

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



МАТЕРІАЛИ

**106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
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Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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Conclusions. Methods for the synthesis of new pyrazolyl imines functionalized with ester and aldehyde groups were developed, which made them available and highly effective reagents for the construction of new heterocyclic ensembles. The initial microbiological screening of the synthesized compounds revealed the presence of a pronounced antimicrobial and antifungal effect among them and showed the prospects of their further in-depth study.

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**CORRELATION RELATIONSHIP BETWEEN BIOCHEMICAL INDICATORS IN
UMBILICAL CORD BLOOD SAMPLES DEPENDING ON THE INHERITED GROUP
AND THE MOTHER'S Rh(D₀) FACTOR**

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Introduction. Isoimmune hemolytic disease of the newborn is mainly observed when the mother has blood group 0(I) according to the AB0 blood group system, and in the fetus or newborn, according to the degree and frequency of inheritance A(II), B(III), and is the most common manifestation of the nosology of newborns. The initial stage of nosology is an increase in the level of total bilirubin (its indirect fraction). It is undeniable, that the most severe form of hemolytic disease develops as a result of incompatibility of the mother and the fetus according to the Rh(D) factor. Presumably, even in the case of absence of the development of newborns' hemolytic disease, babies born to mothers with 0(I) blood group regardless of the Rh(D) factor and mothers with an Rh(D)-negative factor regardless of group affiliation according to the AB0 system will have changes in basic biochemical indicators of umbilical cord blood, depending on the inherited group and the mother's Rh(D) factor.

The aim of the study. To investigate possible correlational relationships between the biochemical parameters of umbilical cord blood depending on the inherited group (according to the AB0 system) and Rh(D) factor (according to Rh(D₀)) of the mother in infants without signs of hemolytic disease.

Material and methods. The main indicators of nitrogen metabolism (total protein, albumin, urea, creatinine), the level of glucose, total bilirubin and its fractions, as well as the main enzyme profile (ALT, AST, GGT, ALF, LDH) in umbilical cord blood serum (a total of 30 samples) were investigated) and conducted a correlation analysis between indicators according to the Pearson correlation coefficient. The comparison of the groups of the studied indicators was carried out using the Mann-Whitney U-test according to the inheritance of the Rh(D) factor according to the maternal trait and according to the Kruskal–Wallis test according to the inheritance of the blood group from mother to child. Ratio of groups and rhesus.

Results. The analysis of a small group of samples (30) revealed correlational probable relationships between the indicators of albumin and total protein ($r_{xy}=0,867$, $p=0,000$), activity of enzymes ALF and AST ($r_{xy}=0,914$, $p=0,000$), between total LDH and AST ($r_{xy}=0,637$, $p=0,000$), between total LDH and ALF ($r_{xy}=0,517$, $p=0,004$). Under conditions of match between the Rh-characteristics in umbilical cord blood and maternal blood (15 samples), a probably lower activity was noted ALT ($M \pm m$) $8,33 \pm 1,09$ against $14,19 \pm 1,92$ U/L ($p=0,006$) and ALF $137,16 \pm 11,53$ contrary to $228,14 \pm 60,52$ U/L ($p=0,045$).

Concerning the difference according to the group characteristic, the probable changes were related to the concentration of creatinine: when the maternal and umbilical cord blood group coincided, its level was lower by $5 \mu\text{mol/L}$ ($p=0,033$) contrary to the inheritance characteristic different from the maternal blood group.

Conclusions. Therefore, the nature of the inheritance of the group and Rh(D) factor affects the main biochemical indicators in infants within the risk group for the development of hemolytic disease of newborns without signs of the disease. For further research, it is necessary to increase the number of samples to confirm the relationships between indicators depending on the traits inherited from the mother and to analyze their correlation characteristics as indicators of metabolic changes.