

早稲田大学 人間科学学術院 人間科学会 諸費用補助成果報告書 (Web 公開用)

申請者 (ふりがな)	加藤一聖 (かとういっせい)
所属・資格 (※学生の場合は課程・学年を記載)	博士課程 2 年
発表年月 または事業開催年月	2021 年 7 月 30 日
発表学会・大会 または事業名・開催場所	第 44 回日本神経科学会大会
発表者 (※学会発表の場合のみ記載、共同発表者の氏名も記載すること)	加藤一聖, 永島計
発表題目 (※学会発表の場合のみ記載)	ヒトの蒸れ感覚形成メカニズムの探索
<p>発表の概要と成果 (抄録を公開している URL がある場合、「概要・成果」を記載した上で、URL を末尾に記してください。また、抄録 PDF は別途ご提出ください。なお、抄録 PDF は Web 上には公開されません。)</p> <p>[Background] We feel the dryness and humidity of the air. However, at present, the mechanism of the humid sensation in human is still unclear in many areas. Recent studies have suggested that the nasal mucosa is related to the regulation of exhaled air humidity. We hypothesized that nasal inhalation would be involved in the perception of humidity in the environment, and investigated the effects of changes in temperature and humidity of the intake air on the sense of humidity.</p> <p>[Methods] The experiment was conducted over two days with a total of four trials by varying the temperature trials of the intake air (25°C; low temperature trial and 34°C; high temperature trial) and the humidity trials (30%; low humidity trial and 70%; high humidity trial). In the experiment, controlled breathing was performed for 9 minutes through a mask that covered only the nasal area. The controlled breathing consisted of a 3-second nasal inhalation, followed by a 3-second oral exhalation, for a total of 90 breaths. The nasal local temperature (T_{nose}) were measured continuously during the controlled breathing. The experimental participants rated the sensation of humidity (wet or dry) in the inhalation before, 3, 6, and 9 minutes after the start of the trial as length from the left end using the Visual Analog Scale (VAS) with a 10 cm straight line. [Results] T_{nose} increased significantly in high temperature conditions ($p < 0.001$). The humidity sensation increased in dependence on the increase in temperature and humidity conditions. From the results, we searched for the T_{nose} at which the sense of humidity did not occur, and found it to be around 33°C. As a result of analysis before and after this temperature, the distribution of T_{nose} and humidity sensation showed a significant negative correlation ($r = -0.33, p = 0.01$) below 33°C, and a significant positive correlation ($r = 0.18, p = 0.03$) above 33°C. [discussion] It was found that the sense of humidity of the intake air was affected by the temperature and humidity of the intake air in the locally independent environment of the nasal area. It was suggested that nasal inhalation plays an important role as a mechanism for sensing the humidity of the environment. In the future, we would like to examine the relationship between the molecular mechanism of temperature in the nasal region and the sensation of steam.</p>	

※無断転載禁止