



Benign Prostatic Hyperplasia Diagnosis and Treatment

Student's Name

Institutional Affiliation



ABSTRACT

The current paper examines the diagnosis and treatment of Benign Prostatic Hyperplasia (BPH). It explains that the disease is prevalent among older men and it results in the symptoms that if not managed, can cause adverse complications to the patients. Various diagnostic methods discussed in the following paper include examining the medical history, performing a digital rectal exam and carrying out various laboratory tests. Medical history is significant in diagnosing BPH because it can provide essential information on the onset of the problem and thus, help in determining the severity of the disease. Digital rectal exam and laboratory tests are discussed in terms of the recommendations from the Canadian Urological Association and the American Urological Association. Various disease management modalities, including the basic classifications of drugs and referral to the urologist, will be explained. Moreover, some concerns such as the side effects of medications, cultural considerations, special populations, and pharmacogenomics will also be discussed. Finally, the current paper will examine the total pharmacological costs related to the diagnosis of the disease in the United States and then analyze the current prices of over the counter medications provided by various pharmacies.

Keywords: BPH, Canadian Urological Association, American Urological Association



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Enlargement of the prostate occurs commonly in senior men. According to Sarma and Wei (2012), the prevalence of this condition is 25% among men aged 40 to 49 years and 80% among men aged above 70 years. Most patients check into the healthcare environment with the complete inability to void urine (p. 248). Others complain of frequent urinations at night among other symptoms such as hematuria and urinary incontinence. In some cases, such symptoms can occur in one patient. Healthcare providers should thus thoroughly examine the patients complaining of the difficulty in starting urination or those who report of nocturia; these are important signs of Benign Prostatic Hyperplasia (BPH) that can result in adverse complications such as bladder stones, kidney damage and bladder infections (Sarma & Wei, 2012). The current paper discusses the diagnostic tests and treatment modalities for BPH; classifies the necessary medications and explains the concerns about their prescription; analyzes the pharmacological costs related to the diagnosis and finally compares the cost of important over the counter prescriptions in three pharmacies.

| DIAGNOSIS AND TREATMENT MODALITIES

Diagnosis

MEDICAL HISTORY. Before carrying out any test, it is imperative to ask the patient about the onset of the symptoms of urinary problems and any attempts made to deal with them. The healthcare providers should focus on complete medical history, including urologic and neurologic conditions. According to Sarma and Wei (2012), the response that the patient gives during the history taking is necessary since it can elicit vital information on urinary problems as far as the medical history and the history of the existing illness are concerned to help rule out other diseases that cause impaired urinary flow. Kapoor (2012) reiterates that the information is also vital since it determines other diagnostic tests and forms the baseline for subsequent treatment.

DIGITAL RECTAL EXAM. Digital rectal exam is one of the significant diagnostic tests recommended in various guidelines. It is a method that involves inserting a finger into the rectum to check for prostatic enlargement. The Canadian Urological Association guidelines recommend that all men having urinary flow problems should undergo digital rectal examination annually (as cited in Kapoor, 2012). Similarly, the American Urological Association guidelines require that all men should undergo a digital rectal exam to determine whether the prostate is enlarged (as cited in Sarma & Wei, 2012). The reason why digital rectal exam is indicated is because it is convenient, fast and efficient in diagnosing an enlarged prostate at its early stages.

LABORATORY TESTS. Another approach to the effective initial diagnosis of an enlarged prostate is the use of various laboratory tests such as urinalysis and blood test. Urinalysis involves taking a urine sample for

laboratory examination to help rule out other infections that might be causing impaired urinary flow. The American Urological Association guidelines recommend urinalysis as an important measure in identifying BPH (as cited in Sarma & Wei, 2012). Another approach involves performing a blood test to determine the prostate-specific antigen (PSA) level, which the Canadian Urological Association guidelines recommend as important in diagnosing BPH (as cited in Kapoor, 2012). The Canadian Urological Association guidelines (as cited in Kapoor, 2012, p. 14) also recommend that PSA should be 4.0 ng/mL and if it rises, the healthcare providers should perform a prostate biopsy to rule out the possibility of prostate cancer.

Treatment Modalities

Management of BPH involves being watchful to the symptoms, and if they become severe, healthcare providers can use medications, surgery, and minimally invasive therapy approaches. The American Urological Association Symptom Index (AUASI) uses a scale of 0 to 35 to measure the symptoms of BPH (as cited in Sarma & Wei, 2012, p. 250). Zero denotes no symptoms while the scale of 35 indicates most severe symptoms. According to Sarma and Wei (2012), men with AUASI score of less than eight, mild symptoms, should be watchful as they monitor the progress of urinary retention. Healthcare providers should consider those with moderate symptoms, above eight, for medical management. According to Kapoor (2012), if medications fail to help the patients, they should be referred to the urologist for further interventions such as minimally invasive surgical therapy.

CLASSIFICATION OF MEDICATIONS AND DIAGNOSTIC TESTS THROUGHOUT TREATMENT

Classification of Medications

The medical management of BPH is aimed at treating the mild to moderate symptoms that bother the patients. According to Sarma and Wei (2012), patients should use medications for the recommended time before they term them as ineffective. The four classes of drugs used for managing BPH include alpha-adrenergic receptor blockers, 5-alpha reductase inhibitors, phosphodiesterase-5 inhibitors, and antimuscarinic agents.

ALPHA-ADRENERGIC RECEPTOR BLOCKERS. The approved medications for prescription in this class include Alfuzosin 10mg, which healthcare providers should prescribe for two to six months as a minimum duration of reaching an adequate effect; tamsulosin 0.4 to 0.8mg; doxazosin 1 to 8mg; silodosin 8mg, and terazosin 1-20 mg (Sarma & Wei, 2012, p. 254). These drugs act by easing the muscle fibers in the prostate and bladder neck muscles thereby making urination easier.

5-ALPHA REDUCTASE INHIBITORS. According to Kapoor (2012), this class of drugs shrinks the prostate thereby improving the voiding of urine. They include a daily dose of finasteride 5mg and a daily dose of dutasteride 0.5mg (p. 14). Sarma and Wei (2012) indicate that various research studies have found them efficient in reducing the prostate size.

PHOSPHODIESTERASE-5 INHIBITORS. According to Kapoor (2012), the drugs in this class relax the smooth muscles in the bladder and prostate. Consequently, the voiding of urine is improved. The recommended drug in this class is tadalafil because it can reduce the AUASI score by 3.8 points in 12 weeks (Sarma & Wei, 2012, p. 253).

ANTIMUSCARINIC AGENTS.

This class of drugs inhibits muscarinic receptors in the detrusor muscle. Eventually, they reduce the symptoms of impaired urinary flow that occur because of obstruction. Several drugs have been approved in this class, including such agents as solifenacin, oxybutynin, tolterodine and darifenacin (Sarma & Wei, 2012).

Diagnostic Tests throughout Treatment

As the patient undergoes treatment, healthcare providers should consider doing some laboratory tests to monitor the treatment process. The first one is checking the PSA level. Drugs such as tadalafil cause a significant reduction in the PSA level, which is an important intervention in treating BPH. According to the Canadian Urological Association guidelines (as cited in Kapoor, 2012, p. 14), an increase of the PSA level during treatment warrants a referral to an urologist. The second test is urinalysis, which Kapoor (2012) argues to be necessary to perform to rule out other infections that might cause obstruction of urinary flow during treatment.



PRESCRIBING CONCERNS

When prescribing the drugs, healthcare providers must consider some aspects that are necessary for effective drug action. First, they need to consider the adverse effects of the drugs. Sarma and Wei (2012) contend that alpha-blockers cause various side effects such as erectile dysfunction, dizziness, and headache; 5-alpha reductase inhibitors cause a decreased PSA level and abnormal ejaculation, while antimuscarinic agents can cause constipation and headache. Consequently, healthcare providers must monitor these symptoms to create an appropriate alternative therapeutic medical regimen. Similarly, it is paramount to ask the patients what their perspectives on medications are because they may have some culturally based health beliefs about medicines, which can affect drug compliance and thus, result in the ineffective drug action. Additionally, it is paramount to consider adjusting the dosages appropriately in elderly patients since drug activity changes in people over 65 years (Maher, Hanlon, & Hajjar, 2014). Finally, healthcare providers should investigate any allergic history to drugs before initiating any medical therapy to avoid adverse drug reactions. Taking these factors into consideration can facilitate healing in BPH patients.

PHARMACOLOGICAL COSTS RELATED TO DIAGNOSES AND TREATMENT

Healthcare providers must help the patients to understand the costs of the diagnostic and treatment options available. According to CostHelper (n.d.), with health insurance, total costs for diagnosis range from \$0 to

\$30; but those without health insurance can spend \$15 to \$6000 or more for prostate biopsy. According to Vuichoud and Loughlin (2015), the total pharmacological costs related to the diagnosis costs the United States approximately \$4 billion annually (p. 2).

The cost of treatment using over the counter medications varies depending on the pharmacy. According to GoodRx (n.d.), the cost of over the counter Alfuzosin 10 mg 30 tablets is \$13.51 in Kroger pharmacy. However, the same medication reaches \$57.81 in CVS pharmacy. Doxazosin 4mg 30 tablets costs \$20.49 in Kroger pharmacy but \$39.60 in Health Warehouse. Additionally, an alpha-adrenergic receptor blocker tamsulosin 30 capsules 0.4mg costs \$36.14 in Kmart pharmacy while the same drug reaches \$50.38 in the CVS pharmacy. The cost of these drugs varies depending on the pharmacy, location, and time of purchase and thus, patients need to consider all these factors before buying them.

CONCLUSION

Early symptoms associated with Benign Prostatic Hyperplasia include difficulty in starting urination, nocturia, straining while voiding urine and inability to empty the bladder effectively among other symptoms. If not managed early, these symptoms result in complications such as hematuria and kidney stones. Thus, it is important to diagnose BPH early to avoid the development of such complications. Healthcare providers can diagnose this condition using such approaches as urinalysis, digital rectal exam, blood test, and Prostate Specific Antigen blood test. Some of the methods used in the treatment of this condition include watchful

waiting and the use of drugs such as alpha-blockers, and if they fail to be effective, patients should be referred to urologists for minimally invasive therapies such as transurethral incision of the prostate. While employing these treatment modalities, healthcare providers must consider certain aspects such as the side effects of drugs and cultural concerns since patients respond to healthcare management differently. Significantly, if managed well, Benign Prostatic Hyperplasia does not pose any serious threats to the senior men.

