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The serum lactoferrin level as a diagnostic marker for allergic rhinitis

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Background and objective: Allergic rhinitis (AR) is increasing in Asian- Pacific countries and a further increase in prevalence is expected. AR is a risk factor for allergic asthma. We assumed that the discovery of new biomarkers for AR can produce better clinical outcomes for AR and asthma. We aimed to identify a new biomarker using a proteomic approach and which was validated in sera of subjects sensitized to house dust mite (HDM) allergen. **Methods:** To identify proteins involved in AR, a comparative proteomic approach was applied. Nasal lavage fluids (NLF) were collected before and after nasal provocation with HDM in a patient with AR and asymptomatic sensitized subject as control, in which the proteins were analyzed by 2-dimensional electrophoresis (2-DE) and matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry. To validate clinical relevance of proteins identified, ELISA was evaluated using sera from 33 HDM sensitive AR patients and 21 asymptomatic subjects sensitized to HDM. The sensitivity and specificity were determined by receiver operating characteristic (ROC) curves. **Result:** 54 protein spots that increased or decreased more than twofold were selected and quantified. Among them, lactoferrin was up-regulated after nasal provocation with HDM allergen in HDM sensitive AR patient compared to control group. The serum lactoferrin levels of the AR group (244.64±108.25 ng/mL) were significantly lower than those of the asymptomatic sensitized controls (342.25±146.72 ng/mL, p value<0.05). When ROC curves were assessed using the reciprocal of lactoferrin, the optimal serum cutoff level in discriminating between AR and asymptomatic sensitized controls was 303.03 ng/mL. Using this cutoff value, the sensitivity and specificity were 76% and 62%, respectively, with 0.703 of AUC value. **Conclusion:** Serum lactoferrin can be considered as a candidate serologic marker for identifying AR among HDM sensitive subjects.

Key words: Lactoferrin. allergic rhinitis, nasal provocation test, proteomics This study was supported by a grant of the Korean Health 21 R&D Project, Ministry of Health & Welfare, ROK (A050571 and 03-PJ10-PG13-GD01-0002).

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Specific IgE and IgG response to Toxocara canis in patients with eosinophilia

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Background and objective: Toxocariasis is one of the major causes of peripheral blood eosinophilia and provokes eosinophilic infiltration in the internal organ. Diagnosis of toxocariasis(TC) has relied mainly on immunological methods and the specific IgG to TS was reported to be 68% of in patients with eosinophilia by ELISA (Bordier, Switzerland). The aim of this study is to evaluate the prevalence of serum specific antibodies to TC in patients with peripheral eosinophilia. **Methods:** Twenty-one patients with peripheral eosinohilia (>500 cells/uL or peripheral 10% of total white blood cell count) having no identifiable cause of eosinophilia such as drugs, parasite infection, malignancy or allergic diseases were enrolled. Serum specific IgE, IgG1 and IgG4 antibodies to TS- extretory-secretory antigens (TES, Phadia, Sweden) were determined by ELISA which were compared with those of specific IgE by immunoCAP, and specific IgG to TS by ELISA (Bordier, Switzerland). Serum total IgE and ECP level were measured by immunoCAP system (Phadia, Sweden), **Results:** The prevalence of serum specific IgE by ELISA was the highest (90.5%) followed by serum specific IgG1(65%) and IgG4(75%). Concordance rates between specific IgE by ELISA and specific IgE by immunoCAP, specific IgG by ELISA kit (Bordier), and specific IgG1 and IgG4 by ELISA were 100%, 60%, 73.7%, and 80%, respectively. The most commonly involved organ was liver (57.1%) in which serum total IgE level in patient with liver invovlement was significantly higher than those without liver involvement (P<0.01). **Conclusion:** TC should be considered as one of the major cause of the patients with eosinophilia in this country. Measurement of serum specific IgE to TS may be a better marker for TC infection Keyword: toxocariasis, eosinophilia, specific IgE antibody This study was supported by a grant of the Korea Health 21 R&D project, Ministry for Health, Welfare and family Affairs, ROK(A030001 and A050571)