

Psychological Impact of Sexual Disorders Related to Benign Prostatic Hypertrophy

Mohamed Tebaa^{1*}, Radouane Es-saady¹, Zakaria Dahami¹, Mohamed Amine Lakmichi¹, Ismail Sarf¹

¹Arrazi Urology Department, CHU Mohammed VI, Faculty of Medicine and Pharmacy, Cadi Ayad University, Marrakech, Morocco

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*Corresponding author: Mohamed Tebaa

Arrazi Urology Department, CHU Mohammed VI, Faculty of Medicine and Pharmacy, Cadi Ayad University, Marrakech, Morocco

Abstract

Original Research Article

Objectives: Lower urinary tract disorders related to BPH are today among the most frequent symptoms in urology. The aim of our study is to determine the prevalence of erectile dysfunction in patients with BPH-related lower urinary tract symptoms and the related psychological impact. **Methods:** We conducted a study to assess the psychological impact of BPH-related sexual dysfunction. We used two scores to assess anxiety-depressive symptoms. The Patient Health Questionnaire-9 (PHQ-9), which gives an indication of the severity of depression, and the Generalized Anxiety Disorder - 7 (GAD-7) 1 for screening patients for generalized anxiety disorder. The severity of erectile dysfunction was specified using the SHIM score (Sexual Health Inventory for Men). **Results:** A total of 290 participants. The mean age was 58 years, 175 (60%) patients had erectile dysfunction, 120 (60%) of these patients with ED were treated with alpha blockers (OR=2.38, RR = 1.43, p = 0.04). The most represented age group was 60-69 years, 50 (28%) patients were treated with alpha blockers (OR=1.67, RR = 1.15, p = 0.01) while only 10 (5.7%) patients were treated with herbal extracts (phytotherapy). 65% of participants with erectile dysfunction showed varying degrees of depression and 53% of participants with erectile dysfunction showed varying degrees of anxiety. **Conclusion:** Micturition disorders caused by benign prostatic hyperplasia (BPH) and erectile dysfunction are frequent and often coexist. BPH-related erectile dysfunction has a significant psychological impact.

Keywords: BPH- erectile dysfunction- anxiety- depression.

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INTRODUCTION

Lower urinary tract disorders, mainly benign prostatic hyperplasia (BPH), are now among the most common chronic pathologies after the age of 40. Pharmacological treatments for BPH frequently have sexual effects, and the perception of sexuality differs between populations and cultures. The aim of our thesis work is to assess the impact of sexual disorders related to BPH on mental health, based on several psychological measurement scales. The aim of our study is to determine the prevalence of erectile dysfunction in patients with BPH-related lower urinary tract symptoms, and the related psychological impact.

PATIENTS AND METHODS

This is a descriptive and analytical cross-sectional study spread over a 10-month period (January 2022 to October 2022). The study included 290 patients over 40 years of age with lower urinary tract symptoms related to benign prostatic hypertrophy, who consulted or were hospitalized in the urology department of Hôpital

Arrazi, CHU Mohammed VI de Marrakech. Patients presenting with LUTS related to other pathologies other than benign prostatic hypertrophy, and patients who had experienced trauma or undergone prostatic surgery, were excluded from this study [1-3].

Data sources/measurements:

The study was conducted at the Urology Department, Arrazi Hospital, CHU Mohammed VI of Marrakech, Faculty of Medicine and Pharmacy, Cadi Ayad University of Marrakech. The severity of UAS was assessed using the IPSS score, which records the frequency of urinary symptoms [4, 5]. We used two scores to assess anxiety-depressive symptoms. The Patient Health Questionnaire-9 (PHQ-9), which screens for depression and also gives an indication of depression severity, and the Generalized Anxiety Disorder-7 (GAD-7) 1, which has been validated as a relevant scale for screening patients for generalized anxiety disorder [5, 6]. The severity of erectile dysfunction was specified using the SHIM score (Sexual Health Inventory for Men) [6]. Both scores were translated into sustained Arabic,

dialectal and Amazigh (Berber) languages or orally translated to illiterate patients.

Data Collection

Data sheets were examined for missing or erroneous data. Data analysis was performed using Excel software. To protect patient confidentiality, the questionnaire was anonymous. The questionnaire was completed after obtaining verbal consent from the patient.

RESULTS

The mean age was 58 years, among 290 participants who presented with SBAU, 175 (60%) patients presented with erectile dysfunction, 120 (60%) of these patients with ED were treated with alpha blockers (OR=2.38, RR = 1.43, p = 0.04), compared with 55 (18%) patients treated with herbal extracts (phytotherapy).

The most represented age group was 60-69 years, with 50 (28%) patients treated with alpha blockers (OR=1.67, RR = 1.15, p = 0.01) and only 10 (5.7%) patients treated with herbal extracts (phytotherapy). The age group of patients over 70 with erectile dysfunction was represented by 28.3%, with 40 (22%) patients treated with alpha blockers (OR=2, RR = 1.2, p = 0.03) and only 10 (6.3%) patients treated with herbal extracts (phytotherapy). Age over 60 and benign prostatic

hypertrophy were significantly correlated with erectile dysfunction (Table 1).

115 (39%) patients had no ED (SHIM score > 22) versus 175 (61%) patients with ED. Mild ED represented 19% of patients (n= 55), mild to moderate ED 23% of cases (n=65), moderate ED 12%, (n=35), and severe ED 7% (n= 20).

Independent predictors of erectile dysfunction in multivariate analysis were high age (OR=2, RR = 1.2, p = 0.03), presence of diabetes (OR = 0.87, RR = 0.93, p = 0.02), arterial hypertension (OR = 1.25, RR = 1.09, p = 0.04), metabolic syndrome (OR = 1.04, RR = 1.02, p = 0.03), body mass index (OR = 2.01, RR = 1.32, p = 0.001) and moderate-to-severe lower urinary tract symptoms (LUTS) according to IPSS Score (OR = 1.87, RR = 1.28, p = 0.001) (Table 1).

Estimation of prostate size by digital rectal examination (DRE) combined with suprapubic ultrasound data showed a prostate of less than 30ml in 44% of cases, and greater than 60ml in only 17%, which was not correlated with either the intensity of UABS or the severity of ED. However, there was a correlation between flowmetry data and ED severity; the mean SHIM score was 16.38 in 53% of patients with max flow < 10ml/s, compared with a mean SHIM score of 20 in 47% of patients with max flow between 10 and 15ml/s.

Table 1: Results of erectile function analysis

| | Group with erectile dysfunction Erectile | | Group with normal Erectile function | | OR | RR | coefficient Q | P |
|-------------------------------|---|-------------------------|--|-------------------------|------|------|---------------|-------|
| | Alpha blocker N:120 | Plant extracts N: 55 | Alpha blocker N :55 | Plant extracts N :60 | | | | |
| Age | | | | | 2.38 | 1.43 | 0.41 | 0,001 |
| 40-49 ans | 10 | 15 | 20 | 30 | 1 | 1 | 0 | 0.02 |
| 50-59 ans | 20 | 10 | 10 | 15 | 3 | 1.67 | 0.5 | 0.007 |
| 60-69 ans | 50 | 20 | 15 | 10 | 1.67 | 1.15 | 0,25 | 0.001 |
| >70 ans | 40 | 10 | 10 | 5 | 2 | 1,2 | 0.33 | 0,03 |
| High blood pressure | 30 | 15 | 16 | 10 | 1.25 | 1.09 | 0.19 | 0.04 |
| Diabetes | 40 | 23 | 18 | 9 | 0.87 | 0.93 | 0.07 | 0.02 |
| Coronary artery disease | 5 | 0 | 2 | 0 | - | - | - | 0.05 |
| Metabolic syndrome | 37 | 17 | 23 | 11 | 1.04 | 1.02 | 0.02 | 0,01 |
| Neuropathy | 20 | 8 | 6 | 3 | 1.25 | 1.06 | 0.11 | 0.03 |
| BMI >30 | 60 | 34 | 27 | 20 | 2.01 | 1.32 | 0.34 | 0.001 |
| LUTS (IPSS) Moderate – Severe | 70 | 32 | 34 | 29 | 1.87 | 1.28 | 0.3 | 0.001 |

We looked for symptoms of depression using the PHQ-9 [7]. The PHQ-9 is a brief tool used to diagnose and measure the severity of depression. We found that 65% of participants with erectile dysfunction showed signs of depression to varying degrees. 73 (41%) patients with erectile dysfunction were under treatment with alphas blockers versus 42 (24%) patients with erectile dysfunction were under phytotherapy (lipidosterolic extract of serenoa repens). Mild

depression in patients with erectile dysfunction treated with alpha blockers was found in 11 (9%) patients, 16 (14%) patients with moderate depression, 19 (16%) patients with moderately severe depression and 27 (23%) patients with severe depression. This indicates a higher rate of erectile dysfunction in patients treated with alpha blockers, and therefore a higher threshold of depression in these patients (Table 2).

We assessed anxiety symptoms using the GAD-7 scale for generalized anxiety disorder [8]. We found that 53% of participants with erectile dysfunction showed signs of anxiety to varying degrees. 59 (33%) patients with erectile dysfunction were treated with alphas blockers versus 34 (19%) patients with erectile dysfunction were treated with herbal extracts (phytotherapy). Mild anxiety in patients with erectile

dysfunction treated with alpha blockers was found in 13 (13%) patients, 21 (22%) patients with moderate anxiety and 25 (26%) patients with severe anxiety. This means that the rate of erectile dysfunction is higher in patients treated with alpha blockers and thus a higher anxiety threshold in these patients compared to the group with erectile dysfunction under herbal therapy (Table 2).

Table 2: Evaluation of depression and anxiety thresholds in patients with UABS

| | | Group with erectile dysfunction | | Group with erectile function | | | | |
|--------------------------------------|--------------------------------|---------------------------------|------------------------|------------------------------|------------------------|----------|-----------|-----------|
| | | Erectile | | Normal | | <i>p</i> | <i>OR</i> | <i>RR</i> |
| | | Alpha blocker N:120 | Phytotherapie N: 55 | Alpha blocker N :55 | Phytotherapie N: 60 | | | |
| Patient Health Questionnaire (PHQ-9) | • No depression | 47 | 13 | 36 | 44 | 0.03 | 4.4 | 2.4 |
| | • Mild depression | 11 | 6 | 9 | 8 | 0.02 | 1.63 | 1.28 |
| | • Moderate depression | 16 | 9 | 6 | 5 | 0.01 | 1.48 | 1.13 |
| | • Moderately severe depression | 19 | 11 | 3 | 3 | 0.001 | 1.73 | 1.1 |
| | • Severe depression | 27 | 16 | 1 | 0 | 0.001 | 0.96 | - |
| GAD-7 anxiety scale | • Absence of anxiety | 61 | 21 | 26 | 33 | 0.02 | 3.6 | 1.8 |
| | • Mild anxiety | 13 | 12 | 14 | 16 | 0,022 | 1.24 | 1.12 |
| | • Moderate anxiety | 21 | 9 | 9 | 8 | 0,013 | 2.07 | 1.32 |
| | • Severe anxiety | 25 | 13 | 6 | 3 | 0.001 | 0.96 | 0.99 |

DISCUSSION

Beginine prostatic hypertrophy (BPH) and erectile dysfunction are two problems affecting the elderly population. The relationship between BPH symptoms and erectile function now seems to be well established. Impaired functional and perceived sexuality have been correlated with age and symptom severity [9]. In our study, we investigated the severity of these two disorders using two questionnaires, the IPSS and the SHIM Score, and studied the psychological impact using two scales, the PHQ-9 and the GAD-7.

In this survey, symptom severity is an aggravating factor in ED. Another study, which investigated the frequency of sexual dysfunction in patients with BPH prior to surgical treatment, showed ED in 44.2% of patients with severe urinary disorders and 13.1% of patients with moderate symptoms [10], which corresponds to the results of our study.

The study conducted by the Department of Urology at the University of Cologne showed that the prevalence of ED was higher in BPH patients with urinary disorders than in asymptomatic men [11]. In our study, 175 (60%) patients in the study population with TUBA suspected erectile dysfunction, 102 (70%) patients had a moderate to severe TUBA score (IPSS), so there was a correlation between flowmetry data and ED severity. TUBA is a significant risk factor for sexual dysfunction, independent of other morbidity factors (diabetes, hyperlipidemia, smoking, hypertension, etc.).

Alpha-blockers are widely used in prostatic pathology, and have a relaxing effect on smooth muscle cells in the bladder neck, resulting in considerable improvement in lower urinary tract disorders. Alpha-adrenergic blockers are currently the most frequently prescribed treatment, since terazocine was launched on the market in 1992 [12].

In particular, α -blockers can cause erectile dysfunction, ejaculation problems and reduced sexual desire. In a 2-year study of 1,522 patients. Ejaculation disorders were reported with alfuzosin and were 0.4% [13]. In randomized studies of tamsulosin, the incidence of ejaculation disorders was significantly higher compared with placebo both in short-term studies and in a 1-year extension [14]. In the CombAT 2-year study, erectile dysfunction, decreased libido and loss of libido were reported in 3.8%, 1.7% and 0.9% respectively. In our study 175 (60%) patients with TUBA followed for BPH had erectile dysfunction, 120 (41%) patients were on alpha blockers and 55 (18%) patients were treated with herbal extracts (phytotherapy). There have been few rigorous studies using both control groups and validated questionnaires to assess the sexual side effects of α -blocker drugs. Only a small number of studies have intentionally set out to investigate sexual dysfunction caused by α -blocker drugs. Studies specifically evaluating sexual dysfunction induced by these drugs are needed.

The Department of Urology and Urology Outcomes Research Group, University of California conducted a 168-patient study on Psychological Impact of Erectile Dysfunction which concluded that men reporting greater psychological impact of erectile dysfunction also reported greater impairment in functional status, lower sexual self-efficacy, greater depression and greater anxiety at last intercourse. Most participants reported that erectile dysfunction was severe (67%), had lasted for more than a year (69%) and was still present (84%). More severe patients were significantly more likely to report that the condition was still present ($p < 0.0001$). Many participants reported having previously taken treatment for erectile dysfunction, mainly oral treatments (52%) such as sildenafil citrate [15].

A Martin Morales conducted an epidemiological, cross-sectional, observational, comparative, multicenter study. The study selected 405 elderly men with suspected erectile dysfunction. Statistical analysis of the data showed that subjects with ED had significantly lower scores on the self-confidence and self-esteem scales than non-ED subjects ($p < 0.01$) [16]. In our study, 65% of participants with ED showed signs of depression to varying degrees on the PHQ-9 scale. 53% of participants with erectile dysfunction showed signs of anxiety to varying degrees according to the GAD-7 scale.

CONCLUSIONS

Urinary disorders caused by benign prostatic hyperplasia and erectile dysfunction are frequent and often coexist. Knowledge of drug iatrogenicity is essential to prevent non-compliance with treatment. Male erectile dysfunction has an impact on mental health-related quality of life. In addition to significant impairment of functional status, it is associated with greater depression and anxiety.

Conflicts of Interest: The authors declare no conflict of interest.

Authors' Contributions

All authors have contributed to the conduct of this work. All authors also declare that they have read and approved the final version of the manuscript.

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