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INTERSTITIAL CYSTITIS SYMPTOMS AND DIURNAL CORTISOL VARIATIONS

Aims of Study Systemic mechanisms affecting chronic inflammation in interstitial cystitis (IC) are not clear. Abnormal hypothalamic pituitary adrenal (HPA) function has been documented in rheumatoid arthritis (RA), fibromyalgia (FM), and chronic fatigue syndrome (CFS), all of which have high co-morbidity with IC. This study was designed to determine possible involvement of HPA mechanisms in chronic IC symptoms.

Methods 32 women with IC (8 with co-morbid FM or CFS) and 30 age-matched healthy controls completed the IC Data Base symptom questionnaire, a 4-week symptom diary, and collected a 24-hour urine sample and saliva samples for 3 days at 7 a.m., 4 p.m., and 9 p.m. Patients treated with amitryptelene, DMSO, chlorpactin, or exogenous glucocorticoids in the last month were excluded to eliminate possible confounds.

Results There were no differences in 24-hr. cortisol or morning salivary cortisol between groups ($p > 0.24$). IC patients with co-morbid conditions showed significantly higher afternoon and night cortisols ($p < 0.05$) than patients with no co-morbid conditions or controls, who did not differ from each other. Among all patients, those with higher morning cortisol reported less pain ($r = -0.58, p = 0.01$), frequency, ($r = -0.59, p = 0.004$), and urgency ($r = -0.53, p = 0.02$). Higher 24-hr. urinary cortisol levels were inversely related to pain relieved by urination ($r = -0.46, p < 0.05$). Similar relationships were evidenced in subgroups of patients with and without comorbid conditions.

Conclusions These findings suggest the possibility of differential neuroendocrine function between IC patients with and without co-morbid conditions, suggesting possible subgroups of IC patients. Additionally, these findings suggest that morning cortisol levels may be related to IC symptoms.

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