

S48-3 The role of histamine H₄ receptor in allergic rhinitis

○Haruna YANO¹, Yuji TAKAHASHI¹, Chiaki KAMEI¹

¹Okayama Univ. of Pharm. Sci.

Allergic rhinitis is the most common immune-mediated disease, and the main symptoms are sneezing, rhinorrhea and nasal obstruction. Although histamine H₄ receptor has been identified in recent years, little is known about the function of this receptor.

In this symposium, we reported the effect of H₄ receptor antagonist in comparison with that of H₁ receptor antagonist. In addition, the possibility of H₄ receptor antagonist as new medicine for allergic rhinitis was examined. H₁ receptor antagonist, ketotifen as well as H₄ receptor antagonist, JNJ7777120 caused an inhibition of nasal symptom (sneezing and nasal rubbing) at a dose of 30 nmol and 3 or 10 nmol, respectively by nasal application. Simultaneous use of ketotifen and JNJ7777120 resulted in an augmentation of an inhibition in allergic rhinitis compared with when they were used separately.

H₄ agonist, 4-methylhistamine and VUF8430 caused nasal rubbing at a dose of 50 nmol. JNJ7777120 but not ketotifen antagonized H₄ receptor agonist-induced nasal rubbing.

In conclusion, it can be suggested that H₄ receptor is closely related with allergic rhinitis, and it is anticipated that its antagonist can be developed as new medicine for allergic rhinitis.