Abstract

16-androstenes Anosmia in Men

16-androstens are compounds of steroid character which are secreted to the skin as part of apocrine glands secrets and they participate in creating body odor. It was found that androstenes influence affective state and psychophysiological reactions. The effect of androstenes can be also found on subliminal level. However, it has not yet been tested whether individuals with specific anosmia could also be influenced this way. Specific anosmia is described as an individual's incapability of conscious detection of particular odor while the detection of other compounds remains unaffected.

The aim of the thesis is to test whether specifically anosmic individuals can be influenced by compounds to which they are anosmic to. This hypothesis is based on research of sensitization. Previous research indicates that olfactory perception may be of larger plasticity than thought. The theoretical part focuses on critical analysis of androstenes and research on specific anosmia. This field contains topics such as influence of chemical structure on androstenes perception, genetic influences, sensitization, functions of androstenes in interpersonal interactions and research on brain imagining. The experimental part focused on measuring subjective ratings of mood and psychophysiological reactions which could be evoked by the researched compounds. The reactions were collected using the following methods: questionnaire on affective changes, pupilometry and measuring cortisol level in saliva samples. The differences of the effect of the control compound and the selected androstenes were not significant when comparing individuals with specific anosmia and control group using the described methods. The results do not indicate that the individuals with specific anosmia show measurable changes which would suggest a subliminal detection of the studied compounds.

Key words: chemical communication, specific anosmia, androstenes, 5α-Androst-16-en-3-one, 5α-Androst-16-en-3α-ol, saliva cortisol level, Salivette, pupilometry, mood changes