

CHAPTER 35

MEDICAL SCIENCES PULMONARY MEDICINE

Doctoral Theses

01. MAVI (Anil Kumar)
Biochemical and Clinico-Immunologic Characterization of Pigeon (Columbilivia) Allergens (Feathers and Droppings) in Asthmatic Patients.
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Abstract
(Not Verified)

Pigeon allergens may also play an important role in worsening asthma in a certain urban environment which contains many pigeon's allergens. Hence the present study was planned to identify asthmatic patients showing hypersensitivity reaction to pigeon allergenic protein (feather and droppings), and to monitor the circulating antibody level to understand the degree of exposure and occurrence of asthma in Indian population. A total number of 200 patients (male or female) diagnosed as per guidelines of Global Initiative for Asthma (GINA) and fifty non-allergenic healthy volunteers were enrolled. Out of a total 200 asthmatic patients, 108(54%) patients had a history of exposure to pigeon and 92(46%) patient's shows no history to pigeon exposure. Skin prick test against pigeon (feather & dropping) was positive in 18 (16.66%) out of 108 patients exposed to pigeons. Out of these 18 cases, 14 (12.96%) had SPT positive against droppings & 4 (3.7%) had SPT positive against feathers. The total IgE level, Specific IgE and IgG values were higher in pigeon exposed asthmatic in comparison to a non-exposed asthmatic. Immuno-blot experiment revealed that 6 proteins of 4 of them from droppings (13, 20-43, 94 kd) and 2 of them from feather (20 kd & 40kd). Among the 17 patients, only 9 patients show strong reactivity towards the 54 kD band in the antigens. The patients showed strong expression toward 150-200 kD protein band in the MUC1 during western blotting. The average concentration of MUC1 allergenic protein after purification with the HPLC (High-Performance Liquid Chromatography) in all the patients' sera was found to be 2331.9 ± 259.9 $\mu\text{g/ml}$. The present study highlights that the pigeon feathers and droppings allergens are one of the contributors for sensitization in asthmatic patients with (16.67%) patients are sensitized to these pigeon allergens. In the age group, 21-30 years patients were highly sensitized against pigeon allergens.

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