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#### **ORIGINAL ARTICLE**

# Adherence to allergen immunotherapy improves when patients choose the route of administration: Subcutaneous or sublingual



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#### **KEYWORDS**

Adherence; Education; Immunotherapy; Mites; Sublingual; Subcutaneus

#### **Abstract**

*Background*: Immunotherapy has shown to be an effective treatment for the management of some IgE-mediated allergies. However, due to its long duration, a high number of patients withdraw from it before completion.

*Objective*: Explore if allowing patients to select the route of immunotherapy, educational sessions and strict follow-up could improve treatment compliance.

Methods: Patients consulting allergy service were divided into two groups; if they chose the route of administration of immunotherapy, they were selected for the active group; if their physician decided, they were selected for the control group. All patients had to attend the allergy service monthly for control. Before the first application of immunotherapy, all patients received an educative session about the benefits and risks of the treatment. Patients in the active group received an additional session about subcutaneous and sublingual routes and they chose the most appropriate according to their personal characteristics.

Results: A total of 204 patients were in the active group and 103 were included in the control group. At six months, a total of 46 patients withdrew from immunotherapy during follow-up, 24 (11%) in the active group and 22 (21%) in the control group (p=0.02). In the active group we observed no statistically significant difference in adherence between those who preferred subcutaneous or sublingual immunotherapy; however in the control group, the drop out of sublingual immunotherapy was significantly higher than those who received subcutaneous (p=0.05).

*Conclusion:* Educational sessions, strict follow-up and considering personal preferences of patients could improve adherence to allergen immunotherapy.

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#### Introduction

Allergen immunotherapy has proved to be an effective alternative for the control of symptoms and prevention of some allergic diseases. Multiple routes of administration of allergens have been proposed but currently the most popular are the subcutaneous and the sublingual routes. Although the subcutaneous route remains the most widely used, the sublingual one has increased in recent years. Apparently, this increase is due to the physician's preference for the lower frequency of systemic reactions compared with the subcutaneous route, and several articles have been published evaluating physicians' reasons for their selection.1 However, the dropout rate of immunotherapy, especially from the sublingual route, is high, and little has been studied in relation to the preferences of patients regarding the route of administration, which perhaps could improve the rate of adherence.2

Previous studies have suggested that patient education and closer monitoring may improve the adherence rate,<sup>3,4</sup> therefore in this study we evaluated these factors and we observed if patient preferences about the route of administration could improve adherence.

#### Methods

### Characteristics of the study population and selection

This was a prospective pragmatic study. We included patients who attended the allergy service of the University

of Antioquia (Medellín, Colombia) from June 2012 to July 2013 with a diagnosis of asthma, rhinitis or atopic dermatitis and required mites immunotherapy. Patients who had previously received immunotherapy were excluded. The disease diagnosis was established according to the GINA guidelines for asthma (http://www.ginasthma.org), ARIA for rhinitis<sup>5</sup> and the criteria of Hanifin and Rajka for atopic dermatitis.<sup>6</sup> Each patient, at the beginning of treatment, received an explanation about why immunotherapy was needed, and its benefits and risks. All patients signed an informed consent (Fig. 1). This explanation was given by an allergist physician.

Commonly in our allergy service the selection of the route of administration of immunotherapy is a medical judgement. However, since 2013 we have been doing additional educational sessions, in which we present to the patient the principal characteristics of each route, the application scheme and the method of administration, and we allow them to choice the route that they prefer. This protocol is optional, and the allergist is free to follow it, and it does not depend on patients characteristics. Therefore at the time of enrolment we found patients who made the selection of the route, and others who were being treated with the route that their treating allergist chose. Patients who selected the route of administration were included as "active group" and the other patients where included as "control group" (Fig. 1).

#### Sublingual vs. subcutaneous route

Subcutaneous immunotherapy was administered monthly (Alxoid, Inmunotek, Madrid Spain). Mite allergen extracts

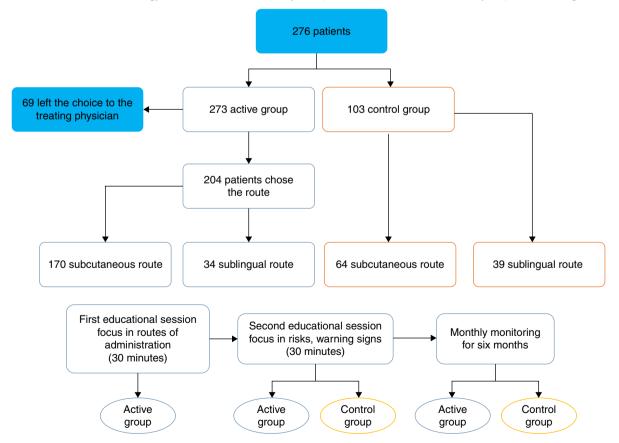


Figure 1 Patients groups and follow up. Patients groups according to who made the selection and immunotherapy route.

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