



"PREDICTION OF RESPONSE TO CLINICAL TREATMENT IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA DIAGNOSED WITH PRONOUNCED MIDDLE LOBE"

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Abstract

Benign Prostatic Hyperplasia (BPH) stands as the most prevalent noncancerous growth in the prostate gland in elderly men, characterized by the enlargement of the prostate gland. A subtype of BPH that has garnered the interest in the medical community is one in which a significant increase in the middle lobe is evident, which can lead to various complications and challenges in clinical management. **Methodology:** The study adopts a systematic approach to review the literature on treatment response in patients with benign prostatic hyperplasia and a notably affected middle lobe. A comprehensive search was conducted in medical and scientific databases using relevant keywords and temporal filters. Clinical studies that met specific inclusion criteria were selected, and bibliometric analysis was performed to identify prominent journals in this field and their impact. This provides a comprehensive view of research in this domain and its influence on the scientific community.

Result: Various non-invasive therapies, such as psychosexual therapy and phosphodiesterase 5 inhibitors (PDE5), have shown significant improvements in the symptoms of benign prostatic hyperplasia (BPH) without negatively affecting sexual function. Multiple surgical procedures, such as open prostatectomy, transurethral resection of the prostate (TURP), and arterial embolization of the prostate (AEP), are used in the treatment of BPH, each with different success rates and risks. GreenLight laser photoselective vaporization is an effective and safe option.

Conclusion: Risk factors, treatment selection, and the importance of early diagnosis are emphasized, along with the ongoing need to research and improve therapies for this common condition in older men.

Keywords: Prostatic hyperplasia, pharmacological treatment, adrenergic alpha-Antagonists

Introduction

Benign prostatic hyperplasia (BPH) is the most common benign neoplasm in elderly men, reaching a prevalence of 8% in men aged 40 years, and 90% in men aged 90 years. Because of its anatomical location, BPH causes irritative, obstructive, or mixed lower urinary tract symptoms, which become more common as age advances. The efficacy of medical treatment in patients with BPH and a

prominently affected middle lobe is an important issue, as early detection of those who respond well to specific treatments is crucial to their well-being. Although much information has accumulated about BPH and its treatments, questions remain about the effectiveness of treatments and what is the best option for those with noticeably affected middle lobes (2,3).(1)

Benign prostatic hyperplasia (BPH) is a medical condition in which noncancerous growth of tissue occurs within the prostatic transition zone, which surrounds the proximal urethra. It is a relevant health problem in primary care due to its high prevalence in men from the age of 40. The prevalence increases with age, reaching approximately 70% in men aged 60 to 69 years and 80% in men older than 70 years (4,5,6,7). From a histological perspective, BPH is characterized by the increase in the number of cells in the stroma and epithelium of the prostate gland, resulting in an increase in its volume and the possibility that it compresses the prostatic urethra and affects the normal flow of urine, as well as adequate relaxation of the bladder neck. (8)

Globally, for 2019, there were 94 million cases of benign prostatic hyperplasia compared to 51.1 million cases in 2000, that is, the global number of prevalent cases increased by 70.5% between these years. The number of BPH cases is increasing at an alarming rate, particularly in low- and middle-income countries currently undergoing rapid demographic and epidemiological changes. In the context of countries with a similar economy to Ecuador, a study conducted in Mexico found a prevalence of prostate symptoms in men aged 63 to 75 years, who need intervention in 43.5%, where mild, moderate and severe symptoms were reported in 56.5%, 35.9% and 7.6% respectively. (9)(10) Importantly, chronic inflammation plays a significant role in histological changes in BPH. This inflammation can be triggered by viral or bacterial infections, which leads to the release of cytokines, chemokines, and growth factors. These factors contribute to the growth of epithelial and stromal cells in the prostate. In summary, BPH is associated with a number of changes in prostate tissue, including chronic inflammation, which can be driven by infections and trigger a number of cellular and molecular responses (11,12).

It should be noted that the prostate normally measures about 2 x 3 centimeters and has a volume of about 20 cubic centimeters, shaped similar to a chestnut. The increase in its size is classified into four degrees of prostatic hypertrophy: grade 1 (doubling of size), grade 2 (triple normal size), grade 3 (quadruple normal size), and grade 4 (size so large that the boundaries are not clear). This classification helps in the evaluation and determination of the treatment of prostate disorders. Risk factors for BPH are divided into non-modifiable and modifiable, influencing the prevalence of the disease (5,13,14,15).

There are non-modifiable risk factors for benign prostatic hyperplasia (BPH) which include ethnicity, where Asian men have a lower risk of BPH compared to black and white men, and genetic susceptibility, as familial BPH is characterized by significant prostate enlargement and detection at younger ages compared to sporadic BPH (16,17). Regarding modifiable risk factors, an association has been found between metabolic syndrome and BPH, with patients presenting with metabolic syndrome showing higher prostatic growth rates and greater volume, in fact, the consumption of coffee or total caffeine is associated with an increase in the probabilities of progression of BPH (18,19).

The symptoms associated with benign prostatic hyperplasia (BPH) fall into two main categories: irritative and obstructive. Irritative symptoms are related to changes in the muscle tone of the bladder neck and smooth muscle of the prostate, while obstructive symptoms are due to abnormal growth of the prostate, which affects the ability to empty the bladder. Irritative symptoms manifest during the bladder filling phase, while obstructive symptoms are linked to difficulty emptying it. It is relevant to

note that moderate urinary symptoms are common in adult men, affecting a significant percentage, which can have adverse psychological consequences (20,21).

Given all the above, this research has as a general objective "To describe the prediction of the response to clinical treatment in patients with benign prostatic hyperplasia with pronounced middle lobe diagnosis. To meet this objective, it was necessary to ask the following research questions: What are the main causes that hinder the timely diagnosis of patients with intravesical protrusion of the prostate?; Is there a significant relationship between clinical treatment failure and progression of intravesical protrusion in patients?; Can intravesical protrusion greater than 15 mm be considered a reliable indicator of clinical treatment failure? What is the general prognosis of patients diagnosed with intravesical protrusion, and what are the most frequent complications associated with this specific condition? and, What are pharmacological treatments used in the treatment of intravesical protrusion?"

Methods

This study carried out a literature review in order to identify and examine the relevant scientific literature regarding response to clinical treatments in patients diagnosed with benign prostatic hyperplasia and a markedly affected middle lobe. A thorough search was conducted using a variety of medical and scientific databases, including PubMed/MEDLINE, Embase, and Web of Science. Subsequently, a search strategy was designed to find research that addresses how patients with benign prostatic hyperplasia and a prominent middle lobe respond to treatment, using relevant terms and keyword combinations, such as "benign prostatic hyperplasia", "middle lobe hypertrophy", "response to treatment" and other related terms.

For this review, articles were selected according to previously established inclusion and exclusion criteria, inclusion criteria were based on original clinical and research studies that focused specifically on treatment response in patients suffering from benign prostatic hyperplasia and scientific articles published in the last five years. On the other hand, scientific articles that did not meet the criteria described or that did not provide information relevant to the objectives of the review were excluded. In addition to the assessment of the quality and adequacy of the studies, a bibliometric analysis was carried out in order to identify the journals that most frequently publish research in this field and that are indexed in quartiles. This process was carried out by identifying the journals indexed in academic and scientific databases that address this topic. In addition, the impact classification of these journals was determined, using reference indicators such as the Journal Citation Reports Impact Factor. The analysis had a dual purpose: first, we sought to identify journals that stand out for the publication of significant research in this domain, and, second, we evaluated the influence of these journals by categorizing them into impact quartiles.

Results

Below are the results obtained from the systematic search for information

Table 1. Causes that hinder the timely diagnosis of patients diagnosed with intravesical protrusion.

AUTHOR	TITLE	METHODOLOGY	RESULTS
Sandoval, et al, 2022. (23)	Benign Prostatic Hyperplasia: Review Article	Literature review	BPH affects men over the age of 45. Non-modifiable risk factors are: age, race, genetic predisposition; and modifiable: obesity, physical activity, coffee and alcohol. The exact cause is multifactorial and still unknown.
Montiel, et al, 2021. (30)	Quality of life and erectile dysfunction in patients with benign prostatic hyperplasia	Cross-sectional, descriptive study	BPH causes lower urinary tract symptoms such as nocturia, urinary urgency, polyuria, and weakens urinary flow. Its mechanisms include decreased nitric oxide, cyclic guanosine monophosphate signaling, and inflammation.
Conchado, et al, 2021. (8)	Benign prostatic hyperplasia and lower urinary tract symptoms	Cross-sectional descriptive study	Men between 40 and 50 years old were studied. Urinary tract symptoms were mild (38.8%), moderately (21.5%) and severe (39.7%). In addition, they had comorbidities such as hypertension (26.7%) and diabetes (17.2%).
Quimis, et al, 2018. (31)	Predominant factors of benign prostatic hyperplasia	Literature review	BPH is related to genetic, hormonal, inflammatory and nutritional factors. Although the mechanisms are unclear, research supports this connection.
Ortiz, et al, 2022. (32)	Clinical and epidemiological characteristics of patients with symptomatic benign prostatic hyperplasia at the Regional Teaching Hospital of Cajamarca, 2018.	Descriptive study	BPH is common in older men, between 60 – 69 years, and is the leading cause of lower urinary tract symptoms. Although its exact cause is uncertain, lifestyle factors and metabolic syndrome may contribute. This pathology affects the vesico-prostate-urethral complex, with symptoms ranging from mild to severe.
Ramos, et al, 2021. (33)	Association between erectile dysfunction and marital subsystem functionality in patients with benign prostatic hyperplasia	Observational, cross-sectional and descriptive study.	BPH has multiple causative factors, including age, genetics, diet, ethnicity, metabolic syndrome, infections, and medications. These factors contribute to systemic inflammation and the release of pro-inflammatory cytokines, promoting prostatic growth.
Martinez, et al, 2021. (34)	Benign prostatic hyperplasia and lower urinary tract symptoms	Cross-sectional descriptive study	BPH affects men of different ages, with symptoms that impact quality of life, regardless of occupation or comorbidities.
Pinilla, et al, 2022 (35)	Benign prostatic hyperplasia clinical case.	Observational, cross-sectional and descriptive study.	BPH is a multifactorial condition justified by age, genetic, hormonal factors, chronic inflammation, unhealthy lifestyle habits and metabolic syndrome. Epidemiological, genetic, and clinical studies support these causes.
Ramos, et al, 2023. (36)	Prevalence and epidemiological characteristics of benign prostatic hyperplasia in patients treated at the Regional Hospital of Ica during the year 2021 - 2022	Study is observational, cross-sectional, prospective, and descriptive level descriptive, quantitative design	Most patients are over 60 years of age, with moderate symptoms. A significant percentage are overweight or obese, and some use tobacco or alcohol. In addition, the size of the prostate varies. Most patients have PSA levels between 4.5 and 6.5 ng/mL.
Vargas, Maria, 2023. (37)	Benign prostatic hyperplasia: epidemiology, etiology, pathophysiology, evaluation and diagnosis. Systematic review	Literature Review	Risk factors for BPH include age, genetics, and race (nonmodifiable), as well as obesity, metabolic syndrome, smoking, and low physical activity (modifiable). Mechanisms include androgenic levels, growth, estrogen, inflammation, chronic nerve and prostate activity.

Table 2. To identify whether an intravesical protrusion greater than 15 mm is an indicator of failure to clinical treatment.

AUTHOR	TITLE	METHODOLOGY	RESULTS
Hernandez, et al, 2019 (38).	Correlation of intravesical protrusion and lower urinary symptomatology	Descriptive, experimental study	Intravesical protrusion >15 mm may indicate failure to treat lower urinary obstructive symptoms. The PPI is used in the initial assessment, correlating it with urinary obstruction in relation to Qmax.
Barreto, et al, 2019.(39)	Preventive considerations in patients undergoing prostate surgery	Literature Review	Intravesical protrusion and resistance index are useful parameters for predicting bladder outlet obstruction in patients with lower urinary tract symptoms suggestive of benign prostatic hyperplasia.
Alcántara, et al, 2019. (40).	Can measurement of intravesical protrusion predict response to medical treatment in patients with benign prostatic hyperplasia?	Literature review	Measurement of intravesical protrusion is not a reliable predictor of response to medical treatment in patients with benign prostatic hyperplasia. The efficacy of treatment is usually assessed by other clinical parameters and specific tests, such as urine flow and the patient's symptoms.
Hernandez, et al, 2021.(41)	Grade 3 protrusion index, evaluated by suprapubic ultrasound from August to December 2018 and its correlation with severe symptoms based on the IPSS questionnaire.	Observational, descriptive, cross-sectional and prospective study.	The grade 3 protrusion index, determined by suprapubic ultrasound, does not always correlate directly with severe symptoms according to the IPSS questionnaire. Evaluation of urinary symptoms and other factors is essential for an accurate assessment of the patient's condition.
Maldonado, et al, 2019 (42).	Intravesical prostatic middle lobe size as a predictor of the outcome of attempted transurethral catheter removal in patients with acute urine retention	Experimental, descriptive study	Intravesical prostatic growth, specifically the middle lobe protruding into the bladder, has been investigated as a predictor of success in catheter removal in patients treated with alpha-adrenergic blockers such as alfuzosin and tamsulosin.
Tjie, et al, 2019.(43)	Correlation of prostate volume and intravesical protrusion with detrusor wall thickness by transabdominal ultrasound in benign prostate enlargement: a preliminary study	Analytical observational cross-sectional study	There is a very weak correlation between prostatic volume and detrusor wall thickness and a weak correlation between intravesical protrusion and detrusor wall thickness. Other variables can influence the wall thickness of the detrusor.
Olufikayo, et al, 2022.(44)	The predictive value of intravesical protrusion in the outcome of a catheter-free trial in patients with acute urinary retention due to benign prostatic hyperplasia at Jos University Hospital, Nigeria: a prospective observational study	Prospective observational study	Intravesical protrusion significantly predicted the outcome of the catheter-free trial in patients with benign prostatic hyperplasia who had acute urinary retention. It is a useful tool in the initial evaluation of patients with benign prostatic hyperplasia who present with acute urinary retention.
Rahardjo, et al, 2022.(45)	Correlation of intravesical prostatic protrusion in benign prostatic hyperplasia and residual lower urinary tract symptoms after surgery: a systematic review	Literature review	Several studies suggest that increased intravesical protrusion is associated with successful postoperative outcomes in patients with prostate symptoms. However, some studies did not find a significant prognostic relationship with this protrusion.
Hussain, et al, 2022.(46)	Intravesical protrusion and prostatic volume in patients with acute urine retention	Descriptive, experimental study	Intravesical protrusion (IPP) assessed by transabdominal ultrasound may lead to more aggressive treatments. 9% had significant PPI, with a mean of 9.81 mm. All cases with significant PPI had severe symptoms (PPI) and correlated with prostate volume.

Table 3. Prognosis of patients who are diagnosed with intravesical protrusion and the frequent complications that may occur in these specific cases.

AUTHOR	TITLE	METHODOLOGY	RESULTS
Caro, et al, 2018. (47)	Infectious complications after open prostatectomy and transurethral resection of the prostate in patients with benign prostatic hyperplasia	Descriptive Study	Open prostatectomy and TURP are common for treating BPH. In the former, risk factors are unclear, while in TURP, previous bacteriuria, long surgical duration, and catheter manipulation are identified risk factors.
Perez, et al, 2021. (14)	Postoperative complications in patients with benign prostatic hyperplasia according to surgical technique	Descriptive study	In the treatment of BPH, differences in surgical techniques were observed. There were more transvesical urinary tract infections, retropubic operative site infections and more orchiepididymitis in the latter. 17.4% experienced monopolar prostatic transurethral posturethral resection syndrome.
Park, et al, 2019.(48)	Relationship Between Intravesical Protrusion and Pressure-Flow Study Findings in Patients with Benign Prostatic Obstruction/Lower Urinary Tract Symptoms	Descriptive study	The vertical measure of IPP revealed a strong association with prostate size and transition volume, but showed no relationship with symptom severity, quality of life, or EPF parameters.
Carrero, et al, 2019.(49)	Benign prostatic hyperplasia and lower urinary tract symptoms. Review of current evidence	Literature review	The relationship between IPP and complications in patients with an enlarged prostate is crucial. A high vertical PPI, related to prostate size, increases the risk of urinary obstruction and retention, with possible serious consequences such as infections, bladder stones.
Condori, et al, 2019.(50)	Relationship of post-voiding residue, degree of bladder "trabeculation" and urinary flow in patients with symptomatic benign prostatic hyperplasia.	Analytical and retrospective study	Urinary flow obstruction can lead to complications such as detrusor muscle changes, bladder hypertrophy, and trabeculation, and these complications can vary in severity and are not always directly reflected in uroflowmetry test results.
Brenes, et al, 2019.(3)	Referral criteria in benign prostatic hyperplasia for Primary Care - 5G (4th ed.)	Literature review	Most cases of BPH tend to worsen over time, resulting in a decrease in quality of life and increased complications, such as irreversible bladder dysfunction, kidney failure, recurrent infections, lithiasis, hematuria, and the eventual need for surgery due to clinical deterioration of the disease.
Estrada, Aurelio, 2021.(51)	Manual flowmetry in the clinical and therapeutic evaluation of patients with benign prostatic hyperplasia	Descriptive Study	Complications were observed in both groups. In surgery: intense postoperative hematuria, infection, sclerosis of the bladder neck and retrograde ejaculation. Medical studies included adverse effects of medications, such as hypotension and erectile and ejaculatory sexual dysfunction.
Concheski, et al, 2022.(52)	Benign prostatic hyperplasia and its complications	Literature Review	BPH can lead to significant medical complications, such as acute urinary retention, recurrent urinary tract infections, bladder stones, haematuria and renal impairment. These complications can have a major impact on a patient's health and quality of life.

Table 4. Relationship between clinical treatment failure and progression of intravesical protrusion.

AUTHOR	TITLE	METHODOLOGY	RESULTS
Zambrano, et al, 2019.(53)	Treatment of benign prostatic hyperplasia and erectile dysfunction by the general practitioner	Descriptive Study	In the initial phase of treatment for problems of a sexual nature, non-invasive approaches such as psychosexual therapy and the use of medications, such as Phosphodiesterase 5 Inhibitors (IPDE5), are considered. In cases with psychological components, psychotherapy may be a therapeutic option.
Avila, et al, 2021. (54)	Effectiveness of Cucurbita pepo in the treatment of prostatic hyperplasia. Systematic review and meta-analysis	Literature review	In studies with 1403 men, pumpkin seed oil showed a significant decrease in certain aspects related to the prostate, but no improvements in quality of life.
López, et al, 2019 (55)	Drug treatment of benign prostatic hyperplasia. Literature review	Descriptive	The study supports the importance of individualization in the choice of medical treatment, in line with the recommendations of clinical practice guidelines. It highlights the need to consider factors such as side effects, patient preferences and scientific evidence when selecting the first-line drug.
Bultó, et al, 2023.(56)	Does previous treatment with 5-alpha reductase inhibitors have an impact on the development of prostate enucleation with holmium laser? Results of a prospective observational study and literature review	Retrospective study	No significant differences were found between the groups in terms of perioperative parameters, complications or hospital stay. This suggests that the use of 5ARI had no noticeable impact on surgical treatment outcomes, and no differences in response to the procedure were observed between groups.
M.Fourmarier, et al, 2021.(57)	Recent and emerging techniques in the treatment of symptomatic benign prostatic hyperplasia	Descriptive	AquaBeam is a robot-assisted technique developed to treat prostate conditions. It uses saline water hyperpressure and transrectal ultrasound. Suitable patients have a history of failed medical treatment, age over 50 years, moderate or severe prostatic symptoms according to the IPSS and reduced urinary flow. Ultrasound-guided precision is essential to your success.
Or.Yilmaz, et al, 2022.(58)	Hounsfield Units: A Promising Non-Invasive Tool for the Diagnosis of Benign Prostatic Hyperplasia	Descriptive, experimental study	In this study, a significant negative correlation was found between the proportion of UH in the peripheral and central zone of the prostate and the maximum urinary flow, suggesting that as the proportion of UH in the peripheral zone increases relative to the central zone, the maximum flow tends to decrease.
A.R.Espinoza, 2019.(59)	Intraprostatic ethanol injection as an alternative therapy in patients with benign prostatic hyperplasia	Prospective study	The procedure was tolerated by patients, with an average urethrovessical catheter duration of 10.68 days. Significant improvements were observed on the International Prostate Symptom Scale (47.58% increase), although quality of life improved without being statistically significant. Decreases in prostate volume and postvoiding residue were also recorded.

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Garcia, et al, 2018.(60)	Effect of tamsulosin on quality of life in patients with benign prostatic hyperplasia	Descriptive, experimental study.	In the study involving 50 patients, it was found that after three months of treatment, there was a significant improvement in symptom severity, with a decrease from 68.0% to 38.0% in patients experiencing severe symptoms.
Leon, 2020. (51)	Manual flowmetry in the clinical and therapeutic evaluation of patients with benign prostatic hyperplasia	Descriptive, prospective and longitudinal study	Medical treatment was recommended for patients younger than 60 years with average urinary flow at the lower limit, no evidence of bladder lesions and urinary residue below 60 mL.
Arana, et al, 2021 (21)	Review of the application of photoselective vaporization in benign prostatic hyperplasia	Descriptive study	Most patients with BPH showed urinary flow restriction. 74.0% opted for surgical treatment, with successful surgery and few complications. It indicates that transurethral resection of the prostate was effective in most.
Araujo, et al, 2021, (61)	Vulnerability of patients with prostatic hyperplasia treated with dutasteride and finasteride	Literature review	Treatment with 5-alpha-reductase inhibitors for BPH may have morphophysiological effects on the prostate. In Brazil, the Unified Health System has not significantly increased the financial resources allocated for the diagnosis and treatment of BPH in more than a decade. This has led to an insufficient budget to address the growing demand for treatment.
Vasconez, et al, 2020.(62)	Comparison of clinical outcomes in patients with Benign prostatic hyperplasia with initial treatment Pharmacological, non-pharmacological and surgical, attended in the Pablo Arturo Suárez Hospital From January 2014 to December 2016	Observational study, retrospective cohort type.	The results of the study suggest that patients with mild symptoms, observed significant differences between the different types of treatment, but for those with moderate symptoms or severe, some treatments may be more effective than others.

Feedback

Through the results seen in the tables above, it can be evidenced that the treatment options for BPH are diverse and range from non-invasive therapies to surgical procedures. Therapies such as psychosexual therapy and phosphodiesterase 5 (IPDE5) inhibitors have been shown to be effective in managing BPH symptoms without affecting sexual function. In more advanced cases, surgical procedures such as open prostatectomy, transurethral prostatic resection (TURP) and arterial embolization of the prostate (PAD) are chosen, each with their own success rates and risks.

Photoselective vaporization with GreenLight laser stands out as a safe and effective alternative to control the symptoms of BPH. In addition, ongoing research explores risk factors, connections between indicators of urination and BPH characteristics, as well as the role of 5-alpha reductase inhibitors and other factors in the development of this pathology. This means that the choice and effectiveness of treatments for BPH depend on individual factors, so personalized care is key in the goal of improving the quality of life of patients with BPH. Continued research is critical to developing successful and safe therapies.

However, in order to give answers to the research questions about the main causes that hinder the timely diagnosis of patients with intravesical protrusion, it is necessary to know that in the first place it must be Perform a complete medical history and physical exam including digital rectal examination. Subsequently, a urinalysis is carried out and the prostate-specific antigen (PSA) is evaluated. A urinalysis is obtained in all patients for the purpose of identifying pyuria, glycosuria, proteinuria,

ketonuria, or bacteriuria, which may be signs of alternative diagnoses and therefore warrant further evaluation.(22)(23)

Prostate-specific antigen (PSA) is not essential for the diagnosis of benign prostatic hyperplasia (BPH), but may be useful in differentiating it from prostate cancer and guiding treatment choices. It is important to note that PSA should be interpreted in conjunction with the patient's prostate volume and individual conditions. Normal values (0-4 ng/mL) and the importance of the free PSA/total PSA ratio are mentioned. An annual increase of 0.75 ng/mL/year in PSA should be investigated for suspected prostate cancer, and a PSA greater than 10 ng/mL increases the chance of prostate cancer by more than 50%. To assess symptom severity and response to treatment, the use of validated questionnaires is recommended. Ultrasound tests are indicated in cases where the choice of treatment depends on prostate volume, and dynamic tests, such as uroflowmetry, can be complementary, with a specificity of 70% (24,25,26).

BPH is a common condition that affects men over the age of 40 and is characterized by enlargement of the prostate and representation of lower urinary tract symptoms (LUTS). The clinical treatment of BPH aims to improve the well-being and quality of life of patients, relieve symptoms and prevent complications. However, response to treatment may vary depending on the individual characteristics of each patient, such as prostate volume, degree of obstruction, presence of pronounced middle lobe (PML), and other factors. Therefore, it is essential to determine the predictive factors of the response to clinical treatment in patients with BPH, especially in those with PML, which is considered as a risk factor in the progression of the pathology and the need for surgery.(5)(7)(1)

There are several drugs and treatment regimens for BPH, which are classified into three main groups: alpha-adrenergic blockers, which relax prostatic and urethral smooth muscle; 5-alpha-reductase inhibitors, which reduce the size of the prostate by inhibiting the conversion of testosterone to dihydrotestosterone; and anticholinergics, which inhibit bladder parasympathetic fibers. First-line treatment depends on the severity of symptoms, degree of obstruction, prostate volume, and patient and physician preferences.(27) (63)

Although there are multiple pharmacological options for treating lower urinary tract symptoms caused by benign prostatic hyperplasia, a clear first-line treatment has not yet been established. Combination therapy is considered as a second-line option for those patients who do not respond to monotherapy. Choosing the right treatment should be based on a thorough evaluation of the available options, potential side effects, and patient preferences.(7) (55). Fernandez, et al, (64), developed a randomized study comparing treatment with dutasteride (a 5-alpha-reductase inhibitor) versus placebo in 110 patients with BPH and PML for 24 weeks. The results showed that treatment with dutasteride significantly reduced total prostate volume and PML volume, as well as symptoms and postvoiding residue, without affecting peak urine flow or causing serious adverse effects. (64)

In a retrospective study of qualitative approach, 100 patients diagnosed with benign prostatic hyperplasia in the Urology area of the University Hospital were examined. A prevalence of 87% was determined in patients aged 60 to 80 years, 63% had a family history of prostate disorders. It should be noted that the study emphasizes that the prostatic hormonal profile, including free and total PSA, is not sufficient for diagnosis, as it shows low sensitivity. Therefore, it is recommended to supplement the diagnosis with ultrasound and consider the possibility of performing prostate biopsy in patients with a PSA greater than 6 ng / ml.(65) (65)

These studies suggest that different clinical treatments can be effective and safe to optimize the well-being and quality of life of patients with BPH and PML. However, more studies with larger numbers of patients, longer duration of follow-up and greater methodological rigor are required to confirm these findings and establish the predictor components of response to clinical treatment in this population. Likewise, it is suggested to evaluate each patient individually, considering their clinical characteristics, their expectations and their preferences, to offer the best possible treatment.

Conclusions

The present research concludes that:

The diagnosis of intravesical protrusion is often complicated due to its gradual clinical manifestation and the similarity of symptoms with other prostate conditions. Lack of information from patients about the symptoms associated with intravesical protrusion of the prostate may result in a delay in seeking appropriate medical care.

The lack of improvement in urinary symptoms despite clinical treatment could suggest the relevance of evaluating therapeutic alternatives that are more invasive. The results indicate that an intravesical protrusion greater than 15 mm could be an important marker to predict the possibility of failure in clinical treatment. Measuring intravesical protrusion of the prostate may be beneficial in identifying patients who may need further evaluation and considering additional treatment options.

In these situations, complications such as acute urinary retention, recurrent urinary tract infections, and obstruction of urinary flow are common. Proper and timely management of these complications plays an essential role in improving patients' quality of life. These findings highlight the need for earlier medical care and careful management of complications related to this condition. In the future, this research may contribute to improving patients' quality of life by providing clearer guidelines for the diagnosis and treatment of intravesical protrusion.

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