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Original Research Article

Expert opinion on the prescription practice of silodosin for treating benign prostatic hyperplasia patients in Indian clinical settings

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ABSTRACT

Background: The effectiveness and safety of silodosin compared to other drugs have been the subject of numerous studies to date, although the findings are debatable. So, this study aims to gather expert opinion on the prescription practice of silodosin for men with lower urinary tract symptoms leading to benign prostatic hyperplasia.
Methods: This cross-sectional, multiple-response questionnaire-based survey, included experts from various states across India with expertise in treating BPH. The study questionnaire, comprising 25 survey items on the management of BPH utilizing silodosin (8 mg) and other drug combinations to gather data via email or an online survey platform.
Results: Out of the 55 experts, 76% identified non-specific urinary tract infections as the most prevalent concomitant ailment in BPH patients. The majority of the experts (89.09%) recommended silodosin medication for these patients, and about 58% reported that patients might need to continue silodosin medication for three months. Another major benefit reported was its high selectivity for alpha 1A receptors (34.55%). However, 47% of experts reported retrograde ejaculation as a side effect, and 27% reported orthostatic hypotension. According to nearly 80% of responders, patients with BPH can use silodosin in combination with mirabegron (25/50 mg). A combination of silodosin and dutasteride was favoured by 67% of responders for BPH patients with acute urine retention.
Conclusions: The expert consensus has highlighted silodosin as an effective treatment option for LUTS in men with BPH in Indian settings. Silodosin and dutasteride combination were recommended by specialists for BPH patients with acute urine retention.

Keywords: Benign prostatic hyperplasia, Silodosin, Dutasteride, Urinary tract infection, Mirabegron

INTRODUCTION

Benign prostatic hyperplasia (BPH) clinically manifests as lower urinary tract symptoms (LUTS) and can lead to complications including acute urinary retention.[1] In major Indian cities like Delhi, Kolkata, Pune, and Thiruvananthapuram, prostate cancer ranks as the second most common cancer among males.[2] In India, the prevalence of BPH in men was approximately 25%, 37%, 37%, and 50% for the age groups of 40-49, 50-59, 60-69, and 70-79 years, respectively. The global prevalence of BPH in males over the age of 50 varies from 20% to 62%.[3]

The current strategies for treating BPH depending on the severity of the symptoms and the treatment options include watchful waiting, pharmacological management, surgery, and minimally invasive therapies.[1,4,5] Some well-known therapeutic alternatives include alpha-blockers, five alpha-reductase inhibitors, transurethral prostate resection, transurethral microwave thermotherapy, and herbal remedies. According to the 2013 version of the European Association of Urology guidelines, alpha-blockers were the currently recommended first-line therapy for all men with moderate or severe LUTS/BPH.[6] Alfuzosin, prazosin, doxazosin, tamsulosin, and terazosin were the commonly

used selective alpha 1-adrenergic blockers for the management of BPH.[7,8] Silodosin, a recently developed and highly specific alpha 1A-adrenergic receptor antagonist, has demonstrated greater selectivity for the alpha 1A-adrenergic receptor subtype compared to tamsulosin hydrochloride, naftopidil, or prazosin hydrochloride.[9] Several randomized controlled trials have corroborated the safety and efficacy of silodosin for the management of BPH.[10,11] An Indian randomized, open-label study has noted similar safety effects for silodosin and dutasteride, as well as alfuzosin and dutasteride in managing BPH.[12] Another Indian randomized controlled trial has indicated the comparable efficacy of tamsulosin and silodosin for the treatment of BPH.[13] The effectiveness and safety of silodosin compared to other drugs have been the subject of numerous studies to date, although the findings are debatable.[14-17] The present study aims to gather expert opinions regarding the prescription practice of silodosin for managing BPH in real-world Indian clinical settings, which may help clinicians in decision-making on the ideal management strategy.

METHODS

A cross sectional study was carried out, multiple-response questionnaire-based study among clinicians specialized in treating BPH patients across the major cities in Indian from June 2022 to December 2022 was conducted. An invitation was sent to leading clinicians in managing BPH in the month of March 2022 for participation in this Indian survey. About 55 doctors from major cities of all Indian states representing the geographical distribution shared their willingness to participate and provide necessary data. Further, we excluded those who were not interested to participate in this study. The questionnaire booklet named SIMPLE (Silodosin in the management of benign prostatic hyperplasia in Indian Patients) study was sent to the physicians and it consisted of 25 items focusing on the management of BPH using silodosin (8 mg) and other drug combinations. Clinicians were requested to answer the questionnaire without discussing with peers. A written informed consent was obtained from each clinician's prior initiation of the study.

Statistical methods

Descriptive statistics was used to analyse the data. Categorical variables were represented by percentages. Each variable's distribution was represented by a frequency and percentage distribution. Excel 2013 (16.0.13901.20400) was used to create pie and bar charts.

RESULTS

The survey involved 55 participants, with 71% of them suggesting that BPH tends to be diagnosed in males between 51 and 60 years of age, while 27% reported diagnosis typically occurring in those aged 61 to 70 years. Approximately 76% of the participants identified non-specific urinary tract infections as the most common comorbid condition in BPH patients. The majority of the experts (89%) preferred silodosin as the drug of choice for managing BPH (Figure 1). Approximately 58% of the clinicians reported that BPH patients may need to continue silodosin (8 mg) for three months. However, nearly 31% of the experts indicated that they would prescribe it for six months to BPH patients as described in Table 1.

Table 1: Response on the deal treatment duration of silodosin (8 mg) in BPH patients (n=55).

Ideal treatment duration of silodosin (8 mg) in BPH patients	Response rate, N (%)
3 months	32 (58.18)
6 months	17 (30.91)
2 years	3 (5.45)
Long-term	3 (5.45)

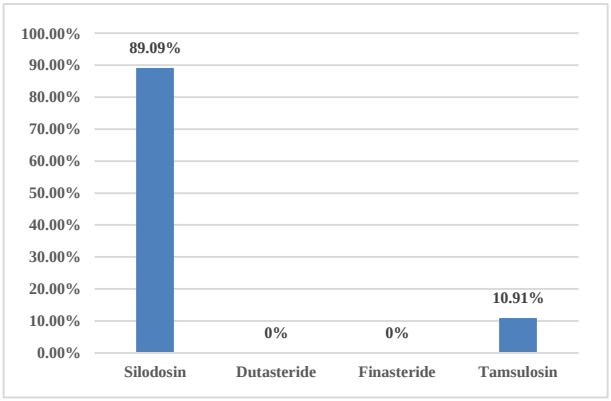

Figure 1: Response to the preferred medication for treating BPH patients.

Around 38% of the respondents noted the rapid onset of action of the silodosin drug as a major advantage in treating BPH patients. A significant proportion of experts (34.55%) also highlighted its high selectivity for alpha 1A-receptors as another benefit (Figure 2). However, retrograde ejaculation and orthostatic hypotension were reported as side effects by 47% and 27% of the participants, respectively, after using silodosin.

Table 2: Response to the preferred combination of silodosin with other drugs indicated for overactive bladder (n=55).

Preferred combination of silodosin	Response rate, N (%)
Silodosin 8 mg+mirabegron 25/50 mg	44 (80.0)
Silodosin 8 mg+solifenacin 5 mg	6 (10.91)
Silodosin 8 mg+tolterodine tartrate 4 mg	3 (5.45)
None of the above	2 (3.64)

The majority of the respondents (80%) indicated that silodosin (8 mg) can be combined with mirabegron (25/50 mg) to manage BPH (Table 2). About 42% of the experts

agreed to prefer mirabegron (25/50 mg) with silodosin (8 mg), while 22% disagreed with prescribing this combination for treating BPH. However, 36% of the participants denoted that they would prescribe this combination to BPH patients depending upon the disease severity.

For BPH patients with acute urinary retention, 67% of the respondents favoured a combination medication of silodosin with dutasteride. However, a lower percentage of experts recommended alfuzosin and tamsulosin in combination with dutasteride (23.64% and 5.45%, respectively, as shown in Figure 3.

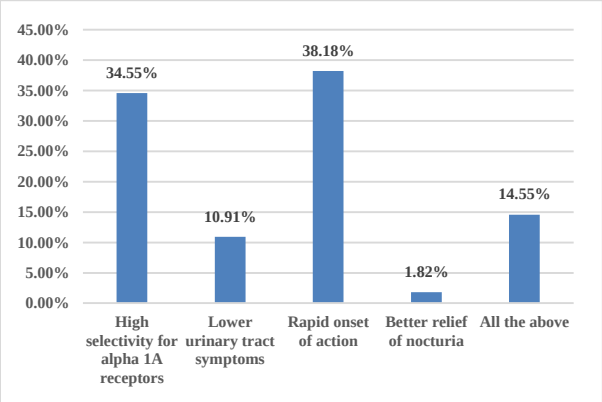

Figure 2: Response on the advantages of silodosin for the treatment of BPH.

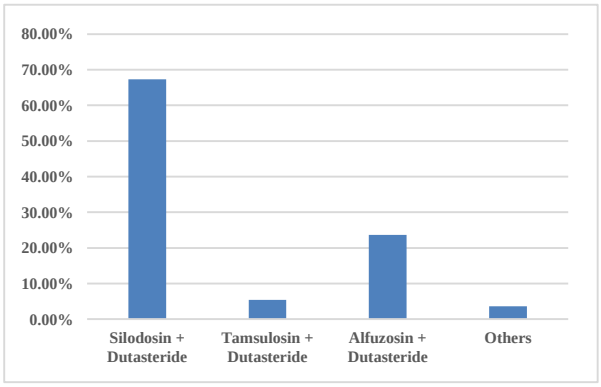

Figure 3: Response on the preference of medication for acute urinary retention in patients due to BPH.

DISCUSSION

The findings of the current study indicate that silodosin was a safe and effective treatment for BPH. Most participants noted that BPH tends to be diagnosed in males aged between 51-60 years. Furthermore, a significant number of respondents reported non-specific urinary tract infections as a common comorbid condition in BPH patients. The prevalence was 69% in men, and symptoms were moderate-to-severe in 21% of men in Brazil according to a population-based epidemiological survey.[18] Silodosin emerged as the preferred choice of treatment for BPH patients, as indicated by the majority of survey participants. Additionally, experts recommended that these patients continue taking silodosin 8 mg for three months to achieve complete recovery. Results from phase II trials comparing silodosin at doses of 4 mg and 8 mg for lower urinary tract symptoms in Japanese BPH patients confirmed the safety and efficacy of the drug, supporting its clinical use.[19] A subsequent trial indicated that the effectiveness of 8 mg/day of silodosin was comparable to that of 0.2 mg/day of tamsulosin.[20] A systematic review also recommended silodosin as an effective treatment for LUTS in BPH men, noting that it was not inferior to 0.2 mg/day tamsulosin.[21] However, in the current survey, the majority of the experts preferred silodosin over dutasteride, tamsulosin, and finasteride. This preference was based on silodosin's effectiveness in rapidly onset action and its high selectivity for alpha 1A receptors.

In the current survey, the combination of silodosin (8 mg) with mirabegron 25/50 mg emerged as a highly recommended treatment for BPH patients. A smaller proportion of experts preferred alfuzosin and tamsulosin in combination with dutasteride for BPH patients with acute urinary retention. The recommended daily doses of silodosin and tamsulosin in the US, Europe, and India are 8 mg and 0.4 mg, respectively.[11,15,20,22,23] An Indian randomized, comparative, open-label study indicated the comparable effectiveness of alfuzosin, tamsulosin, and silodosin for managing BPH and improving LUTS.[23]

According to a systematic review and meta-analysis, silodosin may be superior to placebo and naftopidil, while also being non-inferior to tamsulosin and alfuzosin in improving LUTS in BPH males. Silodosin group showed better cardiovascular safety but had a higher frequency of retrograde ejaculation and respiratory side effects.[24] Ejaculation disorder was a commonly reported side effect of taking silodosin for treating BPH, which aligns with the findings of the current survey.[21] The current study provides practical guidance for clinicians, highlighting the preferences for silodosin use, its benefits, and expert recommendations for combination therapies in BPH treatment, particularly for acute urinary retention cases. The major strengths of the study include a diverse expert pool and the use of a well-crafted comprehensive questionnaire for the survey. Considering that the study findings rely on expert opinions, it was essential to recognize that inherent biases or personal perspectives may influence the study's interpretations. It was crucial to consider these factors when interpreting and implementing the survey's outcomes within clinical practice.

CONCLUSION

The expert consensus underscores the effectiveness of silodosin as a viable treatment option for LUTS in men with BPH in Indian clinical settings. Experts have noted that silodosin surpasses dutasteride, finasteride, and tamsulosin in both safety and effectiveness. Additionally, specialists have endorsed the combination of silodosin and

dutasteride for the management of BPH patients experiencing acute urinary retention.

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