

# Benefits Of Skin Prick Tests For Allergic Rhinitis

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## Abstract

Objectives: The objectives of this study were:

1. The patients view about the benefits of allergy skin prick test.
2. Did this test make any difference in the management of these patients?

Methods: 99 patients, who had positive skin tests for allergy, were selected for the study. This was a retrospective case note review and prospective patient questionnaire analysis. Main outcome measure was patient's perception of benefit with skin test.

Results: 99 patients had positive skin tests. 59 patients replied back to the questionnaire sent to them. Of the 59 patients who replied, 35 (59.32%) received benefit from skin prick testing. The most common allergen in our study was house dust mite (75.7%) followed by grass pollen (52.5%), dog (23.2%) and cat (27.3%).

Conclusion: Skin prick test is a simple and reliable test for allergic rhinitis. 59.3 % of patients (95% CI: 46.78-71.82%) who tested positive found it to be useful. There is no benefit in performing this test in a patient who is aware of his/her allergy. Those patients who are not aware of their allergies may benefit from this test as it makes them aware of their allergies and the importance of allergen avoidance. P value for benefit from skin test in this study was <0.005 showing that patients benefiting from the skin test was significant.

Study conducted at Derbyshire Royal Infirmary, Derby

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## INTRODUCTION

Allergic rhinitis is a health problem and a major concern among the UK population. It affects 10 – 20% of the general population<sup>1</sup>. Up to a third of teenagers are affected by allergic rhinitis with or without other allergic diseases<sup>2</sup>. The prevalence of allergic rhinitis is increasing in European countries<sup>3, 4</sup>. Allergic rhinitis can be perennial caused by dust mites and animal dander or seasonal when it is caused by a variety of pollen. The principle features of allergic rhinitis are nasal itching, sneezing, watery rhinorrhoea, nasal obstruction and sometimes with additional symptoms such as headache, anosmia or hyposmia and itching and redness of eyes<sup>1</sup>. Many conditions such as nonallergic rhinitis with eosinophilia, rhinitis medicamentosa, nasal polyposis, chronic sinusitis, Wegner's granulomatosis etc can mimic

allergic rhinitis. Some of these conditions may coexist. The investigation for suspected allergic disease includes a detailed accurate clinical history both personal and familial, prior treatment and benefits from these treatments, presence of other allergic disorders, a physical examination and the use of in vivo or in vitro tests to determine the patient's sensitivity to the provoking allergen. Skin tests properly performed and properly interpreted are the most useful diagnostic tests to document specific IgE reactivity<sup>5</sup>. Pumihurun<sup>6</sup> concluded that the skin prick test can be used as a screening method for patients with allergic rhinitis, while the specific IgE detection can be used as an alternative for diagnosis of patients who are susceptible to the intradermal test or for those who are severely susceptible to allergic rhinitis such that medication can not be withdrawn for the intradermal test.

In the UK almost all the patients with intermittent or persistent nasal symptoms are first examined and treated by primary care physicians. Depending on their symptoms and examination findings these patients are treated with oral

antihistamines and/or intranasal steroids. Facilities to do skin prick test on all these patients are not available. If the patient does not get the expected relief from their symptoms these patients are referred to the rhinologists.

The aim of this study was to investigate the patient's point of view about the usefulness of skin prick tests performed in the rhinology clinic and the difference it made in the management of these patients with allergic rhinitis.

### **MATERIALS & METHODS**

Retrospective analysis of 99 patients who had positive skin prick tests over 12 months from Jan 2000 to Dec 2000 at Derby Royal Infirmary was done. Skin prick test was done for house dust mite, grass, cat, dog & any other specific (guinea pig, horse etc.) suspected agents. Following skin tests these patients were given information leaflets about allergic rhinitis and allergen avoidance.

Questionnaires were sent to all the patients with positive skin tests.

### **RESULTS**

Skin prick test produced a positive result in 99 patients. Of these 43(43.4%) were males and 56(56.6%) females. The questionnaire was returned by 59 patients (59.6%). Majority (93.2%, 55/59) of these patients were aware about the purpose of skin test. Among the 59 patients 37 were not aware of any known allergy and the remaining 22 knew about allergic reaction to grass, dust mite and pets.

Of the patients with positive skin test (99), 24 did not

receive any previous anti allergy treatment, 42 received single nasal steroid, 17 had tried many nasal steroids. Eight patients tried an antihistamine alone. Another 8 had tried both antihistamines and nasal steroids.

The effectiveness of the treatment received from GP's was assessed by the 59 patients who returned the questionnaire. Of these, 20 patients used nasal spray with 9 finding it useful and 11 not enjoying any relief of symptom. Of the remaining patients, 8 tried antihistamines alone and 5 of them experiencing benefit. Another 8 used both antihistamines and nasal steroids, with 4 finding them effective.

The common symptoms in this group were nasal obstruction 54(53.5%), rhinorrhoea 28(19.2%), sneezing 28(19.2%), post nasal drip 19(11.1%) and anosmia in 2(2.02%).

Skin test results showed that most common allergen was house dust mite (75.7%; 75/99) followed by grass pollen (52.5%; 52/99), dog (23.2%; 23/99) and cat (27.3%; 27/99).

Among the 59 patients who responded to the questionnaire 6/8 patients accepted getting benefit from the information leaflet alone. Benefit was achieved by both information leaflet and changes in medication in 16/23 patients. With the information leaflet and continuing on the same treatment as pre-skin test, 13/28 patients benefited. Overall 35/59 (59.32%) patients benefited from the skin tests with 95% confidence interval of 46.78%-71.82%.

P value for benefit from skin test in this study was <0.005 (2 sided p value: 0.002)