Abstract

Criteria for evaluating the clinical and functional efficacy of allergen-specific subcutaneous immunotherapy in patients with allergic rhinitis and asthma.

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INTRODUCTION

Abstract:
Allergen-specific immunotherapy is the repeated, long-term administration of an allergen to reduce or prevent symptoms in individuals exposed to IgE-mediated allergic diseases. Allergen-specific immunotherapy induces clinical and immunological tolerance to the administered allergen, allows to reduce or discontinue antiallergic pharmacological therapy, delays or prevents the progression of the disease, improves the patient's quality of life.
The aim of the work: To perform data analysis and to determine the number of patients receiving allergen subcutaneous immunotherapy, as well as to evaluate its clinical and functional efficacy in patients with allergic rhinitis and/or asthma in the Children's Clinical University Hospital.

Materials and methods:
A retrospective study of the medical records and medical records of outpatients in the hospital's internal systems "Andromeda", "Saule" was performed, collecting data according to a previously developed protocol. The study enrolled 161 outpatients with VSIA BKUS diagnosed with bronchial asthma and/or allergic rhinitis and receiving allergen-specific subcutaneous immunotherapy from January 1, 2010, to June 30, 2021. The research data were processed according to the standard methods adopted in the research processing with the help of a computer using MS Excel 2013 and SPSS computer program.

Results:
The study included 161 patients, including 38% girls and 62% boys, aged 6-17 years. The average age of patients at the start of AIT was 10.75 years. Allergic rhinitis and bronchial asthma were reported in 62% of all patients, 20% with just allergic rhinitis, 13% with allergic rhinitis and conjunctivitis, and 5% with just bronchial asthma. Co-morbidities were observed in 23% of patients, the most common being atopic dermatitis, which occurs in 45% of cases, adenoids in 17%, GERD in 10% of cases, and thyroid pathology in less than 5% of cases. 46% monosensitized, of which 35% are allergic to house dust mites, 2% are allergic to animals, 9% are allergic to trees. Polysensitized 54% of patients, of which 31% have a reaction to house dust mites and animals, 18% have a reaction to house dust mites and trees, and 10% have a reaction to animals and trees. 22% of monosensitized patients have allergic rhinitis to just house dust mites, and 54% have allergic rhinitis and bronchial asthma. 78% of patients receive immunotherapy against house dust mites, 18% against trees, 5% against timothy. 8% of patients receive combination immunotherapy. The duration of received immunotherapy is variable, 14% receive it for up to 6 months, 30% receive it for 6 months to 1 year; 36% receive 1-2 years; 18% receive it for 2-3 years, 2% of patients receive it for more than 4 years. Comparing FEV1 results before immunotherapy and 6-12 months after AIT, it was found that 29% of patients had an improvement in FEV1. Using the Wilcoxon test, a p value of <0.001 is considered statistically significant. Local reactions such as reddening of the skin, pain at the injection site, and itching were observed in 26% of patients receiving AIT. Urticaria was observed in 3% of cases. General reactions were observed in 7% of cases, nasal discharge was observed in 5% of cases, subfebrile T-elevations were observed in 2%, and respiratory distress with FEV1 fluctuations was observed in 0.06% of patients. During AIT, 10% of patients received additional antihistamines to prevent adverse reactions. 23% of patients had an allergic disease in family, 16% had no family history of allergies, and 61% had no family history. When evaluating the effectiveness of immunotherapy, it was found that bronchial asthma control improved in 17% of patients, 83% remained unchanged, it is important that no one worsened bronchial asthma control; while the symptoms of allergic rhinitis decreased in 67% of patients, and the symptoms of rhinitis remained unchanged in 33%. Both Sign and Wilcoxon tests were used with a p value <0.001, which is considered a statistically significant result.

Conclusions:
Nowadays, both in Latvia and elsewhere in the world, allergen-specific immunotherapy is increasingly used in the treatment of allergic diseases. Patients with bronchial asthma and allergic rhinitis receiving allergen-specific immunotherapy experience a reduction in symptoms and the need for pharmacological treatment.

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