

Low Dose Oral Desmopressin in Treatment of Nocturnal Polyuria in Elderly Women

Introduction and Objective: To investigate the efficacy and safety of low dose of oral desmopressin in elderly women with nocturnal polyuria more than 30% of total daily urine volume.

Materials and Methods: There were 148 elderly women older than 60 referred to urology clinic of Beijing Tongren Hospital from 2009-2011 for treatment of nocturia included in this study. Three-day frequency-volume charts showed 108 patients were diagnosed with nocturnal polyuria. A total of 97 patients with nocturnal polyuria were randomly divided into 2 groups. Care was taken to match the patients of the two groups by age and clinical criteria. They complained of about 2 voids or more per night. Control group (n = 48) received liquid restriction during nighttime and patients of Experimental group (n = 49) received 0.1 mg desmopressin at bedtime and liquid restriction for 8 weeks. Patients were assessed after 4 and 8 weeks of treatment. Patients maintained flow volume charts and used diaries to record voiding data throughout the study. All patients were evaluated by serum sodium, nocturia cure rate, mean nocturnal urine output, mean number of nocturia, mean duration of the first sleep period and sleep quality.

Results: After 4 weeks of treatment with desmopressin, 28 patients (57.1%) had less than 2 voids, 21 patients (42.9%) had ≥ 2 voids per night ($p < 0.05$). After 8 weeks, 35 patients (71.4%) with desmopressin had less than 2 voids and only 14 patients (28.6%) had more than 2 voids per night ($p < 0.01$). After 8 weeks, mean number of nocturia before and after receiving desmopressin were 2.9 and 1.6, respectively which differed significantly ($p < 0.001$). Mean number of nocturia before and after in control group were 2.8 and 2.3 respectively with no significant difference ($p > 0.05$). The mean duration of the first sleep period increased by 73% (from 2.2 to 3.8h) in the desmopressin group, compared with an increase of 19% (from 2.1 to 2.5 h) in the placebo group ($p < 0.05$). There were 79.6% of patients in desmopressin group satisfied with sleep quality compared with only 31.3% of patients in control group who were satisfied. After 8 weeks of treatment, desmopressin significantly decreased nocturnal urine output and the number of nocturia episodes, and prolonged the first sleep period after 8 weeks ($p < 0.05$). No serious systemic complications were found during the medication.

Conclusion: Low-dose oral administration of desmopressin is an effective and well-tolerated treatment for nocturnal polyuria in elderly women.