

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**105-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
присвяченої 80-річчю БДМУ  
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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**Korotun O.P.**

**CLINICAL AND ANAMNESTIC FEATURES OF THE COURSE OF BRONCHIAL  
ASTHMA IN CHILDREN, TAKING INTO ACCOUNT ATMOSPHERIC AIR  
POLLUTION BY ULTRA MINOR PARTICLES PM<sub>20-100</sub>**

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**Introduction.** Unfavorable environmental factors can act as triggers that provoke the exacerbation of respiratory diseases and stimulate the increase of hypersensitivity in children with atopy. It is especially relevant when it comes to atmospheric air pollutants.

**The aim of the study.** To investigate the peculiarities of bronchial asthma, course by evaluating the role of ecological air pollutants in its development and course in children, taking into account atmospheric air pollution with ultra-small PM<sub>20-100</sub> particles.

**Material and methods.** Twenty-six children with bronchial asthma (BA) were comprehensively examined at the Regional Children's Clinical Hospital in Chernivtsi. The 1st group included 11 school-age patients (average age 12.0±0.23 years), in whom exacerbation of bronchial asthma occurred against the background of increased atmospheric air pollution with ultra-small particles of PM<sub>20-100</sub>, which exceeded the indicator of 1200/m<sup>3</sup>. The 2nd group included 15 children whose asthma exacerbation occurred during the period when air pollution did not reach the level of 1200/m<sup>3</sup> (average age 9.4±0.56 years, p>0.05). According to the main clinical characteristics, the groups were comparable.

**Results.** A characteristic feature of children with eco-dependent asthma attacks was pronounced comorbidity, which was characterized by the presence of concomitant infectious rhinitis (50.0%, p<0.05 compared to the 2nd group) and a combination of allergic rhinitis and atopic dermatitis with the course of persistent asthma in half of the patients (p<0.05). In children from the 2nd group, the allergic rhinitis was more often of a seasonal nature, when in all patients from the 1st group it took the form of a year-round persistent process, which according to the TNSS scale was estimated at an average of 3.0±0.49 severity points, and in 2nd group patients - 1.5±0.18 severity points (p>0.05). At the same time, in 17.0% of patients of the 1st group, there are signs of persistent sinusitis of allergic origin (p<0.05), and significantly more often concomitant allergic rhinitis which needed to be controlled with the help of intranasal steroids (5 times more often, p<0.01) and vascular constrictor drugs (67.0% vs. 20.0%, p=0.05). It was established that at the initial examination, 50.0% of the representatives of the 1st group received low doses of inhaled glucocorticosteroids within the 2nd step according to GINA, and the rest of the patients received therapy that corresponded to the 4th step. At the same time, the treatment of representatives of the 2nd group in all cases corresponded to the 3rd step for GINA and was determined by the average doses of inhaled glucocorticosteroids (IGCS) in the form of monotherapy or combination with prolonged β<sub>2</sub>-agonists. At the final examination, a significant positive trend of reducing the volume of control basic treatment in patients of the 2nd group to level 1 of the GINA step was established in all consumers. In the basic treatment of the disease with eco-dependent attacks of asthma, it was shown that the course and rotation of the volume of therapy from the 2nd to the 3rd level increased with the maintenance of high-dose ICS therapy in 50.0% of patients, and the increased risk of the need for high and/or medium doses of ICS in the treatment of mono or combination with prolonged β<sub>2</sub>-agonists in children of the 1st group was 71.0%, the increase in absolute risk was 43.0% in minimal number of patients of 2.3.

**Conclusions.** Thus, a comparative analysis of the features of the course of bronchial asthma, the trigger of exacerbation of which is the detection of atmospheric air with ultra-small particles of PM<sub>20-100</sub>, showed the presence of certain differences in the course of the disease and the need for medical measures in children, which can partly emphasize the statistically significant risk of negative effects of ecostimuli presents on the course of the disease.