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ROLE OF TAMSOLOCIN IN RECOVERY FROM ACUTE URINARY RETENTION CAUSED BY BENIGN PROSTATIC HYPERPLASIA IN ELDERLY MALES.

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Abstract:
The most common cause of urinary retention in elderly males is benign prostatic enlargement (BPH). The study aims to find positive effect of non-selective alpha 1A blockers to treat acute urinary retention caused by benign prostatic hyperplasia. Study follows randomized controlled clinical trial, conducted on 120 patients presenting to urology department of PIMS, Islamabad, Pakistan. Study duration was 8 months. Patients were divided into two equal groups. All patients were more than 50 years old. All patients were catheterized on presentation; the trial group was given tamsolocin 0.4 mg once daily for 3 days. Patients were de-catheterized after 3 days. The successful voiding experience after removal of catheter was the main outcome to be measured. 44.1% patients successfully micturated after de-catheterization. In trial group 58.3% patients passed urine without folley's catheter, the rate was 30% only in control group. P value was 0.003. Tamsolocin was a helpful treatment option in recovery from urinary retention caused by BPH, however the folley's catheterization greatly affected the urine volume.

Key Words: *Benign prostatic hyperplasia (BPH), tamsolocin, urinary retention, catheter, treatment.*

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INTRODUCTION:

Benign prostatic hyperplasia is the most common cause of acute urinary tract obstruction in elderly males. The normal size of prostate is 20 ml. it can cause urinary outflow obstruction in normal size as well, in a few cases. Increase cell proliferation in peri-urethral and transition zone increases the risk of bladder outflow obstruction in men. Alpha blockers and 5 alpha reductase inhibitors are used for the treatment of BPH, but these drugs have several systemic side effects. The effect of these drugs on sexual activity of males was studied by Huang ST [1]. Tadalafil is well known for its use in treatment of urinary tract obstruction in BPH patients and erectile dysfunction. Thus a much improvement in results was observed by using tadalafil in combination with alpha 1 blockers.

De May C [2] studied the safety profile of alpha 1 blockers for cardiovascular complications. It was concluded that tamsolocin 0.4mg had a risk in impairing blood pressure control in patients. Alpha blockers are an effective choice of drug for BPH patients. These are known to improve signs and symptoms associated with the BPH, and are a better non hormonal treatment options for patients with BPH [3].

A clinical trial to assess the efficacy of anticholinergics and alpha blockers was done by Pang R, et al. [4] the efficacy of alpha 1 blockers and 5 alpha reductase inhibitors on BPH alone and combination was studied in Asian Journal of Urology by Shum, et al. and it was concluded that onset of action of alpha 1 blockers was fast and 30- 40% patients got relief from urinary outflow obstruction [4]. 5 alpha reductase inhibitors were effective in 25-30% individuals. The successful treatment option depends on patients' co-morbidities, systemic side effects, suitable dosage, age, severity of disease etc.

MATERIALS AND METHODS:

This research was conducted at urology department of PIMS, Islamabad, Pakistan during period of 8 months. The purpose was to study the effect of tamsolocin in recovery from acute urinary outflow obstruction due to BPH. 120 patients were included in study. All patients were diagnosed cases of BPH and their presenting complaint was urinary outflow obstruction. The participants were more than 50 years old. These participants were divided into 2 subgroups one was control group and other was trial group.

Informed written consent was taken from all patients and approval about the study was taken from research ethical board. Detailed history and examination was done on all patients, per rectal examination was performed and abdomino-pelvic ultrasonography was performed. Stratification was done randomly. Patients in trial group were given tamsolocin 0.4mg once daily for three days and catheterization was also done. Catheter free voiding trial was given to patients in both groups. It was observed that patients in trial groups successfully voided urine in good volume after removal of folley's catheter. Those who were unable to void urine after de-catheterization were re catheterized and treated with tamsolocin. Data analysis was done on SPSS 13. Prostate size, volume of voided urine, time since catheterization, biodata, was recorded. Less than 0.05 p-value was marked statistically significant. Chi square test was applied to compare results of both groups.

RESULTS:

120 patients were enrolled. 60 patients were started on tamsolocin 0.4 once daily therapy, while remaining 60 were not. Patients were from age 55 to 90 years were included in study the average age was 68±10 years. In trial group the mean age of patients was 67 years. While 71 years was mean age in control group. Mean urine volume at time of catheterization was 833±249 ml. Urine volume was not less than 500ml and not more than 1300ml. mean retention of urine was 644ml in trial group. It was 983ml in control group. P value was <0.001.

Average size of prostate was 55±12.8 in trial group and 56±13 grams in control group. Overall average prostate size was 57±12 grams. Range was 35 to 85 grams.

On the whole, 44.2% patients successfully voided urine on removal of catheter. 35 (58.3%) patients successfully voided urine in trial group and 18 (30%) patients voided urine in control group. P value was 0.003 which was statistically significant. The side effects noted in trial group were drowsiness, headache and constipation. These side effects were reversed when drug was stopped. The side effects were mild and no specific treatment was needed in order to overcome treatment related side effects.

DISCUSSION:

Almost 50% of males when reach age more than 50 years suffer BPH, the most common presenting complain of BPH is urinary tract obstruction. There is need to look for more and better treatment options for treating the signs and symptoms associated with BPH [6]. Therapy specifically targeting the symptoms and signs will give better results and less systemic side effects.

The alpha 1 blockers efficacy with only catheterization was done by Asghar A, et al in 2018 and it was observed that better results and early recovery was associated in those who were give tamsolocin 0.4mg once daily for 3 days [5]. 90% males suffer lower urinary tract obstruction due to BPH in their 5th decade of life. Pharmacological treatment is beneficial for those who have mild to moderate symptoms. However, proper diagnosis and cause of LUTS is needed to be made in order to provide effective treatment. Symptoms associated with LUTS are urgency, post-urination dribbling, incomplete emptying etc. [7, 8].

The complications associated with use of alpha antagonists for treatment for BPH was studied and results were, increase risk of hypotension, drowsiness, syncopial attacks, increase risk of falls and associated mortality and morbidity. The cardiovascular complication associated with use of alpha 1 blockers is hypotension [9].

BPH is a common old age problem leading to LUTS in men. Thus a need was felt to study the effectiveness of using alpha 1 blockers. Thus evaluation was done in light of side effects of understudy drug. The comparison was done by dividing patients into two groups, one without pharmacological treatment in which only catheterization was done in other group both drug and catheterization was done and results were in favor of trial group in voiding urine easily after removal of folley's catheter.

Table 1: age of patients in both groups.

Age	Trial group	Control group	P value
55 to 60 years	21 (35%)	20 (33%)	0.81
61 to 70	13 (21%)	16 (26%)	
71 to 80	14 (23%)	16 (26%)	
81 to 90	12 (20%)	8 (13%)	
Mean age ±SD	67.5±8	71±11.6	

Table 2: comparison of prostate size and voided urine volume in both groups.

	Trial group	Control group	P value
Prostatic size in grams	55.7±12.8	57±13	0.23
Mean urine volume voided in ml	644±255	983±213	Less than 0.001

Table 3: comparison of voiding status of both groups.

Voiding status	Trial group	Control group	P value
Successful	35 (58%)	18 (30%)	0.03
Unsuccessful	25 (41%)	42 (70%)	

CONCLUSION:

Tamsolocin was a helpful treatment option in recovery from urinary retention caused by BPH, however the folley's catheterization greatly affected the urine volume.

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