Research

Sublingual Immuno-therapy treatment for asthmatic-allergic rhinitis patients induced by house dust mice among Punjab, Pakistan

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House dust mite (HDM) allergy a much prevalent IgE-mediated indoor allergy is a considerable healthcare burden associated with the allergic rhinitis and bronchial asthma. House dust mite (HDM) is a common probable inhalant allergen that causes allergic rhinitis. HDM long term exposed patients with comorbidity of asthma and allergic rhinitis can transform diseases to chronic severer condition. Sublingual immunotherapy (SLIT) is used to treat allergic rhinitis effectively under the recommendation of the World Allergy Organization.

The objective for this descriptive retrospective study was to evaluate the efficacy of sublingual immunotherapy (SLIT) for treating allergic rhinitis patients who has asthma induced by house dust mite (HDM) among Punjab, Pakistan population.

"Global initiative for asthma" (GINA) classifies asthma as heterogeneous disease characterized by chronic air ways inflammation, defined by history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough vary over time in in intensity together with variable expiratory airflow limitation.
Since asthma and allergic rhinitis are highly prevalent co-existed disorders in Pakistan, while no data of SLIT treatment is available, thus this study determine the efficacy and safety of SLIT in adult population of Pakistan. A total of 114 patients with persistent allergic rhinitis and bronchial asthma induced by HDM were included. All patients had allergic rhinitis symptoms for the whole a year with seasonal bronchial asthma.
These patients had received SLIT drops for a total of three year. This retrospective study was conducted at the Allergy and Asthma Centre, Islamabad and Rawalpindi, Pakistan. These health care facilities are catering the needs of allergy and asthma patients since many years. Thus 114 physician diagnosed bronchial asthma were included in this study

from October 2018 to October 2021. These patients severity of the symptoms were classified according to the ARIA guidelines. We used SLIT standard extract drops according the recommended schedule for bronchial asthma with allergic rhinitis patients. These patients received once daily 1 drop of SLIT (333 µg/mL) for the first month. From second month we added 2 drops of SLIT (1000 µg/mL) for a full whole year. Adverse effects of the treatment were recorded during the whole period.
For sample size calculation open epi software was employed. SPSS software version 21was utilized for statistical analysis.

Outcome	**Pre-treatment**	**Post-treatment**	**P value**
Sneezing	2.02 (0.48)	0.091 (0.59)	<.01
Conjunctivitis	2.85 (0.57)	0.47 (0.41)	<.01
Blocked nose	2.72 (0.70)	2.23 (0.52)	<.01
Runny nose	2.10 (0.62)	1.30 (0.28)	<.01
No of Bronchial hyper response	1.67 (0.78)	0.78 (0.62)	<.01

P <0.05 by independent T test

Skin Rash	(1.5) 3%
Fever	(2.5) 5%
Eye swelling & conjunctivitis	(2.0) 4%
Cough	(3.5) 7%
No of Bronchial hyper response	(4.0) 2%

The prevalence is quite high of allergic rhinitis patients with asthma induced by HDM. The results of the present study demonstrated that SLIT treatment may be effective in allergic

rhinitis and bronchial asthma patients induced by HDM in Punjab population of Pakistan.