The Role of Androgens in Prediction of Success in Smoking Cessation in Women

Authors : Michaela Dušková, Kateřina Šimůnková, Martin Hill, Hana Hruškovičová, Hana Pospíšilová, Eva Králíková, Luboslav Stárka

Abstract : Smoking represents the most widespread substance dependence in the world. Several studies show the nicotine's ability to alter women hormonal homeostasis. Women smokers have higher testosterone and lower estradiol levels throughout life compared to non-smoker women. We monitored the effect of smoking discontinuation on steroid spectrum with 40 premenopausal and 60 postmenopausal women smokers. These women had been examined before they discontinued smoking and also after 6, 12, 24, and 48 weeks of abstinence. At each examination, blood was collected to determine steroid spectrum (measured by GC-MS), LH, FSH, and SHBG (measured by IRMA). Repeated measures ANOVA model was used for evaluation of the data. The study has been approved by the local Ethics Committee. Given the small number of premenopausal women who endured not to smoke, only the first 6 week period data could be analyzed. A slight increase in androgens after the smoking discontinuation occurred. In postmenopausal women, an increase in testosterone, dihydrotestosterone, dehydroepiandrosterone, and other androgens occurred, too. Nicotine replacement therapy, weight changes, and age does not play any role in the androgen level increase. The higher androgens levels correlated with failure in smoking cessation. Women smokers have higher androgen levels, which might play a role in smoking dependence development. Women successful in smoking cessation, compared to the non-successful ones, have lower androgen levels initially and also after smoking discontinuation. The question is what androgen levels women have before they start smoking.

Keywords : addiction, smoking, cessation, androgens

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020