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CORRELATION OF ENDOCRINOLOGICAL STATUS AND LOWER URINARY TRACT FUNCTION IN PATIENTS WITH PADAM SYMPTOMS

Hypothesis / aims of study
Symptoms of partial androgen deficiency of the aging male (PADAM), such as sexual dysfunction and depression, are receiving increased attention. Testosterone affects various physiological activities and has an important role in the function of many organs. We previously reported that bioavailable testosterone (BT) correlates significantly with International Index of Erectile Function-5 scores. In this study, we investigated the relationship between several endocrinologic factors and the degree of lower urinary tract symptoms in patients with PADAM.

Study design, materials and methods
A total of 54 patients with PADAM symptoms were included in this study and underwent the following investigations: International Prostate Symptom Score (IPSS), IPSS quality-of-life index (QOL index), King's Health Questionnaire (KHQ), free uroflow study, postvoid residual volume and prostate volume by transabdominal ultrasound. Blood samples were collected between 09:00 and 11:00 a.m. Endocrinological data including total testosterone (TT), analogue ligand free testosterone (aFT), sex hormone binding globulin (SHBG), estradiol (E2), dehydroepiandrostendione (DHEA), dehydroepiandrostendione-sulphate (DHEA-S) were evaluated. Calculated free testosterone (cFT) and calculated BT were calculated on the basis of TT and SHBG according to the formula shown on the International Society for the Study of the Aging Male (ISSAM) website. The correlation of endocrinologic data (TT, aFT, cFT, BT, E2, DHEA and DHEA-S) and clinical data was calculated by the Spearman rank correlation test. A p-value of less than 0.05 was considered statistically significant.

Results
Testosterone (TT, aFT, cFT and BT) correlated the IPSS score and QOL index. IPSS score increased significantly with an increase in TT (p=0.042), aFT (p=0.041), cFT (p=0.041), BT (p=0.041). QOL index increased significantly with an increase in TT (p=0.032), aFT (p=0.031), cFT (p=0.039) and BT (p=0.038). E2 were not correlated to IPSS score and QOL index. DHEA correlated the IPSS score (p=0.003) and QOL index (p=0.001). DHEA-S correlated IPSS score (p=0.011), but not QOL index. In regard to KHQ, only DHEA has significant correlation with the category of Impact on life (p=0.005), the category of emotions (p=0.020) and the category of sleep and energy (p=0.0096). However, clinical parameters such as, prostate volume, maximum flow rate, average flow rate, postvoid residual volume has no significant correlations with all endocrimological parameters.

Interpretation of results
Endocrine parameters in patients with PADAM symptoms were significantly correlated to lower urinary tract symptoms such as IPSS, QOL index, KHQ, but not significantly correlated to clinical parameters, such as prostate volume, maximum flow rate, average flow rate and postvoid residual volume.

Concluding message
PADAM symptoms might be correlated lower urinary tract symptoms, not lower urinary functions.