

**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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students considered if it were not for the wartime their academic score would be better and only 8,8% didn't consider any possible effect.

Students considered that the worst issues contributing to their effectiveness to prepare for final tests are: general fears of war time (57,1%), problems with concentration or lack of habit of daily schedule and planning activities (51,8%), fear of possible worsening of the situation (48,2%), sleeping issues or lack of good quality internet and/or electricity (46,4%) or their mental health issues (42,9%). In 80% of cases own students' efforts help them most to adapt to the situation and to prepare better to exams and tests as well as family (57,9%) and friends support (59,6%). 33,3% of students have changed their priorities and were studying harder within wartime.

**Conclusions.** Foreign students' academic underachievements in "Krok 2" in over 30% of cases in 2023 were associated with increased level of TA in every third student. Wartime badly influenced students' mental preparedness to achieve learning objectives. Most coping strategies were aimed at students' own efforts, their friends and families.

**Buryniuk-Hloviak K.P.**

## **CALCIUM METABOLISM IN CHILDREN WITH BRONCHIAL ASTHMA CONSIDERING DISEASE CONTROL**

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**Introduction.** Since allergic inflammation of the respiratory tract plays a leading role in pathogenesis of bronchial asthma (BA), the basic treatment of children with any degree of severity of the disease and the control level envisages administration of anti-inflammatory means. Glucocorticoids are the most effective of them. In recent years, insufficient control over BA found in 60% of cases has resulted in a liberal attitude towards the indication of systemic glucocorticoids against the background of frequent exacerbations of the disease. Glucocorticoids are known to have a property to promote negative calcium balance due to its decreased absorption in the digestive tract and its increased excretion with the urine. It produces an unfavorable effect on the ossification processes during the periods of intensive growth, promotes the development of osteopenia and early osteoporosis. The question on the effect of inhalation glucocorticoids on the formation of osteopenia and osteoporosis in childhood remains uncertain and disputable.

**The aim of the study:** to study the peculiarities of the parathyroid hormone content as the main regulator of calcium metabolism in the peripheral blood of children suffering from bronchial asthma depending on the degree of the disease control.

**Materials and methods.** 76 schoolchildren with BA were examined with different degree of the disease control. The latter was determined by means of the clinical instrumental assessment (KIA) scale. According to the scale, the total score of 10 and less was indicative of achieving control over the course of BA, the score within 11-16 indicated partially controlled disease, and the score higher than 17 was indicative of an uncontrolled variant of asthma. Group I included 58 children with uncontrolled bronchial asthma (UBA), group II included 18 patients with controlled bronchial asthma (CBA). The groups were comparable by their main clinical characteristics. The content of parathyroid hormone in the peripheral blood was determined by means of enzyme immunoassay.

**Results.** Duration of BA was found to be reliably longer among the patients from group I ( $5,96 \pm 0,5$  against  $4,32 \pm 0,7$  year,  $P=0,05$ ). It was indicative of loss of optimal management of the disease as the period of pathology increases. It could be suggested on this basis that such patients require longer treatment with higher doses of inhalation glucocorticoids, and more frequent administration of systemic glucocorticoids. Therefore, the effect of these drugs on calcium metabolism will be more pronounced. Thus, in our study we determined that parathyroid hormone concentration in the blood serum of patients with UBA was on an average  $3,16 \pm 1,0$  pg/ml, and in patients with CBA –  $4,0 \pm 0,8$  pg/ml ( $P>0,05$ ). It reflected the tendency to decrease stimulation of the parathyroid glands with uncontrolled BA. Since the synthesis of parathyroid hormone is stimulated by the level of ionized calcium in the blood serum, our results indirectly showed a normal level of calcium against the background of basic administration of inhalation glucocorticoids. At the same

time, disturbances in the system of phosphorus-calcium metabolism are not excluded. Thus, based on the standards of the producer (10,4-66,5 pg/ml), we can admit that parathyroid hormone secretion decreases at least three times in patients with BA who receive basic therapy with glucocorticoids and short courses of systemic glucocorticoids during exacerbations of the disease. It was more marked in the group I with longer duration of the disease. At the same time, we have found statistically significant correlations between the parathyroid hormone content in the blood serum and the period of administration of systemic glucocorticoids during BA attacks ( $R=0,72$ ,  $P<0,05$ ). In general, it might be indicative of an exhausted function of the parathyroid glands caused by excessive resorption of the osseous tissue.

**Conclusions.** Thus, despite the lack of direct evidence concerning the ability of long-term and/or high-dose courses of inhaled glucocorticoid therapy to cause osteopenia and osteoporosis, this issue remains particularly relevant. It is especially crucial in the children population characterized by a long period of the disease, increased requirements of minerals during intensive growth and development, concomitant conditions including vitamin D deficiency, frequent episodes of hospitalization due to exacerbations and administration of systemic glucocorticoids. The determined statistically significant average correlation between parathyroid hormone content in the blood serum and duration of administration of systemic glucocorticoids during BA attacks ( $R=0,72$ ) is indirectly indicative of osteopenia and osteoporosis in children.

**Garas M.N.**

### **A CASE OF SEVERE COMPLICATED CHICKENPOX IN A TEENAGER**

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**Introduction.** Varicella is caused by varicella-zoster virus (VZV). It is a common, highly contagious illness. Chicken pox is regarded as a benign, self-limiting illness of children rendering lifelong immunity. However, it can be a potentially serious and life threatening condition in teenagers and adults.

**The aim of the study** was to analyze the case of severe complicated chicken pox in a teenager.

**Material and methods.** A 13-year-old teenager was under our observation in Chernivtsi Regional Pediatric Hospital in 2023.

**Results.** A boy was hospitalized on the 4th day of the disease and complained of fever up to  $39,4^{\circ}\text{C}$ , skin rash, weakness, headache, cough, vomiting and abdominal pain. The child was born from the first full-term pregnancy, BCG vaccinated with the development of left-sided post-BCG axillary lymphadenitis. In early childhood, a polyvalent food allergy with skin manifestations was observed, at the age of 5 an episode of Quinke's edema was recorded. The disease started with fever and rashes, he took antipyretics (paracetamol), H1-blockers (antihistamines). He contacted with a patient suffering from chicken pox.

The general condition was severe due to respiratory failure and exanthema. The boy was conscious, but lethargic. Meningeal symptoms were negative. The skin was pale pink, vesicular rashes were diffused over the entire surface of the body, somewhere merged, included purulent and bloody contents, crusts were somewhere. Vesicles covered with a white layer were visualized in the oral cavity on the palate, tongue, and inner surface of the cheeks. Extremities were cool to the touch; axillary body temperature was  $37,5^{\circ}\text{C}$ . Breathing over the lungs was bronchial, dry rales as wheezing were on both lungs, RR was 30/min. HR was 120 bpm, Sa was 90%.

SARS-CoV-2 RNA was not detected by PCR of an oropharyngeal swab. DNA of VZV in the cavity fluid was detected by PCR. CBC findings showed leukocytosis and neutrophilia. Lungs ultrasound registered B-lines with areas of pleural consolidation in both lungs in the lower fields, the level of free fluid above the level of the diaphragm was 16 mm on the right, 20 mm on the left, the layers of the pleura were thickened and dense (interstitial changes in both lungs, exudative pleuritis). X-ray multiple cloud-like infiltrates of medium intensity without clear contours were