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SILODOSIN V/S TAMSULOSIN: COMPARATIVE EFFICACY FOR THE MANAGEMENT OF BENIGN PROSTATIC HYPERPLASIA AND URETERIC STONES IN TERTIARY CARE HOSPITAL

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ABSTRACT

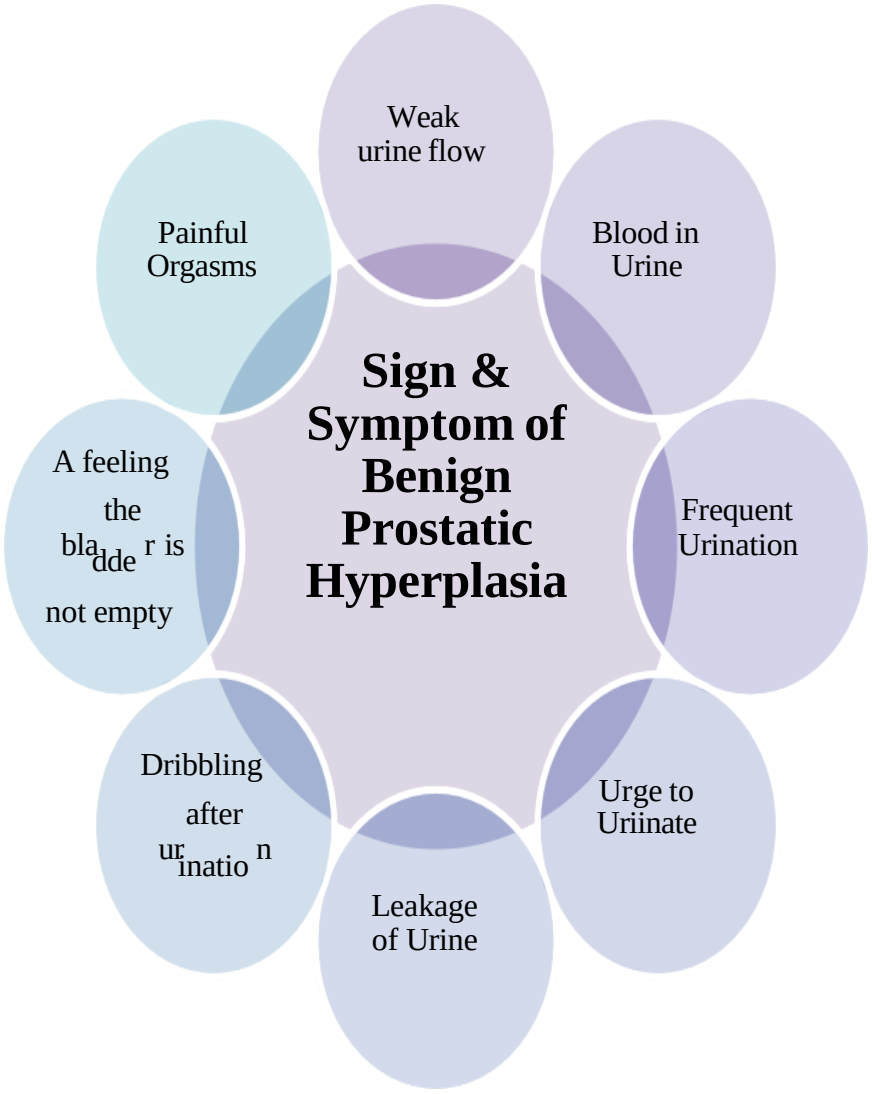
Objectives: The study was performed to evaluate the efficacy of the tamsulosin vs silodosin in the Benign Prostate Hyperplasia and the patients suffering from the ureteric stones. Methodology:An observational study was performed on 210 patients for a period of 6 months visiting the Department of Urology , Adesh Institute of Medical Sciences and Research , Adesh Hospital , Bathinda. Results: Out of Silodosin and Tamsulosin. Silodosin[75(73.5%)] is mostly prescribed in Benign Prostatic Hyperplasia patient followed by Tamsulosin [27(26.5%)].Out of Silodosin and TamsulosinSilodosin [55 (51.9%)] is mostly prescribed in ureteric stoneparticipants followed by Tamsulosin [515 (48.1%)].Conclusion: Silodosin are much safer and effective as compared to Tamsulosin. After therapy is completed patients recovered from the symptoms of Benign Prostate Hyperplasia and Ureteric Stones. Both treatments went over well.

KEYWORDS: tamsulosin, benign prostate hyperplasia, ureteric ,urinary, anxiety

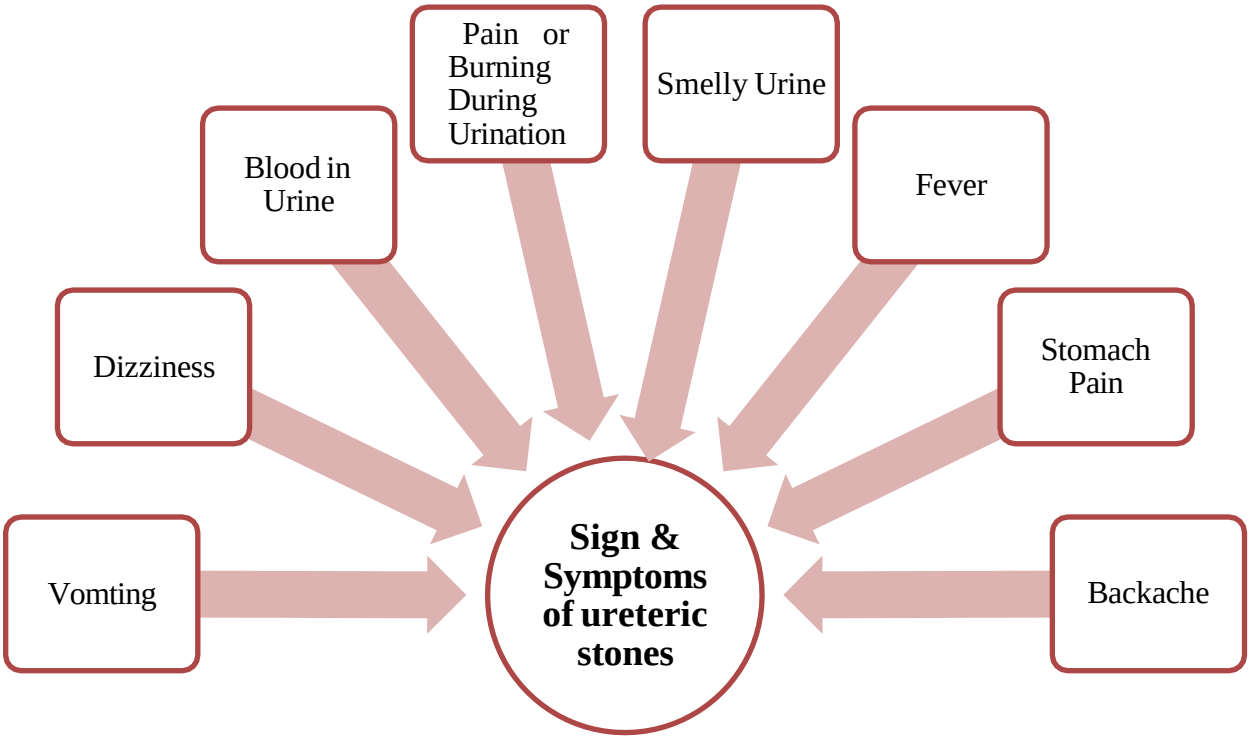
INTRODUCTION

One of the most prevalent diseases in contemporary civilization, stone disease has been documented since antiquity. In the past ten years, the care of ureteral calculi has undergone a paradigm change due to the development of less intrusive techniques and novel medications. Numerous studies have demonstrated the effectiveness of such a treatment in accelerating the rate of stone ejection and shortening the time required for stone expulsion.Thus, their usage has turned into an standard procedure. An 1-adrenoceptor antagonist called tamsulosin is widely used and powerful medicines, which is part of the treatment. A previously developed selective (1A)-adreno-receptor antagonist called silodosin has demonstrated promising effects with higher effectiveness and fewer adverse effects. [Gupta *et al.* 2013]

Urological emergency acute urine retention related to BPH necessitates immediate catheterization and was formerly followed by prostatic surgery. TWOC has developed into a global standard procedure for BPH (benign prostatic hyperplasia) and acute urinary retention in male patients (AUR). Alpha-blockers successfully lessen the signs and enhance the obstruction's uro-dynamic characteristics connected to BPH. Alpha blocker therapy following a successful trail is not yet understood for how long it should last or how cost-effective it is. A lot of research has been done on the safety of silodosin regards ageing, but little research has been done on its use in TWOC. **[**Patil et. al 2017].



EAU advises using -blockers to treat lower third ureter stone problems.The most widely used in this respect is tamsulosin, which has a track record of being both safe and effective. More specific than tamsulosin, silodosin is regarded as a 1a-adrenergic receptor antagonist. Recently, both adults and kids with DUS (Duplex ultrasonography) have utilized it as medical expulsive therapy (MET). Silodosin has a greater stone ejection rate than tamsulosin, according to several adult randomized controlled studies. **[**Soliman. *et al.* 2021].



MATERIAL AND METHODS

Study design and setting

After receiving approval from the AIPBS College Research Committee and the Ethics Committee of Biomedical and Health Research, Adesh University, the hospital-based observational study was carried out at the Department of Urology, Adesh Institute of Medical Sciences and Research, Adesh Hospital Bathinda.

Study criteria

Data was collected from patients who had Benign Prostatic Hyperplasia and Ureteric stonesvia the questionnaire form with the context of BPH and Ureteric Stone. The data was recorded on the IPSS score for the Benign Prostate Hyperplasia and symptom score in

Ureteric Stones. The patients above the age group of 18 years were included. Participants with urinary tract infection, high-grade hydronephrosis were not included.

Data collection

With the participants consent, a prospective study was carried out with their willing participation. The IPSS and symptom score were used to collect the data . The chosen subjects were assured of the confidentiality of their data and given a detailed explanation of the study's objective and contents prior to the distribution of the data collection form. The individuals who went to the Adesh Hospital in the Department of Urology were the chosen subjects.

Statistical Analysis of data

IBM SPSS version 26.0 ® was used to record and analyse the data where Chisquare test was applied with p-value < 0.05

RESULTS

The study involved 210 participants who were regulars at the Urology Department of Adesh Hospital in Bathinda. The outcomes were explained using both the analytical and descriptive analyses. The Pearson's Chi-Square Test was used to calculate the results, with a p-value <0.05 being regarded as significant for association. The following are the findings and observations from these research subjects:

Age in years

The age group of 71 years was reported to have the highest prevalence of benign prostatic hyperplasia [49 (48.0%)], followed by 51-70 years [44 (43.1%)]. Therefore, out of 201 subjects, only 9 are in the age groups of 18–30 and 31–50 years, which are less affected by benign prostatic hyperplasia.

In ureteric Stone patients, the age group of 31–50 years [47(44.3%)] was reported to have the highest prevalence of urinary stones, followed by 51–70 years [37 (34.9%)].

Consequently, only 22 out of 201 participants, or those 71 years of age or older,those between the ages of 11 and 30 are less effected.

Choice of drug:

Out of Silodosin and Tamsulosin. Silodosin[75(73.5%)] is mostly prescribed in Benign Prostatic Hyperplasia patient followed by Tamsulosin [27(26.5%)].

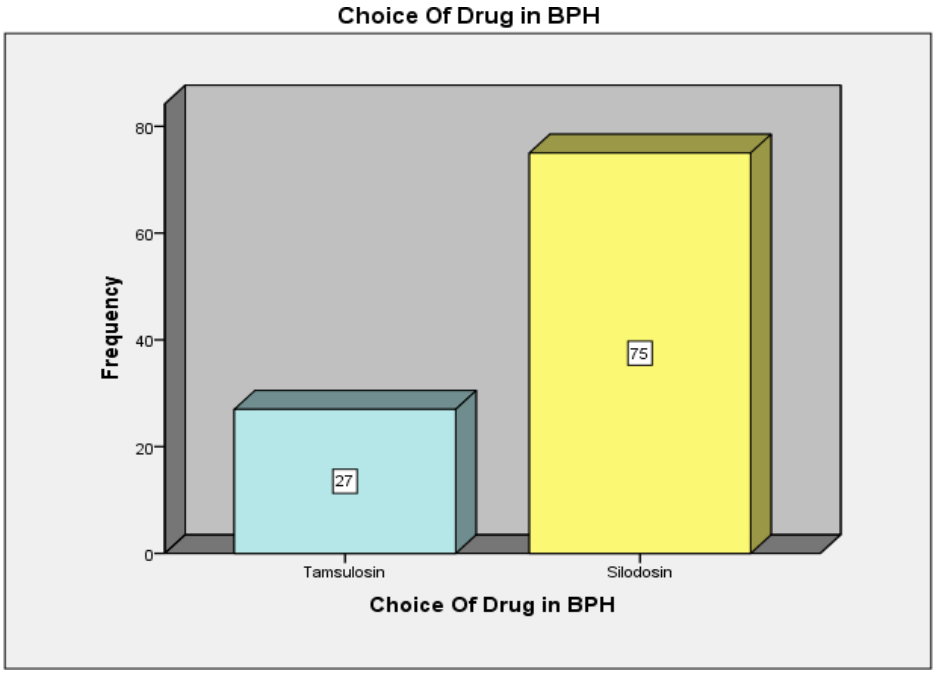


Figure 1:Percentage distribution according to choice of drug

Choice of drug

Out of Silodosin and TamsulosinSilodosin [55 (51.9%)] is mostly prescribed in ureteric stoneparticipants followed by Tamsulosin [51 (48.1%)].

Choice Of Drug	Frequency	Percent
Tamsulosin	51	48.1
Silodosin	55	51.9
Total	106	100.0

Table 1 : Distribution according to drug given

Symptom Score in Benign Prostate Hyperplasia

Prior to treatment, 94% of participants had serious problems; this number dropped to 2.7% after treatment, and only 6.4% of patients had no problems; following treatment, this number rises to 91%. As far as we can tell, both medications have improved patient health, although silodosin appears to have a greater effect on patients with moderate and severe problems.

I-PSS Score		**Tamsulosin**	**Silodosin**
Mild (1-7)	Before treatment	1 (3.7%)	2 (2.7%)
	After treatment	12 (44.4%)	35 (46.7%)
Moderate (8-19)	Before treatment	15 (55.6%)	32 (42.7%)
	After treatment	1 5(55.6%)	38 (50.7%)
Severe (20-35)	Before treatment	11 (40.7%)	41 (54.7%)
	After treatment	0 (0.0%)	2 (2.7%)

Table 2: Distribution for the symptom score in Benign Prostate Hyperplasia

Symptom Improvement in Ureteric Stones

How much pain did interfere with your daily activities?

Of the 106 participants, 57 experienced severe pain that interfered with their daily activities prior to receiving treatment with either tamsulosin or silodosin; 48 experienced moderate pain; and 13 experienced only mild pain that interfered with their daily activities prior to receiving treatment with either medication.

Table 3: Distribution according topain did interfere with your daily activities

Pain did interfere with your daily activities	Tamsulosin	Silodosin
Mild (1-7)	3 (6.2%)	10 (17.2%)
Moderate (8-19)	19 (39.6%)	17 (29.3%)
Severe (20-35)	26 (54.2%)	31 (53.4%)
Total	48 (100.0%)	58 (100.0%)

I have had blood in my urine?

Of the 106 participants, 25 had severe blood in their urine prior to receiving treatment with either Tamsulosin or Silodosin, 41 had moderate blood in their urine, and 40 had only light blood in their urine prior to receiving treatment with either medication.

Table 4: Distribution according toin my urine blood

Blood in my urine	Tamsulosin	Silodosin
Mild (1-7)	17 (35.4%)	23 (39.7%)
Moderate (8-19)	21 (43.8%)	20 (34.5%)
Severe (20-35)	10 (20.8%)	15 (25.9%)
Total	48 (100.0%)	58 (100.0%)

I have nausea?

Out of 106 participants, 31 participants had severe nausea before having treatment with Silodosin or Tamsulosin, 45 participants faces moderate nausea and 30 participants had only mild nausea before giving treatment of Tamsulosin or Silodosin.

Table 5: Distribution according tonausea

Nausea	Tamsulosin	Silodosin
Mild (1-7)	13 (27.1%)	17 (29.3%)
Moderate (8-19)	24 (50.0%)	21 (36.2%)
Severe (20-35)	11 (22.9%)	20 (34.5%)
Total	48 (100.0%)	58 (100.0%)

I have trouble doing all of my usual work?

Of the 106 participants, 41 experienced severe difficulty performing all tasks as usual prior to receiving treatment with either silodosin or tamsulosin; 46 experienced moderate difficulty performing all tasks as usual; and 19 experienced only mild difficulty performing all tasks as usual prior to receiving treatment with either silodosin or tamsulosin.

Table 6: Distribution according totrouble doing all of usual work

Trouble doing all of my usual work	Tamsulosin	Silodosin
Mild (1-7)	7 (14.6%)	12 (20.7%)
Moderate (8-19)	23 (47.9%)	23(39.7%)
Severe (20-35)	18 (37.5%)	23 (39.7%)
Total	48 (100.0%)	58 (100.0%)

I felt fearful?

Of 106 participants, 25 experienced extreme fear before to receiving therapy with either tasulosin or silodosin, 43 experienced moderate fear, and 38 experienced mild fear prior to receiving either medication.

Table 7: Distribution according tofelt fearful

Felt fearful	Tamsulosin	Silodosin
Mild (1-7)	15 (31.2%)	23 (39.7%)
Moderate (8-19)	21 (43.8%)	22(37.9%)
Severe (20-35)	12 (25.0%)	13 (22.4%)
Total	48 (100.0%)	58 (100.0%)

7.6 I found it hard to focus on anything other than my anxiety?

Out of 106 participants, 50 participants severely found it hard to focus on anything other than anxiety before having treatment with Silodosin or Tamsulosin, 37 participants' faces moderate anxiety and 19 participants found mildly hard to focus on anything other than anxiety before giving them treatment of Tamsulosin or Silodosin.

Table 8: Distribution according tofound it hard to focus on anything other than anxiety

Found it hard to focus on anything other than my anxiety	Tamsulosin	Silodosin
Mild (1-7)	9 (18.8%)	10 (17.2%)
Moderate (8-19)	16 (33.3%)	21 (36.2%)
Severe (20-35)	23 (47.9%)	27 (46.6%)
Total	48 (100.0%)	58 (100.0%)

I am bothered by side effect of treatment?

Only three of the 106 individuals reported being significantly bothered by a side effect of their therapy, 24 reported being highly bothered by a side effect, and 79 reported being slightly affected by a side effect prior to receiving either silodosin or tamsulosin.

Table 9: Distribution according tofound bothered by side effect of treatment

Bothered by side effect of treatment	Tamsulosin	Silodosin
Mild (1-7)	39 (81.2%)	40(69.0%)
Moderate (8-19)	8 (16.7%)	16 (27.6%)
Severe (20-35)	1 (2.1%)	2 (3.4%)
Total	48 (100.0%)	58 (100.0%)

How much have dietary or fluid changes affected your daily life?

Of the 106 participants, prior to receiving treatment with tamsulosin or silodosin, 17 participants experienced severe effects from dietary or fluid changes on their daily lives, 36 participants experienced moderate effects, and 53 participants experienced mild effects.

Table 10: Distribution according todietary or fluid changes affected daily life

Dietary or fluid changes affected your daily life	Tamsulosin	Silodosin
Mild (1-7)	23 (47.9%)	30(51.7%)
Moderate (8-19)	18 (37.5%)	18 (31.0%)
Severe (20-35)	7 (14.6%)	10 (17.2%)
Total	48 (100.0%)	58 (100.0%)

Association of the symptoms severity with treatment

In the study, the symptoms of 106 patients who had Ureteric stone had severe pain , blood in urine , anxiety were lower in patients who were receiving treatment either with Silodosin or Tamsulosin as compared to before taking the treatment for the ailment .

The association of the severity of the symptoms like severe pain, blood in urine and anxiety with treatment by silodosin or tamsulosin is highly significant by p value (0.000). The association of the decreased International Prostate Symptom Score with the treatment by either drug is highly significant with the p value of (0.001).

DISCUSSION

Efficacy of different two drugs (Tamsulosin and Silodosin) drugs was evaluated in benign prostate hyperplasia and ureteric stone**s** patients and Comparative evaluation of the duration of therapy among patients with two different age group administering Tamsulosin and Silodosin.Data was collected from patients who had Benign Prostatic Hyperplasia and Ureteric stonesOut of Silodosin and Tamsulosin, Silodosin [75(73.5%)] is mostly prescribed in Benign Prostatic Hyperplasia patient followed by Tamsulosin [27(26.5%)]. As we can see that before treatment, 94% participants facing severe problem, which then reduced to 2.7% after treatment and only 6.4% patients were having no problem before treatment which increases up to the 91% after the treatment of Tamsulosin or Silodosin. However as we know that both drugs have contribute to the health improvement but Silodosin seems to be more effective in subjects having moderate and severe problem.

CONCLUSION

According to the study's findings, both medications treated the patients' symptoms just as well. The patients' pre- and post-treatment data were gathered, as well as data obtained via the International Prostate Symptom Score. With Benign Prostate Hyperplasia, 94% of participants had significant problems prior to therapy; this number dropped to 2.7% after treatment, and only 6.4% of patients had no problems at all. After receiving silodosin or tamsulosin, however, this number rises to 91%. While both medications have been shown to enhance health, silodosin appears to work better in those with moderate to severe conditions. When it comes to patients with benign prostatic hyperplasia, silodosin [75(73.5%)] is typically recommended, followed by tamsulosin. [27(26.5%)].

When it comes to Ureteric Stone, Silodosin is far more efficient and safe than Tamsulosin. Patients with BPH and urinary stones recovered after treatment. The two treatments were well received.

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