STATISTICAL ANALYSIS OF PARAMETERS CHARACTERIZING NEUROLOGICAL DYSFUNCTION IN NEWBORN

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Thirty two newborns with altered sceletal muscle tonus, primitive reflex activity and other diseases in early neonatal period have been monitored. Initial physical and neurologic examination at birth, as well as ultrasound examination of central nervous system have been performed. Physical examination has shown altered tonus of the muscles and changes in primitive reflex activity. The following laboratory parameters have been analyzed: red and white blood cell count, hemoglobin and hematocrit level, peripheral blood smears, nitroblue-tetrasolium test (NBT), spontaneous and after PMA stimulation, serum immunoglobulin levels, lactate dehydrogenase (LDH) and creatine phosphokinase (CPK) serum activity. The results have shown the changes in the absolute number of monocytes (Mo), neutrophyles (Ne), and NBT positive cells, the changes in the level of immunoglobuline M (IgM) and in the serum activity of CPK. The relationship between these laboratory parameters, indicated the activation of the immune system and possible pathophysiological background of altered skeletal muscle tonus of these newborns, at the level of statistical significance, as well as the statistical analysis of their influence on the neurological dysfunction, have been performed. The different statistical parameters and tests: probability distribution function, test of significance, χ^2 test of fit goodness, χ^2 test of independence, analysis of variance, regression analysis, and so on, has been used.