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**THE ROLE OF INFLAMMATION MARKERS IN THE EXPIRATION CONDENSATE OF**

**NEWBORNS WITH PNEUMONIA**

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**Task**: to establish reference values ​​of the levels of oxygen metabolites in the expiratory air condensate (CVC) of newborns without affecting the respiratory system; to determine the levels of nitric oxide metabolites in CVI for pneumonia in newborns and to assess the possibility of their use as markers of inflammation.

**Materials and methods of the study**: the work was performed on the base of the departments of anesthesiology and intensive care of newborns, pathology of newborns of the regional children's clinical hospital No. 1 in 2014-2017. 48 newborns with pneumonia (the main group) and 20 patients without respiratory system diseases (control group) were under observation. The examination, verification of diagnosis and treatment of newborns with pneumonia was carried out according to the current orders. The KVV was collected by a device of own production. The determination of nitrates (NO3), nitrites (NO2) and total (NOx) was carried out by spectrophotometric method using the Griss-Ilosvaya reagent. Vanadium ions were used to reduce nitrates to nitrites. Results were processed by methods of variation statistics.

**Results**. Analysis of clinical-anamnestic and laboratory-instrumental data made it possible to diagnose congenital (intrauterine) pneumonia in 16 (33.3%) children, acquired in 34 (70.8%), including ventilation 23 (67.7%) and non-hospital - in 11 (32.3%) patients. Boys predominated among the patients (32 children - 66.7%). The reference values ​​of nitric oxide metabolites in SEM in newborns: NO2 - 0,18 ± 0,01 mg / l, NO3 - 0,54 ± 0,02 mg / l and NOx - 0,72 ± 0,02 mg / l. (NO2 - 0.79 ± 0.05, NO3 - 0.75 ± 0.05 and NOx - 1.51 ± 0.08 mg / l), which indicates a sufficient maturity of the enzyme NO-synthetase systems of the child already in the neonatal regime, proves the presence of such a pathogenetic link in the development of pneumonia in the neonatal period. Sensitivity is 98%, 63% and 94%, specificity is 60%, 65% and 55%, the predictive value of the positive result is 85%, 81% and 83%; the predictive value of the negative result is 92%, 42% and 76% for NO2, NO3 and NOx, respectively. (NO2 - 0.55 ± 0.04, NO3 - 0.55 ± 0.03 and NOx - 1.10 ± 0.06 mg / l) in comparison with the indicators in the acute period. However, if the NO3 level of CVC in the reconvalescence results is normalized, then the concentrations of NO2 and NOx remain reliable compared to the control, which indicates a later recovery of metabolic disturbances compared with elimination of exudation in the alveoli, confirmed by radiographic examination.

**Conclusions**: The revealed statistical regularities allow to consider the level of metabolites of nitric oxide KVB as markers of inflammation in pneumonia in newborns, and using it as a diagnostic and prognostic test for monitoring the inflammatory process in the lungs.