CLINICAL EVALUATION AND MANAGEMENT OF BENIGN PROSTATIC HYPERPLASIA: A UROLOGICAL PERSPECTIVE

Hudayberdiyev Sadik Tursunovich

Department of Medical biology and histology,PhD

Andijan State Medical Institute, Uzbekistan

Abstract: Benign prostatic hyperplasia (BPH) is a nonmalignant enlargement of the prostate gland commonly seen in aging men. It is one of the most prevalent causes of lower urinary tract symptoms (LUTS) and can significantly affect quality of life. This article presents an overview of the pathophysiology, diagnostic approaches, and contemporary treatment options for BPH, emphasizing recent advances in minimally invasive therapies. Accurate assessment and personalized management strategies are key to improving patient outcomes in urological practice.

Key words: urinary frequency, urgency, nocturia, weak stream.

Introduction

Benign prostatic hyperplasia (BPH) is a chronic and progressive condition characterized by the proliferation of epithelial and stromal cells in the periurethral region of the prostate. It commonly manifests in men over the age of 50 and contributes significantly to lower urinary tract symptoms (LUTS) such as urinary frequency, urgency, nocturia, weak stream, and incomplete bladder emptying.

Though BPH is not malignant, its impact on urinary function and quality of life makes it a major public health issue. In addition, untreated BPH may lead to complications such as urinary retention, bladder stones, recurrent infections, and renal dysfunction. Therefore, an evidence-based, patient-centered approach is essential in diagnosing and managing BPH in contemporary urology.

Methods

This review was conducted using peer-reviewed publications sourced from databases including PubMed, Scopus, and Web of Science between 2015 and 2024. Keywords such as "benign prostatic hyperplasia", "lower urinary tract symptoms", "prostate volume", "TURP", and "minimally invasive BPH treatment" were used. Selected studies included clinical trials, meta-analyses, urological guidelines, and cohort studies involving adult male patients diagnosed with BPH.

Data regarding symptom assessment tools, diagnostic techniques, and both pharmacological and surgical treatment outcomes were synthesized to provide a comprehensive clinical overview of BPH management.

Results

The prevalence of BPH increases with age, affecting up to 70% of men over 60 years. Symptom severity is typically evaluated using the International Prostate Symptom Score (IPSS), which provides a standardized assessment tool for both diagnosis and treatment monitoring.

Transrectal ultrasound (TRUS) and prostate-specific antigen (PSA) testing are routinely used to assess prostate volume and rule out malignancy. Uroflowmetry and post-void residual (PVR) volume measurement help evaluate bladder emptying efficiency.

Medical therapy remains the first-line treatment for mild to moderate symptoms. Alpha-1 adrenergic antagonists (e.g., tamsulosin) improve urinary flow by relaxing smooth muscle tone, while 5-alpha-reductase inhibitors (e.g., finasteride) reduce prostate size over time. Combination therapy is often more effective in men with larger prostates.

In patients who fail medical therapy or develop complications, surgical intervention is indicated. Transurethral resection of the prostate (TURP) remains the gold standard, though newer minimally invasive options — such as UroLift, Rezūm water vapor therapy, and laser enucleation (HoLEP) — have shown promising outcomes with fewer side effects and quicker recovery times.

Discussion

BPH presents with a wide spectrum of symptoms and progression, necessitating individualized care strategies. Age, prostate size, symptom burden, and patient preference all influence therapeutic decisions. Pharmacologic treatment provides symptomatic relief, but its limitations in long-term efficacy and side effect profile make surgical options necessary for many patients.

TURP has a long-established history of efficacy but carries risks such as bleeding, retrograde ejaculation, and longer recovery time. Minimally invasive surgical therapies (MISTs) are increasingly being adopted due to their safety profile and patient satisfaction. Among these, UroLift offers mechanical relief of obstruction without tissue removal, while Rezūm employs steam ablation, leading to tissue necrosis and volume reduction.

Patient education, shared decision-making, and routine follow-up are crucial components of successful BPH management. Furthermore, ongoing research into biomarkers, imaging advances, and combination therapies promises to refine future urological practices in managing this common condition.

Conclusion

Benign prostatic hyperplasia is a prevalent and impactful condition among aging men. With a variety of diagnostic tools and therapeutic options available, personalized treatment plans are essential to optimize outcomes. The advent of minimally invasive techniques has expanded the armamentarium of urologists, offering effective and patient-friendly alternatives to traditional surgery. Continued research and innovation will be central to improving care for patients with BPH.

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