ In the same study frequency of cancer of the prostate was 7% while in current study it was 5% which is quite similar. Of all the four cancer patients, urine culture was positive and serum PSA level was insignificant.

CONCLUSIONS:

Men with BPH are found to have high frequency of chronic prostatitis due to recurrent UTI, prolonged catheterization and improper treatment of BPH. Early treatment can prevent these complications.

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Author's Contributions:

Shahnawaz Rajpar: Conception, design, drafting and final approval.

Santosh Kumar: Data collection.

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Conflict of Interest:

The authors declare that they have no conflict of interest.

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