To Study The Allergens Response For Allergic Diseases In Ahmednagar District

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Abstract

Introduction : In many parts of India, aeroallergens are not known. Skin prick test (SPT) is the gold standard to diagnose allergy. Although SPT does not differentiate between allergy and sensitization. Clinical correlation is essential for distinguishing sensitization from allergy. **Objectives :** To evaluate allergens responsible for allergic diseases in the population of Ahmednagar district. **Material and Methods :** Twenty-four patients of bronchial Asthma and Allergic rhinitis were subjected to SPT. SPT was performed using allergen extracts from Maharashtra. **Results :** Out of 24 patients. 6(25%) patients belonged to age group of 41-50 yrs. 8(33%) patients belonged to 31-40 yrs. 9(37%) belonged to 21-30yrs. 1 patient was below 10 year of age. 9(37.5%) had both AR and BA.7 (29%) had BA. 8(33%) had AR.

SPT results showed following results. 21 patients (87%) showed positive SPT for pollen. 10 (41%) showed positive SPT to mites.7 (29%) showed positive SPT to animal epithelia.6 (25%) showed positive SPT to insects, 3(12%) to fungi and 4(16%) to dust. Among pollens peltophorum was more common followed by argemon and parthenium.

Among dust mites pteronyssinus and Feranae both were common representing equal percentage.

Conclusion : Pollens were most common allergen. Peltophorum pterocarpum was more frequent among pollens. Mites were second common.Both Mites (Dermatophagoides pteronyssinus, Dermatophagoidesfarina) were seen with equal frequency.

Keywords: skin prick test (SPT), allergic rhinitis (AR),bronchial asthma(BA) pollens, dust mites.

Introduction : In India 20%-30% of the people have allergic rhinitis (AR), and 15% have bronchial asthma (BA). Effective Treatment of these diseases consist of identification and avoidance of causative allergens. The local flora /air born pollens change approximately every 200 km distance in India.[1,2] In many parts of Maharashtra the pollens are not known. Studies pertaining to season of pollination of various plants ,weeds and grasses of different geographical areas are lacking in Maharashtra. Careful selection of various pollens and other allergens for SPT is first step in diagnosing responsible allergen in patient with allergic diseases. Those allergens which are positive in SPT either Indicate allergy or sensitization.[3] Awareness of allergy and identification of the most prevalent allergens are important keys to preventive measures and immunotherapy[4].

Material And Methods : Patients of BA and AR attending OPD during last 12 months in the Department of Pulmonology at a medical college, patients of BA and AR attending OPD during last 12 months in department of Pulmonology at a medical college were studied.

Patients were asked to withhold antihistamines for 5 days prior to SPT. Those patients on B blockers were excluded from the study. The allergens from Creative Drug Industries ,Mumbai were utilized for SPT.In each patient 46 skin pricks are done using 25 types of pollen allergens,7 types of fungus allergens,3 types of mites,3 types of dust allergens,4 types of animal epithelia ,2 insect allergens, control buffer solution and histamine. During the test, a small drop of test reagent dropped on the volar aspect of forearm. The lancet tip is passed through the drop

about 1mm deep. The drop is gently wiped off. The test reading is done after 20 mins.Atopy is defined as positive SPT in which the wheal diameter is>3mm as compared to the negative control for at least one aeroallergen.

Results : 11 patients (45%) showed positivity to single allergen.13 (54%) showed positivity to multiple allergens.

6(25%) patients belonged to age group of 41-50 yrs. 8(33%) patients belonged to 31-40 yrs.9(37%) belonged to 21-30yrs. 1 patient was below 10 year of age.[Figure 1].

9(37.5%) had both AR and BA.7 (29%) had BA. 8(33%) had AR . [Figure 2].

SPT results showed following positive results.

21 patients (87%) showed SPT positivity to pollens.10 (41%) showed positive SPT to mites.7 (29%) showed positive SPT to animal epithelia.6 (25%) showed positive SPT to insects, 3(12%) to fungi and 4(16%) to dust.[Figure3].

Among pollens Peltophorum pterocarpum was more common followed by Argemone Mexicana and Parthenium hysterophorus. [Figure4].

Among dust mites Dermatophagoides pteronyssinus and Dermatophagoides ferinae both were common representing equal percentage.

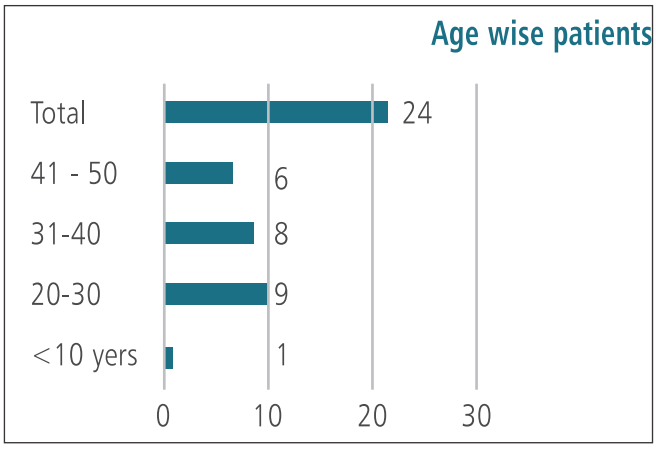

Figure1: Age wise patient distribution

Disease wise distribution

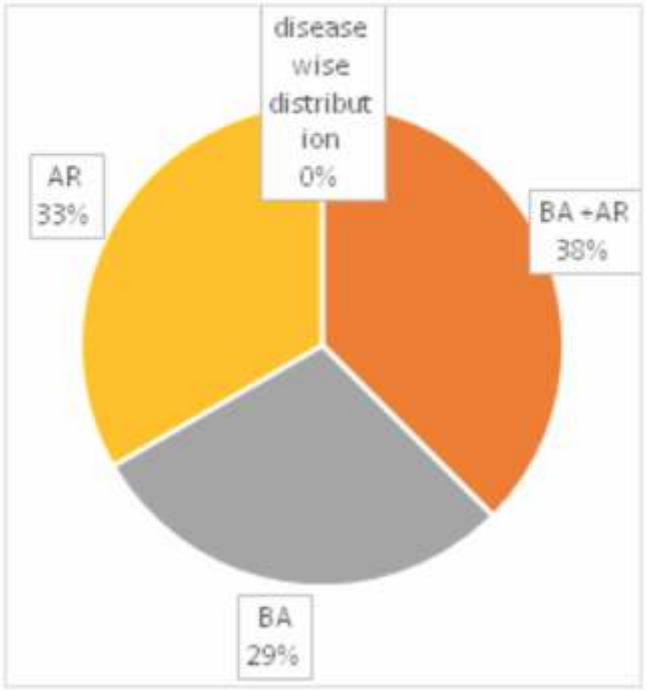

Figure 2: Disease wise patient distribution

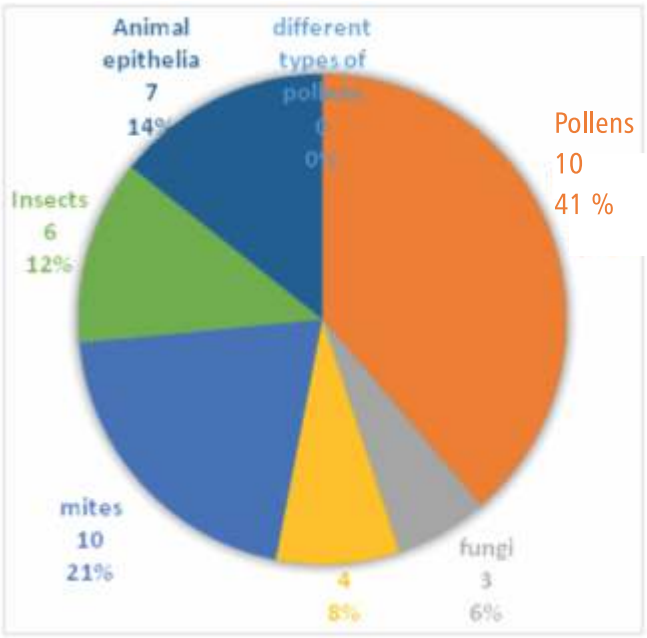

Figure 3: Allergen wise distribution

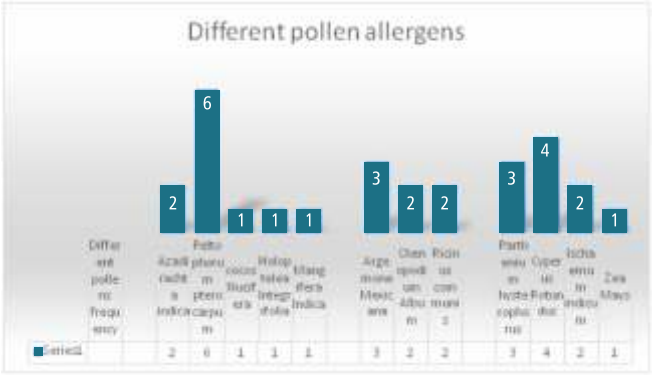

Figure 4: Different types of pollens

Discussion : Allergic diseases are due to various allergens. Allergens are peptides or glycopeptides. Pollens, mites, fungi, animal epithelia, insects and dust are more common allergens.[5,6]

Ashok arbat et al from central India in their study found that dust mites were most common allergens in patients with asthma and rhinitis.[1]

Roohi Rassol et al from Kashmir in their study found that the commonest allergen was pollen (52%) followed by house dust mite (44%).[7]

R. Prasad et al from Uttar Pradesh found that common offending allergens were insects (21.2%), followed by dusts (12.0%), pollens (7.8%), animal dander (3.1%), and fungi (1.3%)[5].

In a study by Bhatia Choate, et al in south India found that highest percentage of skin-prick test positivity was found among insect allergens (24.45%) followed by dust (24.21%), grass and tree pollen (20.57%), fungus (13.92%) and food allergens (9.28%), in that order[8].

In our study we found that pollens are common allergens responsible for allergic diseases followed by mites.

So in various parts of India, different sets of allergens predominate.SPT is gold standard to diagnose allergy.

Conclusion : Pollens and mites are common responsible allergens in allergic diseases.

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Conflicts of Interest : Nil

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