

# MOLD ALLERGY IN ATOPIC PATIENTS IN SAINT-PETERSBURG, RUSSIA

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*Nikolay Klimko<sup>1</sup>, Yana Kozlova<sup>1</sup>, Aleksey Sobolev<sup>1</sup>, Oleg Aak<sup>2</sup>, Ekaterina Burygina<sup>2</sup>*

<sup>1</sup>Department of Clinical Mycology Allergology and Immunology, I.Mechnikov North-Western State Medical University, St.-Petersburg, Russia;

<sup>2</sup>Kashkin Research Institute of Medical Mycology, I.Mechnikov North-Western State Medical University, St.-Petersburg, Russia



## Introduction

Micromycetes are among the most common environmental aeroallergens. Frequency of mold allergy varies within wide limits and may comprise from 6 to 24% in general population and 44% in atopic patients. National data of mold allergy prevalence is limited.

## Objective

To determine the prevalence and main clinical forms of mold allergy in patients with atopic diseases in Saint-Petersburg, Russia.

## Methods

Prospective multicenter study was performed in 2009-2014. Eligibility criteria were combination of fungal sensitization (level of IgE antibodies to mold allergens in serum class  $\geq 1$ ) and clinical manifestations of allergy (allergic rhinitis, asthma, atopic dermatitis, urticaria and angioedema).

Total IgE level in serum was determined by enzyme immunoassay. Specific IgE levels were determined using Multiple Allergen Simultaneous Test (MAST, Hitachi, USA) to fungal allergens.

All patients with asthma made lung function test. In case of allergic bronchopulmonary aspergillosis (ABPA) computed tomography of the chest was performed.

Diagnostic criteria of ABPA 2003 [Stevens et al] and SAFS 2014 [Denning et al] were used.

## Results

The study included 1107 patients with atopic diseases: ABPA, asthma, allergic rhinitis, atopic dermatitis, urticaria, and angioedema.

Mold allergy was detected in 241 patients that represented 22% of the total number of atopic patients.

The highest frequency of fungal sensitization was connected with *Aspergillus* spp. (62%). Occurrence of sensitization to other micromycetes: *Penicillium* spp. – 54%, *Alternaria* spp. – 41%, *Mucor* spp.– 34%, *Cladosporium* spp.– 31%, and *Rhizopus* spp. – 4% (Fig. 1).

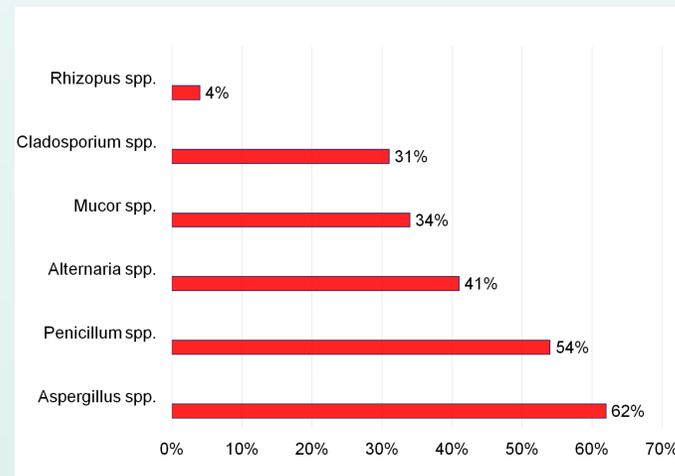


Fig. 1. Prevalence of sensitization to various fungi in atopic patients

## Results

Total IgE level ranged from 1 to 2729 U/ml (median - 545).

Frequency of mold allergy in patients with asthma was 40%, allergic rhinitis – 16%, angioedema – 10%, urticaria – 6%, and atopic dermatitis – 6% (Fig. 2).

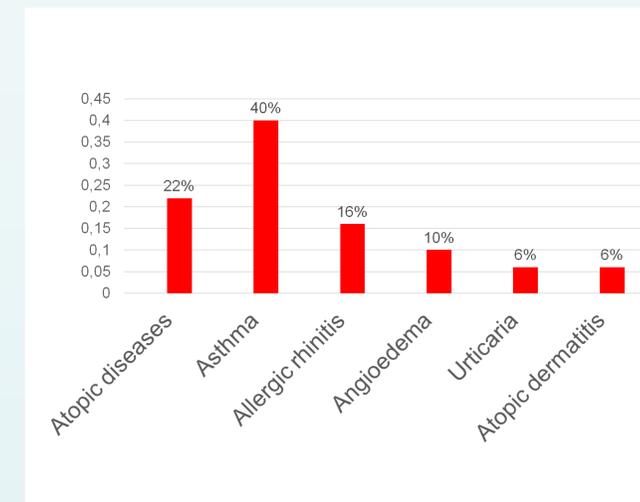


Fig. 2. Frequency of mold allergy in patients with atopic diseases

In patients with asthma in 2% of cases ABPA was diagnosed. Severe asthma with fungal sensitization was detected in 5% of patients with asthma.

## Conclusions

Mold allergy was diagnosed in 22% of patients with atopic diseases in Saint-Petersburg.

The most frequent cause of fungal sensitization were *Aspergillus* and *Penicillium* spp.

Frequency of mold allergy in patients with asthma was 41%, allergic rhinitis – 16%, angioedema – 10%, urticaria – 6%, and atopic dermatitis – 6%.

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