

PW01-252 - ASSOCIATION BETWEEN OREXIN, LEPTIN AND CRAVING FOR NICOTINE

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Although the majority of studies associated the function of orexin neurons with arousal and sleep and leptin with balancing energy expenditure and food craving these neuropeptides were also shown to directly affect dopaminergic transmission in mesolimbic reward pathways. This indicates a possible role for orexin and leptin in reward function and motivation and thus in addictive diseases. Aim of our study was to test whether both peptides are involved in nicotine craving in a standardized setting. We studied orexin and leptin plasma concentrations (RIA) in tobacco smokers (n = 60) compared to healthy controls (n = 64). In smoking subjects we assessed craving for nicotine applying the Questionnaire of Smoking Urges (QSU) after three hours of withdrawal from nicotine. As main results we found a significant negative correlation between orexin plasma concentration and nicotine craving ($r = -0.28$; $p < .05$) and a positive association between nicotine craving and leptin ($r = 0.29$; $p < .05$). Our results show a bidirectional association between craving for nicotine and plasma concentrations of orexin and leptin suggesting that both neuropeptides may be regulators for the dopaminergic transmission in nicotine withdrawal and, thus, modulators for craving for nicotine.