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THE EFFICACY OF ALPHA1A-ADRENOCEPTOR ANTAGONISTS (SILODOSIN AND TAMSULOSIN) FOR THE TREATMENT OF NOCTURIA WITH OR WITHOUT NP USING FREQUENCY-VOLUME CHART

Hypothesis / aims of study

Nocturia is one of the most common and bothersome lower urinary tract symptom (LUTS) in elderly men. Nocturnal polyuria (NP) and overactive bladder (OAB) are important causes of nocturia. Alpha1-adrenoceptor (AR) antagonist is commonly used for benign prostatic hyperplasia (BPH) and is known to be effective for their storage symptoms including nocturia as well as the voiding symptoms. However, there are few data about the efficacy of alpha1A- AR antagonists for nocturia and NP. The aim of the present study was to evaluate the efficacy of Alpha1A-AR antagonists, silodosin and tamsulosin, for the treatment of nocturia with or without NP using frequency-volume chart (FVC).

Study design, materials and methods

Male patients with nocturia (≥ 2 nocturnal micturition) aged ≥50 years, were treated by silodosin (4mg twice daily) or tamsulosin (0.2mg once daily) for 3 months. The efficacy of these drugs was evaluated by the change of mean number and volume of nocturnal voids from baseline to 1 and 3 months after treatment using FVC. Furthermore, all patients were divided into two groups by the presence of NP or not. NP was diagnosed according to the ICS definition, that is, NP index (the proportion of nocturnal urine production divided by 24-h urine production) ≥33%.

Results

A total of 62 patients (mean age:71.6±6.83) were enrolled in the study. As shown in Table1, Alpha 1A-AR antagonists significantly decreased mean number of nocturnal voids after 1 months (from 2.57±0.21 to 2.12±0.21, p=0.001) and 3 month (2.56±0.21 to 1.95±0.20, p<0.001) in FVC and they also significantly decreased nocturnal voided volume after 3 month (from 530.88±39.72ml to 468.61±39.4ml, p=0.04). They also significantly decreased number of voids in24Hrs after 1 month (10.01±0.41 to 9.01±0.41, p=0.003) and 3months (10.03±0.51 to 9.24±0.41, p=0.01) without changing daily voided volume. In NP group, the number and volume of nocturnal voids were both significantly reduced after 1 and 3 months (Table 2).

Interpretation of results

Alpha 1A-AR antagonists improved nocturia and decreased nocturnal voided volume without changing daily voided volume. These results suggest that Alpha 1A-AR antagonists may be effective for nocturia by decreasing nocturnal urine production as well as increasing voided volume.

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Concluding message

Alpha 1A antagonists seemed to be effective for the treatment of nocturia by decreasing nocturnal urine production as well as increasing nocturnal voided volume.

Table 1. Changes of FVC parameters after treatment with Alpha 1A-AR antagonists in patients with nocturia (all patients)

		N	Before	After	p-value
Number of nocturnal voids	1M mean	53	2.57	2.12	0.001
	SE		0.21	0.21	
	3M mean	42	2.56	1.95	<0.001
	SE		0.21	0.20	
Nocturnal voided volume	1M mean	46	538.20	510.21	0.18
	SE		31.24	32.04	
	3M mean	34	530.88	468.61	0.04
	SE		39.72	39.40	
Number of daily voids	1M mean	52	10.01	9.21	0.003
	SE		0.41	0.41	
	3M mean	41	10.03	9.24	0.01
	SE		0.51	0.41	
Voided volumein 24Hrs	1M mean	50	1551.66	1519.10	0.53
	SE		72.62	68.87	
	3M mean	38	1541.75	1457.61	0.25
	SE		103.92	82.41	

Table 2. Changes of FVC parameters after treatment with Alpha 1A antagonists in patients with NP

		N	Before	After	p-value
Number of nocturnal voids	1M mean	38	2.72	2.33	0.03
	SE		0.23	0.25	
	3M mean	27	2.58	2.06	0.01
	SE		026	0.26	
Nocturnal voided volume	1M mean	35	597.23	550.09	0.05
	SE		29.64	31.90	
	3M mean	25	579.76	506.00	0.05
	SE		43.67	38.96	
Number of voids in 24Hrs	1M mean	38	9.90	9.21	0.03
	SE		0.45	0.48	
	3M mean	27	9.46	9.12	0.36
	SE		0.50	0.43	
Voided volume in 24Hrs	1M mean	36	1447.64	1460.00	0.81
	SE		74.26	81.08	
	3M mean	27	1424.89	1460.00	0.84
	SE		110.25	88.79	

Disclosures
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