

Psychosomatic aspects

Olfactory Function in Hypoxia

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Olfactory function in healthy and pathological condition is of increasing interest because decreasing within aging and its impairment is anticipatory of neurodegenerative diseases e.g. Alzheimer and Parkinson. These studies suggest a correlation with pathological hypoxia. Recently, we have demonstrated that olfactory threshold is temporarily affected by hypoxia exposure. In the present paper we investigated whether other aspect of the olfactory function could be affected by hypoxia.

Seven climbers volunteers (mean age 56.86 ± 9.19 SD) were tested, at sea level before and post- their exposure to hypoxia at 4150 m (Mount Ararat, Turkey), for their physiological parameters and for identification (odor-name, odor-color on a Yes or No scale) and perception of five different odorants (orange, vanilla, almond, lemon and alcohol-rum), on 1 to 9 points of a 'Liker-like' scale of pleasantness, familiarity.

Identification naming odor is affected by two conditions hypoxia $p < 0.05$ ($F_{(2,32)} = 7.1$) and chemical characteristic of odorants ($F_{(5,32)} = 3.2$); coloring odor is affected, $p < 0.05$, only by chemical characteristic of odorants ($F_{(5,42)} = 3.6$). Perceptual characteristics, familiarity and pleasantness, are affected only by hypoxia $p < 0.05$, $F_{(2,60)} = 12.2$ and $F_{(2,60)} = 4.8$ respectively.

In conclusion, hypoxia affect olfactory function, beside emerge a relevance of chemical properties of odorants.