

# TO EVALUATE THE FREQUENCY OF ERECTILE DYSFUNCTION AND RETROGRADE EJACULATION IN PATIENTS, AFTER TWO MONTHS USE OF DUTASTERIDE AND TAMSULOCIN COMBINATION IN TREATMENT OF BENIGN PROSTATIC HYPERPLASIA

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## ABSTRACT

**Objective:** To determine the frequency of erectile dysfunction and retrograde ejaculation, after two months treatment with dutasteride and tamsulocin among patients with benign prostatic hyperplasia.

**Materials and Methods:** This study was conducted at Institute of Kidney Diseases, Hayatabad Medical Complex, Peshawar. Study design was Observational study and the duration of the study was 6 months in which a total of 205 patients were observed with erectile dysfunction 10 (7%) and retrograde ejaculation after two months use of dutasteride and tamsulocin combination in treatment of benign prostatic hyperplasia, 95% confidence interval and 3.5 % margin of error; using WHO software for sample size calculation. More over consecutive non-probability sampling technique was used for sample collection.

**Results:** In this study mean age was 60 years with  $SD \pm 2.16$ . Baseline IIEF score for all patients was  $\geq 22$ . But after 2 months follow up 17% patients had IIEF score  $< 22$  and 83% patients had IIEF score  $\geq 22$ . Our result shows that 17% patients had erectile dysfunction while 37% patients had retrograde ejaculation.

**Conclusion:** The combination therapy of dutasteride and tamsulocin has significant effect on patient's sexual health for which they need an additional medicine in terms of PDE5 inhibitor that imposes extra finances on patient's pocket.

**Key Words:** Erectile dysfunction, retrograde ejaculation, dutasteride and tamsulocin, benign prostatic hyperplasia

## INTRODUCTION

Lower urinary symptoms (LUTs) are one of the most common symptoms in men above 50 years age<sup>1</sup>. Benign prostatic hyperplasia (BPH) is one of the most common disease in elderly men causing LUTs<sup>2</sup>. BPH usually start effecting men at age of 50 years and its incidence keep on increasing with increase in age. Approximately 80% of men suffer from BPH related lower urinary symptoms (LUTs) in their 70s<sup>3</sup>. BPH symptoms are assessed by IPSS scoring system. The score is from 0 to 35 which are internally divided in to three categories. Mild (symptom score less than or equal to 7) Moderate (symptom score range 8-19) and Severe (symptom score range 20-35)

Those patients who present with mild symptoms and those with moderate symptoms but not bothered

by symptoms are treated medically.  $\alpha$  blockers, 5  $\alpha$  reductase inhibitors or combination of the two drugs are commonly used medicines for medical management of BPH<sup>4</sup>.

Dutasteride is very effective drug used for the treatment of BPH<sup>5</sup>, its main effect is by inhibiting both isoenzymes of 5  $\alpha$  reductase and thus reducing the size of prostate by reducing dihydrotestosterone (DHT) levels in blood<sup>6</sup>. DHT hormone is required for normal erection and maintaining libido in men. It blocks 5  $\alpha$  reductase enzyme, diminishing blood levels of DHT and thus results in erectile dysfunction in men<sup>8</sup>.

Tamsulocin is prostate selective  $\alpha$  antagonist and is the first line drug for the medical management of BPH. It causes retrograde ejaculation in 20 to 35% of patients<sup>9</sup>. Various studies have been conducted on combination therapy of the two drugs compare to use of a single drug and have reached to conclusion that combined therapy is superior over mono therapy<sup>6,7</sup>.

According to two international studies the incidence of erectile dysfunction is 7% with Dutasteride therapy<sup>10</sup> and that of retrograde ejaculation is 35% with Tamsulocin therapy<sup>9</sup>. The current study was designed to determine the frequency of erectile dysfunction and retrograde ejaculation in patients on combined medical treatment for BPH in our local population which was

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never been conducted in target population before. This study provided us with local erectile dysfunction frequency and retrograde ejaculation among patients subjected to dutasteride and tamsulocin combination therapy for BPH.

The subjected results of the study was shared with urologists and conclusion will be drawn whether the medical treatment for BPH is justified or not in terms of sexual health of the patient.

## RESULTS

This study was conducted at Institute of Kidney Diseases, Hayatabad Medical Complex, Peshawar. In this study a total sample size was 205 patients were observed to determine the frequency of erectile dysfunction and retrograde ejaculation, after two months treatment with dutasteride and tamsulocin among patients with benign prostatic hyperplasia.

Age distribution among 205 patients was analyzed as 41(20%) patients were in age range 50-55 years, 72(35%) patients were in age range 56-60 years and 92(45%) patients were in age range 61-65 years. Mean age was 60 years with  $SD \pm 2.16$ . (As shown in table No 1)

Baseline IIEF score among 205 patients was analyzed as all the patients had baseline score  $\geq 22$ . But after 2 months follow up 35(17%) patients had IIEF score  $< 22$  and 170(83%) patients had IIEF score  $\geq 22$ . (As shown in table No 2, 3)

Frequency of erectile dysfunction and retrograde ejaculation among 205 patients was analyzed as 35(17%) patients had erectile dysfunction while 76(37%) patients had retrograde ejaculation. (As shown in table No 4)

Stratification of erectile dysfunction and retrograde ejaculation with age distribution was analyzed as in 35 patients with erectile dysfunction, 8 patients were

**Table No 1. Age Distribution (n=205)**

Age	Frequency	Percentage
50-55 years	41	20%
56-60 years	72	35%
61-65 years	92	45%
Total	205	100%

Mean age was 60 years with  $SD \pm 2.16$

**Table No 2. Baseline IIEF Score (n=205)**

Baseline IIEF score	Frequency	Percentage
< 22	0	0
$\geq 22$	205	100%
Total	205	100%

**Table No 3. Follow Up After 2 Months IIEF Score (n=205)**

Baseline IIEF score after 2 months	Frequency	Percentage
< 22	0	17%
$\geq 22$	205	83%
Total	205	100%

**Table No 4. Frequency of Erectile Dysfunction And Retrograde Ejaculation (n=205)**

Out come		Frequency	Percentage
Erectile Dysfunction	Yes	35	17%
	No	170	83%
Retrograde Ejaculation	Yes	76	37%
	No	129	63%

in age range 50-55 years, 11 patients were in age range 56-60 years and 16 patients were in age range 61-65 years. Where as in 76 patients had retrograde ejaculation, 17 patients were in age range 50-55 years, 27 patients were in age range 56-60 years and 32 patients were in age range 61-65 years. (As shown in table No 5)

## DISCUSSION

Dutasteride is very effective drug used for the treatment of BPH<sup>5</sup>, its main effect is by inhibiting both isoenzymes of 5  $\alpha$  reductase and thus reducing the size of prostate by reducing dihydrotestosterone (DHT) levels in blood<sup>6</sup>. DHT hormone is required for normal erection and maintaining libido in men. It blocks 5  $\alpha$  reductase enzyme, diminishing blood levels of DHT and thus results in erectile dysfunction in men<sup>8</sup>.

Tamsulocin is prostate selective  $\alpha$  antagonist and is the first line drug for the medical management of BPH. It causes retrograde ejaculation in 20 to 35% of patients<sup>9</sup>. Various studies have been conducted on combination therapy of the two drugs compare to use of a single drug and have reached to conclusion that combined therapy is superior over mono therapy<sup>6,7</sup>.

The combination of Avodart and Tamsulosin (CombAT) study was designed to examine whether the combination of dutasteride and tamsulosin was more effective than monotherapy alone for improving symptoms for men who had BPH, or to prevent the progression of BPH. The 4 year results and the 2 year results showed that there was an improvement in the quality of life and an improvement in symptom scores in men with proven, enlarged prostates that were larger than 30 cc. There was also a 66% relative risk reduction

**Table No 5. Stratification of Erectile Dysfunction and Retrograde Ejaculation with age Distribution**

Outcome / age		50-55 years	50-55 years	50-55 years	Total	P Value
Erectile Dysfunction	Yes	8	11	16	35	0.471
	No	33	61	76	170	
Total		41	72	92		
Retrograde Ejaculation	Yes	17	27	32	76	0.501
	No	24	45	60	129	
Total		41	72	92		

in the onset of acute urinary retention or the need for surgery in the combination arm compared to the active treatment with tamsulosin.<sup>11</sup>

With improvement on combination therapy, in most cases men were able to stop taking the alpha blocker after 6 to 9 months.

After stopping the alpha blocker most of the men were still able to maintain a fairly good, symptom-free response. Jalyn, a single-capsule combination of dutasteride 0.5 mg and tamsulosin 0.4 mg was approved for use in men with symptomatic BPH based on the study results from the CombAT trial. Single-agent treatment of BPH and erectile dysfunction. Erectile dysfunction (ED) and BPH often coexist in aging men.<sup>12,13</sup>

BPH not only causes prostatic obstruction and bladder neck contraction, it may also alter smooth muscle relaxation, reduce blood flow, and reduce the function of nerves and endothelium.<sup>14</sup>

Phosphodiesterase-5 (PDE-5) promotes smooth muscle contraction; therefore, PDE-5 inhibitors may have a role in smooth muscle relaxation in BPH and may provide symptom relief. Recent studies of oral PDE-5 inhibitors—including tadalafil (Cialis), vardenafil (Levitra), and sildenafil (Viagra)—have demonstrated significant improvements of LUTS in patients with BPH.<sup>15</sup> A dosage of 5 mg tadalafil/day significantly improved IPSS compared to placebo, with improvement onset occurring within 2 weeks.

Although urodynamic profiles were not significantly improved with daily tadalafil, patients' symptom scores improved. Side effects included headache, back pain, facial flushing, dyspepsia, and nasopharyngitis. In Canada, 5 mg daily tadalafil (Cialis) was approved for the treatment of BPH and ED, as of June 2012.<sup>15</sup>

Our study shows that the mean age of the patients was 60 years with  $SD \pm 2.16$ . Baseline IIEF score for all patients was  $\geq 22$ . But after 2 months follow up 17% patients had IIEF score  $< 22$  and 83% patients had IIEF score  $\geq 22$ . Moreover 17% patients had erectile dysfunction while 37% patients had retrograde ejaculation. Similar results were found in study done by Traish AM et al<sup>10</sup> according to which two international studies the incidence of erectile dysfunction is 7% with Dutasteride

therapy<sup>10</sup> and that of retrograde ejaculation is 35% with Tamsulosin therapy<sup>9</sup>.

## CONCLUSION

The standard therapy for managing a patient with BPH is initiating an alpha blocker with a quick onset of action, between 3 to 5 days. For patients with larger prostates, the addition of a 5-ARI such as finasteride or dutasteride may be considered, to reduce prostate volume, reduce the risk of acute urinary retention, and decrease the risk of future prostate-related surgery. Although the combination of these two medicines has greater impact on quality of life in terms of improving IPSS as compared to single drug therapy but the adverse effect especially erectile dysfunction is more in the combination group that needs additional medication in terms of PDE5 inhibitors and more financial burden on patient.

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