

S48-4 Roles of histamine in pathogenesis of asthma and re-evaluation of clinical efficacy of anti-histaminic drugs

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Histamine (HA) released from mast cells is an important chemical mediator in immediate allergic reaction and plays critical roles in pathogenesis of asthma by inducing edema, smooth muscle contraction and increased secretion in the airway. Although H1 blockers induced airway dilatation and improved asthma symptoms among the limited number of asthmatics, general clinical efficacy was not obtained and H1 blockers have not admitted as the standard therapeutic drug. Recently, comorbidity of asthma and allergic rhinitis has been getting much attention and H1 blockers are frequently administered to asthmatics. Here, we reported about the roles of histamine in the pathogenesis of asthma. 1) To investigate the total roles of histamine in the pathogenesis of asthma, we made the murine asthma model with histamine deficient condition (HDC-knockout mice). Since this model revealed enhanced goblet cell hyperplasia, it was suggested that histamine played a regulatory role in goblet cell hyperplasia in allergic airway inflammation. 2) We studied the relationship between polymorphism of OCT-3 as known histamine transporter and severity of asthma. The result showed its significant correlation, suggesting that OCT-3 might be a factor of asthma severity.

HA plays various roles in asthma through multiple kinds of receptors and we want to discuss about the possibility of different types of HA antagonist as therapeutic drugs of asthma.