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### Anti-allergic effect of a Korean traditional medicine, Biyeom-Tang on mast cells and allergic rhinitis

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Biyeom-Tang, a medicine prescribed by oriental clinics, has been used for the treatment of the allergic rhinitis (AR). In the present study, an ethanol extract of Biyeom-Tang (EBT) was investigated for anti-allergic properties on bone-marrow derived mast cells (BMMC), systemic anaphylactic shock, passive cutaneous anaphylaxis (PCA) and on ovalbumin (OVA)-induced AR model. EBT strongly inhibited a degranulation reaction in a dose dependent manner with an  $IC_{50}$  value of 35.6  $\mu$ g/ml. In addition, the generation of prostaglandin  $D_2$  and leukotriene  $C_4$  was inhibited in BMMC in a concentration-dependent manner with  $IC_{50}$  values of 7.0  $\mu$ g/ml and 10.9  $\mu$ g/ml, respectively. When administrated orally, EBT ameliorated compound 48/80-induced systemic anaphylaxis and the mast cell-mediated PCA reaction. In OVA-induced AR model, the increased levels of IgE were reduced by EBT. The levels of cytokines, such as IL-4, IL-5, IL-10, and IL-13 decreased on the splenocyte of EBT-treated mice. The histological analysis shows that the infiltration of inflammatory cells increased by OVA-sensitization was also reduced. In HPLC analysis, six compounds, one lignin and five furanocoumarins, were indentified. Taken together, these results suggested that EBT has anti-allergic and anti-inflammatory effects *in vitro* and *in vivo* models.

#### Biography

Eunkyung Lee has completed her PhD and Postdoctoral studies from Iowa State University, USA. She is a senior researcher of Herbal Medicine Team, a Public Research Institute, South Korea. She has focused on the development for anti-inflammatory and anti-allergic drugs such as asthma and allergic rhinitis. She has published more than 40 papers in reputed journals.

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