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THE EFFECT OF DESMOPRESSIN COMBINED WITH ANTICHOLINERGIC ON DAYTIME FREQUENCY IN FEMALE PATIENTS WITH OVERACTIVE BLADDER

Hypothesis / aims of study

Traditionally, antimuscarinic drugs are widely used to treat overactive bladder (OAB). However, their effects are known to be 60-70%. Recently, there were several clinical reports to improve nocturnal and daytime frequency in the patient with OAB with desmopressin by decreasing renal urine production and increasing bladder filling-time. However there is no report concerning the effect of desmopressin combined with antimuscarinics. Therefore we performed this study to evaluate the effect of desmopressin combined with antimuscarinics on daytime frequency in female patients with OAB.

Study design, materials and methods

We included 68 women patients with OAB, who had at-least four voids in the first 8-hr of the day after rising, excluding the first morning voids. The patients were randomly assigned to receive 5mg of solifenacin (group I) and 5mg of solifenacin and 0.2mg of desmopressin (group II) for 2weeks. The patients were instructed to take the tablets after first morning void. By using pre/post-treatment 3-days voiding diary, Urinary Distress Inventory (UDI-6) and Incontinence Impact Questionnaire(IIQ-7), changes in voiding symptoms and quality of life (QoL) were assessed and compared between groups.

Results

Group I and II had 31 and 37 patients, respectively. Time to first void was 12-min later in group II (105 min vs 117 min) and this difference was not statistically significant. But time to the second, third voids (184 min vs 215 min, 267 min vs 305 min) and the first urgency episode (212 min vs 255 min) were significantly longer in group II. When the improvement after treatment was defined as increase in time to first void more than 10% after 2 weeks of treatment, desmopressin was more effective in patients with age of≥65years and voided volume of ≥150ml (Table 1). There were also significant decreases in the numbers of voids (6.8 vs 5.4) and urgency episodes (2.6 vs 1.7) during the first 8-hr following treatment in group II compared to group I. The patients in group II showed significant improvement in QoL scores as measured by the UDI-6 and IIQ-7 compared with group I.

Interpretation of results

Desmopressin is a synthetic antidiuretic hormone that affects nighttime renal water reabsorption. The potential for desmopressin to reduce the volume of nocturnal output suggests that it is reasonable to hypothesize that desmopressin will increase the periods between the daytime voids thereby reducing the daytime frequency and urgency and therefore be of benefit to adults suffering from OAB. Our study was designed to address the issue of pharmacological antidiuresis in the treatment of OAB and showed that desmopressin can reduce frequency, urgency by increasing the time to the first urgency episode and second frequency episode in patients with OAB symptoms, with an overall improvement in QoL.

Concluding message

Desmopressin combined with anticholinergic was more effective than anticholinergic only in the treatment of daytime frequency in female patients with OAB, especially in patients aged more than 65years and with more than 150ml of voided volume.

Table 1. Univariate logistic regression analysis of pretreatment parameters with respect to the improvement

Parameters		Improvement in time to 1st micturition(>10%)	
		Odds ratio (95% CI)	p-value
Age	<65	1.00 (reference)	0.048
	≥65	1.16 (1.00-1.38)	
No.of micturition	≤5/1st 8-hr	1.00 (reference)	0.117
	>5/1st 8-hr	0.98 (0.96-1.00)	
No.of urgency	≤2/1st 8-hr	1.00 (reference)	0.332
	>2/1st 8-hr	1.01 (0.98-1.05)	
Urge incontinence	-	1.00 (reference)	0.091
	+	2.12 (0.88-5.07)	
Voided volume	<150ml	1.00 (reference)	0.001
	≥150ml	1.34 (1.13-1.59)	

Specify source of funding or grant	**not thing to discloure**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
Is this a Randomised Controlled Trial (RCT)?	**Yes**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Kangdong Sacred Heart Hospital CRE**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**