

**STUDYING THE PREVALENCE OF ALLERGIC DISEASES AND
PSEUDOALLERGIC CONDITIONS**

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Annotation: An analysis of epidemiological allergic diseases and pseudo-allergic conditions among workers in the textile industry was carried out, which is of great importance for practical healthcare. Such studies are necessary for primary prevention, prediction of both allergic and pseudoallergic processes in order to prevent the development of occupational pathology.

Key words: allergic diseases, anaphylactic shock, pseudoallergic condition, immunological changes, sensitivity.

The relevance of the problem. The problem of prevalence of allergic diseases and pseudoallergic conditions is relevant, since the number of people with allergic diseases (AD) continues to grow steadily. There is no precise data on prevalence of AD and pseudoallergic conditions (PS), as well as their relationship with each other.

It is believed that from 10% to 30-35% of the urban and rural population living in areas with highly developed economic potential suffers from allergic reactions. In 20% of cases, the population of Europe and the USA has various manifestations of allergic reactions. In proportion to the increase in the incidence of allergic diseases, there is an increase in the mortality rate for such common diseases as bronchial asthma (BA), anaphylactic shock, acute toxic-allergic reactions.

Purpose of the study. Conduct a comparative analysis of the prevalence of allergic diseases and pseudo-allergic conditions.

Materials and methods. The studies were conducted in the Andijan region from 2010 to 2020. An epidemiological and retrospective study of morbidity among the urban and rural population was conducted. The prevalence of allergic diseases and pseudo-allergic conditions was studied.

Results. According to epidemiological research, the incidence of allergic pathology ranges from 11.2% to 19.7%. The most common morbidity is bronchial asthma, which affects from 1.4% to 5.8% of the population. In recent years, the number of patients with AZ has increased 3-4 times. The prevalence and structure of AZ depend on the climatic and geographical, economic characteristics of the region, and the density of industrial enterprises.

In areas with varying degrees of air pollution, the prevalence of asthma ranged from 1 to 14.9%. A strong correlation was established between the prevalence of asthma and environmental factors.

The incidence of atopic diseases is determined mainly by environmental factors, and social and industrial conditions play a significant role here. A large number of works by domestic and foreign authors are devoted to the issues of the epidemiology of occupational allergies.

The products of processing raw materials from textile production are accompanied by the release of biologically active substances, fine dust and organic fibers, which, when penetrating the bronchial tree, have an irritating effect, and not just an allergic one.

The peculiarity of the impact of organic dust (using cotton dust as an example) is bacterial contamination and fungal infections of the fibers, which causes their allergenic properties.

There are additional factors that contribute to the development of allergies in workers engaged in textile production. These are nitrogen-containing dyes of fabrics, residual amounts of organochlorine pesticides and formaldehyde - urea resins used to give products higher commercial qualities, which are more likely to cause pseudo-allergic conditions.

In a comparative study of textile industry workers exposed and not exposed to cotton dust, symptoms of lung pathology (cough, suffocation, asthma, chronic bronchitis) were found in 45% of the first group and 18.3% of the second.

Asthma rates among cotton processing workers can reach 90% of those employed in the industry and depend on the quality of the cotton. Cotton contaminated with plant particles is considered particularly dangerous. This is because the extract from the cotton bract contains an active substance capable of releasing mediators in a non-immunological manner.

Skin tests with this substance are negative, and provocative inhalation tests cause immediate reactions in sensitive patients. At the same time, in typical BA in workers, the role of true allergy to cotton cannot be ignored. Positive results of allergological examination with cotton and flax allergens and detection of specific IgE antibodies to components of cotton dust testify in favor of allergy.

The cause of professional allergic dermatoses in 82.5% of cases are chemical substances, in 9.1% - biological compounds and in 9.4% - industrial dust. The study of the etiopathogenetic mechanisms of development of allergies continues. Allergies, including professional ones, should be considered as a combined group of true allergic and pseudo-allergic conditions that have homogeneous clinical manifestations, but their occurrence is based on various etiological and pathogenetic mechanisms. If in the first group of diseases it is of immune nature, then in the second - metabolic, which dictates differentiated treatment and diagnostic measures.

A combined form is often encountered, based on allergenic and non-allergenic mechanisms. It occurs more often with the impact of allergens and compounds of non-allergenic nature. This group should also include patients in whose development of the disease is played by the action of an infectious factor, occurring simultaneously with the industrial one, or joining later. Various mechanisms of the occurrence of the triggering of a non-allergic reaction to the impact of industrial factors are possible - histamine release, induction of an alternative pathway of complement activation by industrial compounds, excitation of irritant receptors of the cholinergic system, disruption of the neural regulation of bronchial tone, disruption of arachidonic acid metabolism.

The non-allergic form is characterized by an immediate or delayed type of response to inhalation of industrial allergens and the absence of immunological shifts typical of asthma. In the clinical course of non-allergic occupational BA, the symptom of elimination and exposure is observed. Based on the clinical and immunological studies conducted, she formulated the concept of the pathogenesis of occupational BA:

1. The presence of individual hypersensitivity (atopy or defects in the immune defense system) to the development of allergies due to contact at work with harmful factors of allergenic and non-allergenic action.
2. The presence of dystrophic changes in the mucous membrane of the bronchial tree, a decrease in local and general immunity, which serve as the basis for the development of various immune, non-immune and inflammatory reactions.
3. Formation of a cascade of immune reactions with the participation of IgE, IgG and other classes of immunoglobulins against the background of stress on the T-system of immunity in the form of a decrease in the level of T-helpers and T-suppressors.

4. Addition of type 3 immune reactions involving complement to some antigens of the cell-mediated immune response from T-lymphocytes

Factors predisposing to pseudo-allergic reactions include genetic characteristics, impaired enzymatic activity, pathology of the hematopoietic system, increased levels of immunoglobulin E, G, primary abnormalities in the complement system, concomitant immune and autoimmune processes leading to complement instability and activation of other immune factors, features of the pharmacological action of substances and stress.

Comparative studies of patients with atopic, infectious and professional chemical asthma conducted in 2010 in the city of Andijan, familial BA was determined in 29.3% of cases with atopic asthma, in 19% - infectious and only 5.6% - industrial chemical, which indicates the prevalence of unfavorable production factors over genetic ones. And, most likely, there is a mechanism of non-allergenic triggering of the disease. Frequent liver damage in patients with BA is distinguished. Thus, in 27.3% of cases, hepatomegaly of varying degrees of severity was detected, while in patients with professional chemical asthma it was detected 3 times more often than with infectious asthma, and 14 times more often than with atopic asthma.

In patients with chemical asthma, hyperbilirubinemia, hyperurobilinuria and increased activity of serum transaminases were reliably determined more often. When studying the antitoxic function of the liver using the Quick-Pytel test, moderate disturbances in the synthesis and excretion of hippuric acid were found in patients with chemical asthma, which were detected in 60.5% of cases in the examined patients, while significant ones were found in 23.2% and only in 16.3% were any deviations from the norm detected.

Morphological changes in liver tissue of a diffuse nature were established, corresponding to changes in chronic hepatitis. Also, signs of damage to the urinary system were determined more often in patients with chemical asthma than in patients with other forms. These changes are associated either with irritation of the urinary tract mucosa by chemical substances, or an allergic process due to the excretion of many chemicals.

Epidemiological studies on the prevalence of true allergic and pseudoallergic conditions are of great practical importance for public health, including occupational medicine.

Conclusions. Such studies are necessary for primary prevention, forecasting both allergic and pseudoallergic processes in order to prevent the development of occupational pathology. They are important for developing methods of secondary prevention, early detection of sensitization in practically healthy workers, as well as risk factors for the development of pseudoallergic conditions, finding effective methods of treatment and rehabilitation of workers.

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