

*Case Report***ALPHA BLOCKER TO PROSTATECTOMY: A PATIENT WITH BENIGN PROSTATIC HYPERPLASIA; A CASE REPORT****Muzzamil Shehzadi**

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**ABSTRACT**

**Introduction:** The prostate gland undergoes many changes during the course of a man's life. At birth, the prostate is about the size of a pea. It grows only slightly until puberty and then begins to enlarge rapidly, attaining normal adult size and shape, about that of a walnut, when a man reaches his early 20s. The gland generally remains stable until about the mid-40s. However after this age, the prostate begins to enlarge again sometimes due to a cause not fully understood through an abnormal process of cell multiplication giving rise to a medical condition known as BPH. **Case presentation:** We report the case of 66-year-old Asian man experiencing lower urinary tract symptoms which was not initially diagnosed for BPH and remained under treatment for next 3 weeks. During this period, he switched to different physicians and diverse types of lab tests were conducted but actual cause couldn't be exposed. The misdiagnosis by numerous therapists and continuous negligence made the condition to grow gradually. When symptoms severity amplified, patient had to consult an urologist who diagnosed the condition as BPH. The disease that could've been easily treated at an early staged with proper medical care, required prostatectomy then for its treatment. **Conclusion:** Not all cases of BPH are diagnosed and taken care at its initial stages. Our report emphasizes the hidden danger of disease being proliferate in such cases. The need for a good clinical evaluation by a qualified therapist and the use of appropriate investigative studies is mandatory in order to avoid unnecessary medications, operations and complications.

**Key Words;** Benign Prostatic Hyperplasia, medical care, prostatectomy.

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**INTRODUCTION**

The prostate is a compound tubuloalveolar exocrine gland of the male reproductive system. The function of the prostate is to secrete a slightly alkaline fluid, milky or white in appearance along with spermatozoa and seminal vesicle fluid. Benign prostatic hyperplasia, abbreviated as BPH, is nonmalignant enlargement of the prostate gland and mostly found in older men. Since women do not have a prostate, they cannot get BPH. On the other end, Young men almost never experience symptoms of an enlarged prostate. Histological evidence

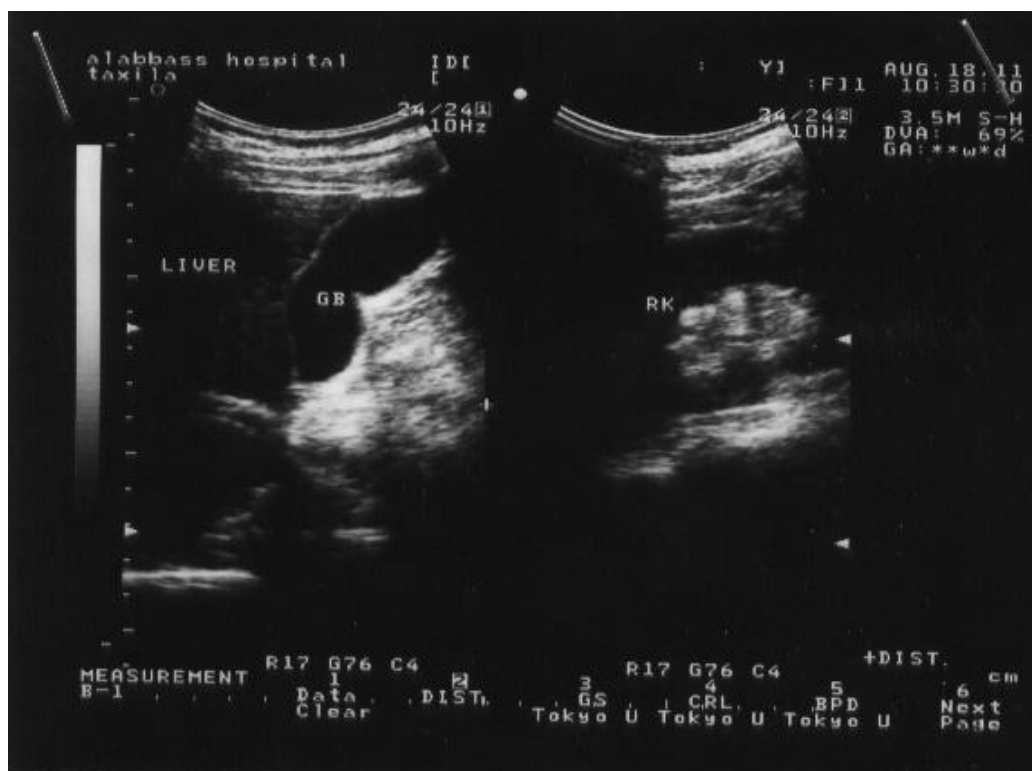
of the disease is noted in 8% of men in their 30s, and the prevalence rapidly increases to more than 70% after the age 60 years.<sup>[1]</sup> BPH can be a progressive disease, especially if left untreated. A study<sup>[2]</sup> reports on a newly discovered venous route by which free testosterone reaches the prostate in extremely high concentrations, promoting the accelerated proliferation of prostate cells, leading to the gland's enlargement. Another study suggests that BPH is caused by malfunction of the valves in the internal spermatic veins manifesting as varicocele, a phenomenon which has been shown to increase rapidly with age<sup>[3][4]</sup> roughly equal to 10-15% each decade of life.

As BPH progresses, overgrowth occurs in the central area of the prostate called the transition zone, which wraps around the urethra. This pressure on the urethra can cause lower urinary symptoms that have been the basis for diagnosing BPH. Typical presenting symptoms of BPH are urinary hesitancy, weak stream, nocturia, and incontinence. According to a report, the overall incidence rate was 15 per 1000 man-years. The incidence increased linearly with age from three cases per 1000 man-years at the age of 45-49 year to a maximum of 38 cases per 1000 man-years at the age of 75-79 years. After the age of 80 years, the incidence rate remained constant. For a symptom-free man of 46 years, the risk to develop Lower Urinary Tract Syndrome (LUTS)/BPH over the coming 30 years, if he survives, is 45%. The overall prevalence of LUTS/BPH was 10.3%. The prevalence rate was lowest among males 45-49 years of age (2.7%) and increased with age until a maximum at the age of 80 years (24%)<sup>[5]</sup>. In the 20th century, open surgical management of BPH became popular. A relatively high-morbidity and expensive procedure, open prostatectomy was gradually replaced by transurethral resection of the prostate (TURP) as the standard surgical treatment of small to medium sized BPH. High success rates, lower costs and shorter recovery times after TURP were among the factors contributing to the gradual replacement of open prostatectomy; however, TURP is associated with considerable complications, including the need for blood transfusions in 2.0-4.8% of patients and the occurrence of transurethral resection (TUR) syndrome in 0-1.1% of patients<sup>[6]</sup>. Eight-year follow-up data on a large cohort of 23,123 men who underwent TURP showed a cumulative incidence of repeat endourological interventions of 14.7%.<sup>[7]</sup> The incidence of TUR syndrome increases with a gland size greater than 45g and resection times longer than 90 min.<sup>[8]</sup>

TURP represents the accepted standard of surgical therapy for the management of symptomatic bladder outlet obstruction due to BPH.<sup>[9]</sup> Limited or Channeling TURP is also a recognized form of adjunctive treatment in the patients with Prostate cancer (CaP).<sup>[10][11]</sup> The procedure is used in such patients to relieve urinary retention, though about 50% of patients will pass urine per urethram without catheters after varying lengths of time after hormonal ablation therapy alone.<sup>[12]</sup> Channeling TURP is associated with complications, which include urinary bladder perforation.<sup>[13][14]</sup> However, the procedure has become safer over the years in many institutions; hence the complications rates from the procedure have dropped significantly.<sup>[15][16]</sup>

## CASE PRESENTATION

A 66-years-old, 80-kg Asian male was presented to the local hospital, Wah Cantt. Pakistan. He was experiencing Urinary Retention with severe pain & burning sensation of lower urinary tract since last day. The vital signs showed blood pressure (BP) 120/80 mmHg; Temperature 98<sup>0</sup>F; Pulse rate 74-beats/minute (bpm). Laboratory tests including Blood complete panel report (CP), Urine test and Ultrasound Reports (Fig. 1) came out to be normal. He was a non-smoker and used to work in an environment with no known exposures to chemicals, fumes, dust and other environmental or occupational allergens. He had no known history of allergy to any drug.



**Figure 1. Ultrasound reports of patient**

On the basis of his medical investigation (primary diagnosis) the physician prescribed one week therapy including Noroxin (Norfloxacin) 400mg Tabs (oral) bid (two times a day); Prostreat (Tamsulosin Hydrochloride) 0.4mg caps (oral) Once at night; Spasrid (Phloroglucinol + Trimethylphloroglucinol) Tabs (oral) tid (three times a day).

After one week the patient visited the doctor again with chief complaint of Lower Abdominal pain, Constipation, Abdominal discomfort, and Urine overflow. Laboratory tests including Urine test, Blood CP and Ultrasound (Fig. 2) were conducted again. For new diagnosis, Physician prescribe further one week of therapy, continuing Noroxin (Norfloxacin) tabs & Prostreat (Tamsulosin HCl) tabs from previous regimen with addition of Voltaren (Diclofenac sodium) 50mg tabs (oral) bid (Two Times a day); Ezilax (Lactulose) 2-tabs (oral)

once at bed time; Zentel (albendazole) 200mg suspension (oral); Secnil Forte (secnidazole) 1g tabs (oral) 2-tabs oid (once a day). Revisit after one week was advised.



**Figure 2. Ultrasound Reports of patient.**

Due to lack of any improvement in condition, patient had to consult some other medical specialist. After making a diagnosis, he prescribed Detoxical (Lactulose) syrup (oral) 2-table spoon tid (three times a day); Tres-Orix Forte (cyanocobalamin + cyproheptadine HCl + Lysine + Pyridoxine + Thiamine HCl + Vitamin B1) syrup (oral) 1-tables spoon bid (two times a day). On revisit, the physician changed the treatment regimen to Cardura (doxazosin mesylate) 2mg tabs (oral) oid (once a day) 1-tab before dinner; Kalfot (Famotidine) 20mg tabs (oral) bid (two times a day); Librax (chlordiazepoxide HCl + clidinium bromide) caps (oral) bid (two times a day).

As condition became worse, the patient switched to an urologist at CMH Rawalpindi, Pakistan. He was primarily diagnosed for BPH (benign prostate hyperplasia). Lab tests including ultrasound & quick catheterization were advised. Ultrasound reports (Fig. 3-A, 3-B) showed enlarged prostate of weight 93 grams. On the basis of lab reports, the urologist suggested Turp (Transurethral resection of the prostate) and prescribed Leflox (Levofloxacin) tabs (oral) 250mg bid (two times a day); NISE (Nimesulide) tabs (oral) 100 mg bid (two times a day); and Citralca (Sodium Acid Citrate) Syrup (oral) 1.315g/5ml 2-table spoon oid (once a day) at night.

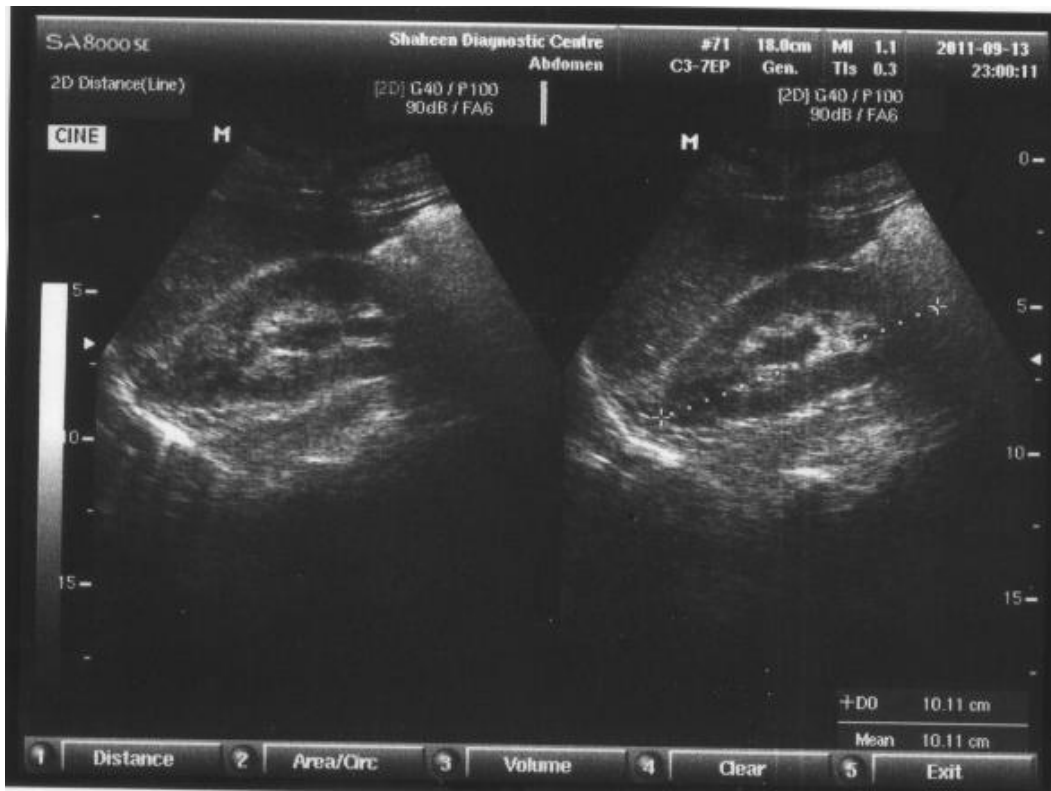


Figure 3-A



Figure 3-B



The Turp (Transurethral resection of the prostate) was conducted and he was discharged next day with Leflox (Levofloxacin) 250mg bid (two times a day) ; Dicloran (Diclofenac Sodium); and Citralka (Sodium Acid Citrate).

After three days, the catheter was removed and Leflox (Levofloxacin) was administered up to 10 days and the treatment continues with Citralka (Sodium Acid Citrate) Syrup (oral) 1.315g/5ml 1-table spoon bid (two times a day). Later, the dissected tumor was analyzed and reports showed no malignancy.

## DISCUSSION

This is a case study of gradually progressing BPH in an elderly patient. At first, the patient's condition wasn't complex to grip but even after using the suggested treatment for a week, condition didn't improve. So a new treatment plan was recommended. Even at that time, the disease wasn't making progress and could've been handled with appropriate medical care. Herbal remedies might also improve the condition.

Stephen Bent et al.<sup>[17]</sup> reported that *saw palmetto* did not improve symptoms or objective measures of benign prostatic hyperplasia. The BNF (British National Formulary) is one the standard books used to design the treatment plans. While BNF<sup>[18]</sup> confirm the prescribed dose regimen of tablet Norfloxacin, capsule Tamsulosin, tablet Diclofenac sodium. Currently,  $\alpha_1$ -adrenergic receptor ( $\alpha_1$ -AR) antagonists are commonly prescribed by physicians as first-line agents to treat BPH, a common condition of aging men.  $\alpha_1$ -AR antagonists exert their effects by blocking  $\alpha_1$ -AR-mediated contraction of the prostatic smooth muscle cells and bladder neck.<sup>[19]</sup> Available alpha-blockers include Doxazosin, Prazosin, and Terazosin are  $\alpha_1$ -AR antagonists that show equal affinity for all  $\alpha_1$ -AR subtypes<sup>[20]</sup>. On the basis of primary diagnosis, Tamsulosin was prescribed which does not interfere with blood pressure control and has a low potential to cause vasodilation.<sup>[21]</sup> It is more expensive than the other alpha-blockers currently available. Also, the therapeutic dose is reached more quickly, so he may have quicker symptom improvement. As patient's examination shows no signs of hypertension so it wasn't necessary but prescribing the medicine was safe. It is to be noted that the patient was also prescribed Albendazole and Secnidazole which are anti-infective for the treatment of a variety of worm infestations. During the last 10 years, there have been numerous medical and surgical therapies with demonstrated efficacy in relieving BPH symptoms. Alpha-blockers improve BPH symptoms relatively rapidly, whereas 5-alpha reductase inhibitors have a slower onset of action. However, the latter may decrease prostate size and affect the course of BPH. Gerald L Andriole et al.<sup>[22]</sup> examine safety and tolerability data from a number of recently completed clinical trials with the novel, dual 5 $\alpha$ -reductase inhibitor when used in combination with an  $\alpha_1$ -blocker, the drug-related adverse event profiles were as would be expected for the individual agents.

Passage of time and usage of suggested medication caused propagation of condition to the next stage instead of treating it. Further regimen included tablet Doxazosin and tablet Famotidine, capsule chlorthalidone HCl (short-term use in anxiety and adjunct in acute alcohol withdrawal) in combination with clidinium bromide (anticholinergic drug). However the prescribed dosage was found to be according to specifications, even for the unnecessary medicines<sup>[18]</sup>.

Ahmed Fawzy et al.<sup>[23]</sup> accounted that doxazosin is significantly superior to placebo in the treatment of BPH in normotensive patients, with the patient experiencing significant relief early after initiation of therapy.

John D. McConnell et al.<sup>[24]</sup> reported in a study that Among men with symptoms of urinary obstruction and prostatic enlargement, treatment with finasteride for four years reduces symptoms and prostate volume, increases the urinary flow rate, and reduces the probability of surgery and acute urinary retention. John H. Wasson et al.<sup>[25]</sup> stated that for men with moderate symptoms of benign prostatic hyperplasia, surgery is more effective than watchful waiting in reducing the rate of treatment failure and improving genitourinary symptoms. Watchful waiting is usually a safe alternative for men who are less bothered by urinary difficulty or who wish to delay surgery.

The severity of symptoms made the situation worse enough to require a surgical procedure (TURP) for the treatment. Trans urethral resection of the prostate (TURP) has been recognized as an adjuvant therapy in the management of advanced prostate cancer. This is mainly to create a channel in the obstructive tumor thereby relieving the urinary retention. TURP is considered the benchmark for surgical therapies, and although it is an inpatient procedure with high initial costs, these may be offset by long-term durability of symptom relief.

Common complications include hemorrhage, sexual dysfunction, strictures, and hyponatremia, which may result from absorption of the hypotonic irrigant. Men with BPH should undergo a digital rectal examination & urinalysis to screen for other urologic disorders while should be referred for a surgical consultation if medical therapy fails; if refractory urinary retention, persistent hematuria, or bladder stones develop; or if the patient chooses primary surgical therapy.

## CONCLUSION

Not all cases of BPH are diagnosed at its initial stages. Our report emphasizes the hidden danger of misdiagnosing and allowing the condition to progress over a period of time with expenditures of unnecessary medication for such cases in general population of an under developed country like Pakistan. This case presentation shows not only that a sound original diagnosis might have prevented the need of an operation but also points out the need for a good clinical evaluation and the use of appropriate investigative studies in order to avoid unnecessary operations and complications.

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