

## **Identification of Allergens (By Skin Prick Testing) in Adult Patients with Bronchial Asthma, Presenting at Asthma Clinic, Chest Hospital Welisara: A Preliminary Study**

Nadisha Badanasinghe<sup>1</sup>

Allergic diseases warrant identification of specific allergen triggers. Although many studies were done to determine patterns of allergen sensitization in Western countries, sensitization patterns are not known in Sri Lanka. The objective of this study was to identify the common aero-allergens by skin prick testing (SPT) in adult patients with bronchial asthma, at asthma clinic, Chest Hospital, Welisara. The specific objectives were to describe the exposure patterns, risk factors, severity, and control of symptoms of asthma and to compare allergen sensitization patterns with the severity and exposure patterns.

A cross sectional descriptive study was conducted among 200 patients >12 years of age with bronchial asthma diagnosed by a chest physician. SPT was done from 2018 January- 2019 January in all consenting and eligible 10th patient, to test maximum of 5 patients for a day until a minimum of 200 patients were tested. SPT was done for common aeroallergens with positive (0.1% histamine) and negative controls (saline). The aero-allergen panel was selected according to the most prevalent allergens in patients with asthma found by previous researchers. An interviewer administered questionnaire was used to obtain demographic data, clinical details including severity, co-morbid factors and exposures. Classification of asthma and symptom control was done according to 2016 Global Initiative for Asthma guidelines.

The study population was mostly (93%) comprised of patients above the age of 40 years. Adult onset asthma was present in 78% of patients. There was a significant female to male ratio of > 3:1. Allergic rhinoconjunctivitis (ARC) was the most prevalent concomitant atopic disease (63%). Most patients complained of worsening of their symptoms mainly at outdoors (62%) than indoors (37.5%). Out of total 200 study sample, 174 (87%) patients had a SPT positive result for at least one allergen tested. House dust mite (HDM) was the commonest allergen trigger which was positive in 87.3% of patients. Nearly 60% of patients were allergic to storage mites (SM) (59.2%), and cockroach (58.6%). Significant number of patients who complained of worsening of symptom indoors (88.0%) were allergic to both HDM and SM than who had worsening of symptoms outdoors (69.3%). Patients who complained of worsening of symptoms outdoors were allergic to pollens significantly (29.0%), more than who had symptoms indoors (12.0%). The SPT positivity is significantly higher in patients who had other concomitant atopic conditions (90.18%).

In conclusion, 87% of asthma patients were sensitized to one or more allergens. HDM is the most common allergen trigger in all sub-populations in the study group, but it was commoner in the sub-groups of patients who had symptoms indoors (88.0%) and had concurrent ARC (84.9%). Pollen sensitization was commoner in patients who had symptoms outdoors.

Keywords: “Asthma; Allergy; Skin prick test, Aero-allergens, Atopy”

<sup>1</sup> University of Kelaniya, Sri Lanka