Abstract. An analysis of indices of nonspecific resistance of the organism in patients with eczema, depending on the nature of the clinical course of dermatosis has been carried out. We established unidirectional changes in indices of phagocytosis and complement levels in patients with eczema of different clinical course with more substantial reduction in phagocytic activity of phagocytic blood cells in patients with microbial eczema compared with true eczema without probable differences in indices depending on the area of phagocytosis skin and the duration of the dermatosis course.

Key words: eczema, clinical, non-specific resistance.

Introduction. Eczema is common chronic dermatosis, belonging to the group of allergic diseases of the skin, which occupies from 20 % to 40 % in the structure of dermatological pathology in Ukraine [1, 2]. In recent years there has been a tendency to more severe clinical course of eczema with significant skin lesions and formation of the torpidity to the means of basic therapy with a tendency to chronic pathologic process and the development of complications, leading to a decrease or loss of long-term patient capacity, deteriorating quality of life and social activities. This defines an important medical and social significance of eczema and justifies the relevance of the research and study of pathogenetic factors of dermatosis in order to improve its treatment and prevention [2, 10, 12].

According to current research, the pathogenesis of eczema is complex and multifactorial. It is known that the development of eczema exogenous and endogenous factors, such as compromised immune and endocrine regulation disorders, the digestive system disorders, changes in the circulation, chronic foci of focal infection etc. are significant [1, 11, 13].

It was established that changes in systemic immunity [4, 5], including secondary immunodeficiency of various origins that lead to violations of cellular and humoral immunity, as well as changes in the indices of nonspecific resistance of the organism play an important role in the development and of skin diseases and their becoming chronic [7, 9], but their role in the pathogenesis of eczema can not be considered completely clear as data on indice of phagocytic activity (PA) and phagocytic number (PN) of polymorphonuclear leukocytes characterizing the initial stages of phagocytosis, spontaneous NBT test (test of nitro blue tetrazolium recovery), which reflects the degree of functional stimulation of phagocytic cells and their ability to phagocytosis and NBT-test which was stimulated with proingenal, characterizing the potential activity of phagocytic cells and is seen as a test of their readiness to complete phagocytosis and complement titer (by known methods) [8].

Statistical analysis of the results of research was carried out using the methods of statistical analysis [6] by means of the computer program Statistica 6.0, as the the probable difference we took the average at p<0,05.

Results and discussion. In determining phagocytosis indices in 92 patients with eczema, we established their probable changes compared with those of the control group (the data are shown in the table). For example, a significant decrease in PA (by 3,7 %, p=0,029) was found in patients with eczema, which describes the initial stages of phagocytosis, as well as a significant decrease in spontaneous NBT-test (by 11,8 %, p=0,014) and stimulated NBT test (by
The analysis of nonspecific resistance indices of the organism in patients with eczema, depending on the nature of the clinical course of dermatosis found unidirectional changes in rates of phagocytosis and complement levels in patients with different clinical forms of dermatosis. At the same time, we established a significant decrease of phagocytosis indices, characterizing the initial and final stages of the phagocytic process in patients with microbial eczema compared with patients who suffer from true eczema without significant differences between the studied parameters depending on the prevalence and duration of the skin disease.

The fact that it was the patients with microbial eczema who had a significant decrease in phagocytic activity of phagocytic blood cells involved in the capture and removal of microbial agents can serve as one of the key mechanisms, among other pathogenetic factors as to the development of chronic infection foci in the patient’s body with subsequent formation of microbial sensitization and microbial eczema in them. At the same time, an increase of complement titer in patients with eczema, which is involved in immune mechanisms of inflammation and increases the penetration of the vascular wall, contributes to the strengthening of exudative manifestations and chronization of eczematous process in the skin of these patients.

**Conclusion**

Patients with eczema had significant changes in nonspecific resistance indices, which is indicative of a significant decrease in the phagocytic activity of phagocytic blood cells in patients with microbial eczema compared with true eczema without significant differences between phagocytosis indices and complement rate, depending on the area of skin lesions and the duration of dermatosis course that should be considered when planning differentiated therapeutic tactics for these patients.

### Table

**Indices of nonspecific resistance in patients with eczema**

| Indices, measurement units | Control group n=35 | Patients with eczema |
|---------------------------|-------------------|---------------------|
|                           | Total number of patients, n=92 | Microbial eczema, n=63 | True eczema, n=29 |
| Phagocytic activity (%)   | 70,9±1,07 | 68,3±0,603 (p=0,029) | 66,9±0,638 (p<0,001) | 69,9±1,10 (p=0,53; p1-2=0,014) |
| Phagocytic number         | 5,81±0,279 | 6,05±0,097 (p=0,304) | 6,06±0,120 (p=0,342) | 6,00±0,161 (p=0,578; p1-2=0,774) |
| Spontaneous NBT-test %    | 22,1±0,849 | 19,5±0,559 (p=0,014) | 18,4±0,601 (p<0,001) | 21,1±1,12 (p=0,472; p1-2=0,022) |
| Stimulated NBT-test       | 30,0±1,11 | 26,1±0,676 (p=0,003) | 25,2±0,752 (p<0,001) | 28,4±1,27 (p=0,345; p1-2=0,025) |
| Compliment titer         | 0,044±0,002 | 0,054±0,002 (p=0,005) | 0,055±0,003 (p=0,012) | 0,053±0,004 (p=0,038; p1-2=0,701) |

Notes. 1. p – degree of the significance of indices difference compared to the control group. 2. p1-2 – significance of indices difference between the patients with microbial and those with true eczema.
Prospects for further research. The prospects for further research lie in developing and evaluating the efficacy of the improved comprehensive treatment method for patients with eczema, considering the evolution of indices of their body nonspecific resistance.

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СОСТОЯНИЕ ПОКАЗАТЕЛЕЙ НЕСПЕЦИФИЧЕСКОЙ РЕЗИСТЕНТНОСТИ У БОЛЬНЫХ ЭКЗЕМОЙ С РАЗНЫМ КЛИНИЧЕСКИМ ТЕЧЕНИЕМ

Н.А. Степан

Резюме. Проведен анализ показателей неспецифической резистентности организма у больных экземой в зависимости от характера клинического течения дерматоза. Установлены однородные изменения показателей фагоцитоза и уровня комплемента у больных экземой с различным ее клиническим течением при наличии более существенного уменьшения фагоцитарной активности фагоцитирующих клеток крови у больных микробной экземой по сравнению с истинной экземой без достоверной отличия показателей фагоцитоза в зависимости от площади поражения кожи и длительности течения дерматоза.

Ключевые слова: экзема, клиническое течение, неспецифическая резистентность.

СТАН ПОКАЗАНИКІВ НЕСПЕЦИФІЧНОЇ РЕЗИСТЕНТНОСТІ У ХВОРИХ НА ЕКЗЕМУ З РІЗНИМ КЛІНІЧНИМ ПЕРЕБІГОМ

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Резюме. Проведен анализ показателей неспецифической резистентности организма у больных на экзему залежно від характеру клінічного перебігу дерматозу. Встановлено однорідні зміни показників фагоцитозу та рівня комплементу у хворих на екзему з різним її клінічним перебігом за наявності більш істотного зменшення фагоцитарної активності фагоцитувальних клітин крові у хворих на мікробну форму екземи порівняно з істинною екземою без виразних відмінностей показників фагоцитозу залежно від площі ураження шкіри та тривалості перебігу дерматозу.

Ключові слова: екзема, клінічний перебіг, неспецифічна резистентність.

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