654

Kim S[1], Lee D H[1], Kim J C[1]
1. *Department of Urology, college of medicine in catholic university of Korea*

CHARACTERISTICS OF LOWER URINARY TRACT SYMPTOMS AND EFFICACY OF THE TREATMENT WITH DESMOPRESSIN ACCORDING TO THE SEVERITY OF NOCTURIA

Hypothesis / aims of study

Lower urinary tract symptoms (LUTS) is a major cause of morbidity and disturbs quality of life for men. Among them, nocturia is a bothersome symptom because it may result in sleep disturbance, daytime fatigue, a lower level of general well-being, and it increases the risk of night falls [1]. Desmopressin acetate, a synthetic analogue of antiduretic hormone arginine vasopressin, is considered to be effective against nocturia [2]; however, some patients with nocturia show no response to desmopressin. The reason may be related with the severity of nocturia and in addition, nocturia can be influenced by daytime LUTS. Therefore we studied the efficacy of desmopressin according to the severity of nocturia and evaluated the factors in patients who did not respond to treatment with desmopressin.

Study design, materials and methods

Ninety six male patients who were bothered by voiding one or more times nightly concomitant with other LUTS and treated with desmopressin 0.2 mg were included in this study. All of the patients were treated with alpha blockers and 26 patients took antimuscarinics due to storage symptoms. By the number of nocturnal voids, a total of 96 patients were assigned to group I (n=39, 1 or 2 times of nocturnal voids) and group II (n=57, more than 3 times of nocturnal voids). The baseline evaluation included a careful history taking, physical examination, international prostate symptom score (IPSS), urinary sensation scale and consecutive voiding diaries for 3 days. Voiding diary data was used to derive nocturnal polyuria index (NPi) and nocturnal bladder capacity index (NBCi). Nocturnal polyuria was defined as a nighttime urine volume of more than 35% of the total daily urine volume and reduced nocturnal bladder capacity was defined as NBCi was greater than 0 [3]. The urodynamics of 36 patients (group I=12, group II=24) were studied, including uroflowmetry and pressure-flow studies. After treatment with desmopressin, a reduction by more than half in the number of nocturnal voids compared with baseline was regarded as effective.

Results

The mean patient age was 68.1 (47-86). The mean nocturnal voids were 3.0±1.2 per night in all patients. There was significant differences in the baseline mean nocturnal voids between group I (1.9±0.3 per night) and group II (3.7±1.1 per night) ($p<0.05$). NPi didn't show significant differences in group I (0.4±0.1) and group II (0.4±0.1), however NBCi was remarkably increased in group II (1.0±0.7) compared to group I (0.3±0.3) ($p<0.05$). Total IPSS, voiding and storage subscores were significantly different between group I (14.1±6.0, 7.7±4.1, 6.4±2.7) and group II (21.1±8.5, 10.8±5.7, 9.8±3.4) ($p<0.05$). Baseline urgency grade by urinary sensation scale was not significantly different in group I (3.0±1.5) and group II (3.5±1.4). The results of urodynamic study showed no significant differences in two groups. However, urodynamic detrusor overactivity was found in 4/12 (33.3%) of group I and 7/24 (29.2%) of group II, and bladder outlet obstruction was found in 9/12 (75%) of group I and 21/24 (87.5%) of group II. After treatment with desmopressin, the mean nocturnal voids was 1.3±0.9 per night in all patients, moreover it was remarkably decreased compared to the baseline mean nocturnal voids ($p<0.05$). Also, the mean nocturnal voids was 1.0±0.6 per night in group I and 1.6±1.0 per night in group II, which were significantly decreased compared to the baseline nocturnal voids in each group ($p<0.05$). The differences of mean nocturnal voids after treatment between group I (1.0±0.6 per night) and group II (1.6±10. per night) were significant ($p<0.05$). Eight patients of group I (20.5%) and 15 patients of group II (26.3%) showed no improvements after treatment with desmopressin. The baseline urgency of the 8 patients (3.4±1.4) was not significantly different compared to the patients who showed treatment effect (2.8±1.6) in group I. However, the baseline urgency of the 15 patients who did not respond to desmopressin (4.3±0.9) was significantly different compared to the patients who showed treatment effect (3.2±1.5) in group II ($p<0.05$).

Interpretation of results

The patients with more than 3 times of nocturnal voids complained more severe LUTS. And the nocturia in the patients with more than 3 times of nocturnal voids was influenced by reduced night bladder capacity as well as nocturnal polyuria. Moreover the result of treatment with desmopressin in the patients with more than 3 times of nocturia might be influenced by the symptom of urgency.

Concluding message

The number of nocturnal voids may be related with the severity of daytime LUTS. In addition to nocturnal polyuria, reduced nocturnal bladder capacity can be considered as one of the important factors in the patients who complain severe nocturia. Among them, for the patients who do not respond to desmopressin, urgency may be regarded as one of the reasons. Therefore, control of the symptom of urgency in the patients with severe nocturia may help to reduce the number of nocturnal voids.

References

1. Urology (2006) 67; 541-4
2. BJU Int (2002) 89; 855-62
3. Curr Urol Rep (2008) 9; 362-7

Specify source of funding or grant	**No specific funding or grant**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**it is a retrospective study.**
Was the Declaration of Helsinki followed?	**No**
This study did not follow the Declaration of Helsinki in the sense that	**it is a retrospective study.**

Was informed consent obtained from the patients?	**No**