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THE ETIOLOGY AND CLASSIFICATION OF NOCTURIA IN ADULTS

Aims of Study: Nocturia, from which patients feel the most uncomfortable, is one of the frequently complained urologic symptoms combined with insomnia. Neither incidence nor classification of nocturia exists yet. In this study we analyzed the history, micturition diary, urodynamic study and investigated the etiology of nocturia and then classified them.

Materials and Methods: From January 1998 to September 1999, 152 patients underwent urodynamic study (UDS) and completed three days micturition diary, and we studied them retrospectively. We defined nocturia as more than two times voiding during sleep, nocturnal polyuria as nocturnal urine volume is more than 35% of 24 hours urine volume, nocturnal detrusor overactivity as diminishing nocturnal bladder capacity. We classified the etiology of nocturia into four groups: Pure nocturnal polyuria, Pure nocturnal detrusor overactivity, Mixed, and others based on the micturition diaries and the results of UDS. Polyuria (24 hours urine output > 2500cc) was classified separately.

Results: Of the 152 cases, 66 were men and 86 were women with mean age 62.9 years (27-88) and 52.3 years (26-81) respectively. The mean number of nocturia was 3.3 (3.4 for men, 3.1 for women). Pure nocturnal polyuria, nocturnal detrusor overactivity and mixed were 41.4%, 17.8% and 25.7% respectively. Nocturnal polyuria had no relations to detrusor overactivity, bladder outlet obstruction and impaired detrusor contractility, but increased along with age ($p=0.001$) and in men ($p=0.047$). Seventeen (11.2%) had polyuria.

	Total	Male	Female	No. of nocturia
Pure NP	63(41.4%)	29(43.9%)	34(39.5%)	3.1
Pure NDO	27(17.8%)	9(13.6%)	18(20.9%)	3.4
Mixed(NP+NDO)	39(25.7%)	21(31.8%)	18(20.9%)	3.7
Others	23(15.1%)	7(10.6%)	16(18.6%)	3.0
Polyuria	7(11.2%)	9(13.6%)	2(2.3%)	3.5

(NP: nocturnal polyuria, NDO: nocturnal detrusor overactivity)

Conclusion: In 84.9% of nocturia patients there were nocturnal polyuria or nocturnal detrusor overactivity and 11.2% of them there were polyuria. Therefore we can conclude that these three causes were the main etiology of nocturia and nocturia could be classified and treated based on these results.