

## Inhalation of sophocside inhibits asthmatic reaction in mouse model

Department of Internal Medicine, College of Medicine, Medical Research Institute, Chungbuk National University, Cheongju, Korea

\*Jung Joo Kim, Mi-Kyeong Kim

IL-5 plays central roles in the infiltration and activation of eosinophils, which is the consistent feature of asthma. Our previous study found sophoricoside extracted(SOP) from *Sophora japonica*, had anti-inflammatory effect. And inhibition of in vitro eosinophil activation and in vivo murine asthma model. From those result, in this study we tried to document anti-asthmatic effect of inhalation of this compound using male BALB/c mice sensitized with ovalbumin(OA). Asthma was characterised by bronchial reactivity, airway eosinophilic inflammation, eosinophilia in bronchoalveolar lavage(BAL) fluid, and OA-specific IgE. And peripheral eosinophilia was also evaluated. Inhalation of SOP significantly abolish airway eosinophilia and reduce bronchial reactivity. These findings suggest that antagonism of this compound on asthma comes through the anti-eosinophilic cytokine activity, which implies this compound as a good candidate for anti-asthma medicine as an inhaler.

## Relationship between serum cholesterol and atopy or respiratory allergic diseases in Korean adults

<sup>1</sup>Department of Allergy, Asthma and Clinical Immunology, Chonnam National University Medical School, Gwangju,

<sup>2</sup>Department of Hematology-Oncology, Chonnam National University Hwasun Hospital, Jeollanamdo,

<sup>3</sup>Department of Biomedical science, Chonnam National University Medical School, Gwangju, Korea

\*Jongsun Kim<sup>1</sup>, Yeo-Kyeong Kim<sup>2</sup>, Hee-Young Shin<sup>3</sup>, Donghyun Kim<sup>1</sup>, Young-Il Koh<sup>1</sup>

**Background:** There are few human studies addressing the association between serum cholesterol and atopy or allergic diseases; however, the results are inconsistent. The relationship has been reported to be different according to race. We investigated whether serum cholesterol level was associated with atopy and respiratory allergic diseases in Korean adults. **Method:** A random sample of 373 adults (255 males and 118 females; mean age, 48.1 years; age range, 18 to 79 years) was included, who visited the Health Screening Center at the Chonnam National University Hospital for a medical checkup. Determinations of total cholesterol (TC), high density lipoprotein-cholesterol (HDL-C), and non-HDL-C, and skin prick tests with common aeroallergens were performed. Questionnaires for asthma and rhinitis were obtained. A subject with one or more positive reactions was considered atopic and atopy score was calculated. **Result:** Serum TC ( $184.4 \pm 32.9$  mg/dL vs.  $194.7 \pm 35.7$  mg/dL,  $p < 0.05$ ) and HDL-C ( $48.20 \pm 12.2$  mg/dL vs.  $52.9 \pm 12.1$  mg/dL,  $p < 0.01$ ) levels were lower in subjects with wheeze than in those without wheeze, although the cholesterol levels did not differ according to the presence of atopy, asthma, rhinitis, rhinorrhea or sneezing. TC ( $r = -0.11$ ,  $p < 0.05$ ) and non-HDL-C levels ( $r = -0.15$ ,  $p < 0.01$ ) were correlated with FEV1, but not atopy score. The cholesterol levels were not related to FEV1 values after multiple linear regression analysis. However, logistic regression analysis showed that TC level had a significant effect on the presence of wheeze after the adjustment for confounding factors including age, sex, smoking habits, body mass index and HDL-C level (odd ratio 0.990 and 95% confidence interval 0.981-0.999). **Conclusion:** Serum TC might be inversely associated with the presence of wheeze in Korean adult population, although there may be no relationship of serum cholesterol level to atopy. Further studies are needed.