breaks between lessons, breathing exercises according to the Strelnikova method. In total 48 children of both sexes in age 10-15 years were examined, subgroup of 28 from them were included in health-saving programs. The study includes assessment of resting anthropometric data, nutrition, physical activity habits, peculiarities and quality of sleep data etc. Sleep timing - sleep onset, sleep offset, time to falling asleep, frequency of daytime sleep, nighttime and total sleep duration and quality assessment were obtained with self-report sleep diaries. Children's sleep quality graded as "excellent," "good," "fair," and "poor". Statistical analysis conducted with program Statistica.

In our research time of sleep onset in the most cases could be chosen by child itself or by family. In total the time of going to bed was about 22 hours, earlier than 21 hours was in 12.5% cases and later 23 hours - in 10.4% children. It became later with the age and mostly in boys. The averages of night sleep duration (8.45±0.44 hours) was above recommended minimal 8 hours, but at least 12.5% of children have night sleep shorter than 7 hours and 41.7% - shorter than 8 hours. Total sleep deficiency resulted in hard awakening in the morning in the most cases and children have desire to sleep more. There are no sufficient difference between subgroup in sleep duration but sleep latency was shorter in subgroup under health-saving programs (19.6±3.44 min against 31.4±4.24 min). Self-assessment of sleep quality as a complex indicator reflects the sleep environment, the duration of the deep sleep (non-REM) phase and the presence of sleep deteriorations. Quality of sleep was better in special subgroup - 3.21±0.04 units against 2.64±0.07 units and less sleep deteriorations were registered.

In general in persons included in health-saving programs the night sleep and sleep latency were shorter but sleep productivity and quality were better.

**Korotun O.P.**

## CLINICAL SIGNS AS INDICES OF COMMUNITY-ACQUIRED PNEUMONIA SEVERITY IN CHILDREN

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Acute respiratory tract infections are among the leading causes of morbidity in children (Shan et al., 2019). Furthermore, according to the United National Children's Fund (UNICEF), pneumonia annually causes about three million child deaths worldwide. To date, there is a high need for a valid biomarkers for scoring the severity of community-acquired pneumonia and algorithms for the management of children of different ages. It can be stated that diagnosis, management, and prognosis of the severity of the pneumonia course in children is quite challenging.

The aim of the research is to study clinical parameters, which are the mains markers of severity of community-acquired pneumonia in children and may serve as criteria for in- or outpatient treatment.

The research was conducted at the Pulmonology and Allergology Department of the Chernivtsi Regional Children's Clinical Hospital and involved 70 inpatients with community-acquired pneumonia. Based on the results of the stratification, two clinical comparison groups were formed: the first (I) clinical group of children with the low risk of severe pneumonia (42 patients), the second (II) clinical group – children with the moderate risk of severe pneumonia (28 patients). The mean age of children from the I clinical group was 9.1±0.67 years, in the II group – 8.0±1.01 years ($p>0.05$). The part of boys was 57.1% and 50.0%, rural residents – 59.5% and 67.9% in the I and II clinical observation groups, respectively ($p>0.05$).

According to the results of the radiological examination, patients from the group I were more frequently diagnosed with segmental (50.0% of cases vs 33.3%, $p>0.05$) and interstitial (7.1% vs 2.4%, respectively, $p>0.05$) forms of pneumonia compared to patients from the group II.

Right-sided pneumonia was found in the majority of children (59.5% of the group I and 60.7% of the group II patients, $p>0.05$), left-sided pneumonia – in 33.3% and 28.6%, respectively ($p>0.05$), and double pneumonia – in 7.1% and 10.7% of cases, respectively ($p>0.05$).

At the start of hospital treatment majority of patients from the clinical group II (moderate risk of severe pneumonia) complained of febrile fever (85.7% vs 57.1% of patients in clinical group

I, p<0.05). Dyspnoea occurred in 64.3% of patients from the clinical group I versus 89.3% of cases in group II (p<0.05). On initial examination majority of patients had clinical signs of the inflammatory process in the lungs – decreased breath sounds (in 88.1% of group I patients vs 92.9% of cases in group II, p>0.05), inspiratory crackles on auscultation (in 85.7% vs. 90.3% of patients, respectively, p>0.05), and dullness on percussion (in 92.9% vs. 89.3% of patients, respectively, p>0.05). Respiratory failure of the first degree was diagnosed in 85.7% of patients from the clinical group I and in 71.4% of patients from group II (p>0.05). At the same time, the frequency of respiratory failure of the second and above degree was significantly higher in children with a moderate risk of severe pneumonia (2.4% in children from the group I vs 21.4% in patients from group II, p<0.05), which attested to more severe disease course in these patients. Clinical signs of respiratory failure of the second degree increased the risk of severe pneumonia as follows: relative risk – 2.0, odds ratio – 11.1 (95% CI: 2.82-43.44), absolute risk – 45.3% at credibility ratio of 8.9.

Thus, the examination of patients revealed prolonged febrile fever, productive cough with little sputum and significantly more pronounced respiratory failure with its clinical manifestation as tachypnea, tachycardia, and involvement of accessory muscles in breathing act in patients with higher risk of severe pneumonia.

**Kretsu N.M.**

## SOME ASPECTS OF CARDIOVASCULAR SYSTEM LESION IN NEONATES WITH SEPSIS

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Cardiovascular disorders during the neonatal period are the totality of disturbances occurring in neonates from the site of the cardiovascular system in response to comorbid pathology or other pathological states. It should be noted, that due to the lack of precise diagnostic criteria of cardiovascular system damage in the literature great difficulties occur in evaluation of cardiovascular disorders in neonates.

On the assumption of it, objective of the study was to determine diagnostic value of biomarkers of cardiovascular system lesions in neonates with infectious and noninfectious pathology.

To realize the stated purpose 52 neonates were observed on the basis of the Intensive Neonatal Care Unit, Department of Neonatal Pathology and Department of Preterm Neonatal Care at the Municipal Medical Institution “Regional Children Clinical Hospital” in Chernivtsi. I group (48,1%) included neonates with verified septic process, and II – the neonates of the comparison group (51,9%) who were treated for hypoxic-ischemic lesions of the CNS of mild and moderate degrees or hyperbilirubinemia (at the expense of indirect fraction) with infectious-inflammatory process excluded. According to the sex the experimental groups were divided in the following way: I group included 60% boys, and 40% girls; II group included 63% boys (p>0,05) and 37% girls (p>0,05). With the aim to find myocardial damage biochemical blood analysis was made with detection of activity of cardiac specific enzymes: creatine phosphokinase (CPK), MB-fraction (MB-CPK), aspartate aminotransferase (AST) and lactate dehydrogenase (LDH).

The analysis of the clinical groups is indicative of susceptibility of preterm neonates to infectious-inflammatory processes. The analysis of diagnostic value of the biochemical markers of damage of the cardiovascular system gives the evidence to consider that AST level>50 units/L and LDH>300 units/L possess the specificity of 81,5% and 81,0%, and sensitivity for CPK-MB > 60 units/L in verification of damage of the cardiovascular system with neonatal sepsis was 72,0%. Chances of damage of the cardiovascular system with LDH level >300 units/L in neonates with sepsis are found to increase reliably 3,3 times (OR= 3,35(95%CI 1,77-6,33)).

Thus, the investigated cardiac specific biomarkers (AST, MB-CPK, LDH) can be used in a complex with other ones only in verification of cardiovascular disorders in neonates with sepsis, since they do not possess sufficient independent diagnostic value. Serum level of the investigated