

[P-26]**Immunotoxicological Evaluation of Lily Pollen as a Functional Food Resource**

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Therapeutic effects of pollen have been evaluated on rheumatoid arthritis, diabetes mellitus, cancer, or other chronic diseases. Whereas safety aspects of pollen intake, especially on immuno-safety, are not well addressed. To investigate immunological safety of pollen intake, BALB/c mice were fed with lily pollen (500, 50, 5, 0.5 mg/kg body weight) five times weekly for five weeks through intra-gastric route. Weight gain was not affected by pollen intake compared with the control mice fed with vehicle. No significant difference on weight of liver, spleen, kidney, and lung was observed compared with the control group. Histopathologic alteration at kidney and liver was not also observed with the pollen-fed mice. Neither plasma distribution nor in vitro secretion of major IgG, IgG1 and IgG2a, was not different between the pollen-fed and control mice. Level of IgE in the plasma was not significantly different between the two groups, which indicates no observable allergenic effect of pollen. Regarding functions of T lymphocytes, splenic T cells were activated in vitro with polyclonal stimulators. Level of IL-4 and IFN γ synthesis, representative cytokines of type-1 and type-2 response, respectively, was not significantly different between the pollen-fed and control mice. This study implicates that pollen does not induce any significant immune-alteration when intaking as a function food source.

Keyword: pollen, immunotoxicity, IgE