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Recently, some extradigestive diseases associated with Helicobacter pylori (H. pylori) infection have been widely noticed. In the oral cavity, periodontal disease, halitosis, and aphthous stomatitis are related to H. pylori infection. However, the relationship between H. pylori infection and dysgeusia has never been reported. The aim of this study is to investigate whether H. pylori infection and atrophy of gastric mucosa, which is induced by H. pylori infection, affect dysgeusia. A total of 231 individuals (116 males, 115 females), who studied at two colleges for the elderly in Kitakyushu city, responded to questionnaires (sweet, sour, salty and bitter) using the whole-mouth taste method, and given both an oral examination and a medical examination. Dysgeusia individuals were defined as those who had at least one basic taste disturbance as determined by taste tests. H. pylori infection status was determined by the measurement of serum anti-H. pylori immunoglobulin G (IgG) antibody. Atrophy of gastric mucosa was defined as follows: serum peptisinogen I was >70ng/ml or below and peptisinogen I/II ratio was 3 or below. The individuals who had undergone gastrectomy or eradication therapy for H. pylori were excluded. A total of 208 individuals were finally enrolled. Dysgeusia individuals numbered 120 (57.7%). Atrophy of gastric mucosa (p=0.02) and use of H2 antagonist (p=0.02) were associated with dysgeusia by univariate analysis. By multivariate analysis, odds ratio of atrophy of gastric mucosa and dysgeusia was 1.87 (95% confidence interval 1.03–3.40) after adjustment for age and sex. On the other hand, H. pylori infection was not associated with dysgeusia. Atrophy of gastric mucosa was a risk factor for dysgeusia in the elderly, however an association with H. pylori infection was not seen in this study. Further study is needed to confirm this result.

14. ラット味蕾における ATP を介した情報伝達

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ATP は、「エネルギーの通貨」として細胞内で様々な生理機能に関与するとともに、細胞外においても「情報伝達物質」としての役割ももつことが明らかにされている。我々は、細胞外 ATP が味蕾において情報伝達物質として機能していると推測している。現在、RT-PCR, 免疫組織化学, in situ hybridization などの手法を用いて、味蕾における ATP を関与体の発現について検索を試みている。P2X4 受容体は一部の味蕾細胞に発現していること、そして P2X7 受容体が味蕾内の神経線維に発現していることがわかった。このような複数の ATP 受容体サブタイプが味蕾内で神経・細胞の両者に発現することは、細胞外 ATP が味覚情報伝達において重要な情報伝達物質としての役割をもつことを強く示唆するものと考えられた。

**Expression of P2X4 and P2X7 receptors in rat taste buds**

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In the gustatory system, it is known that ionotrophic ATP receptors (P2X2 and P2X3 receptors) are expressed exclusively in nerve fibers innervating the taste buds. However, expression of other P2X subtypes is still unclear. In the present study, we examined the expression patterns of P2X4 and P2X7 receptor subtype in rat taste buds. By immunohistochemical analyses, P2X4 receptor was detected in a subset of taste bud cells of circumvallate papillae. Also, P2X7 receptor was expressed in taste nerve fibers. The results of the present study suggest that extracellular ATP may play some roles in signal transductions between taste bud cells and afferent taste fibers.