

SOME IMMUNOENZYMATIC PARAMETERS IN ISCHEMIC STROKE IN CHILDREN

Sprincean Mariana ^{1,2}, Hadjiu Svetlana ^{1,2}, Calcii Cornelia ^{1,2}, Lupusor Nadejda ^{1,2}, Revenco Ninel ^{1,2}, Groppa St. ^{1,3}

¹ „Nicolae Testemițanu” State University of Medicine and Pharmacy,

² PHMI Institute of Mother and Child,

³ National Epilepsy Center, Chisinau, Republic of Moldova

Introduction

Ischemic stroke (IS) is a rare disease in children and adolescents, often underestimated, with a major impact on morbidity and mortality.

Keywords

biomarkers, stroke, ischemic, children

Purpose

to study the expressiveness of immunoenzymatic parameters in IS in children in order to improve early diagnosis and assessment of predictive factors.

Material and methods

During the years 2017-2020 in the Republic of Moldova a prospective study was conducted on a sample of 53 children diagnosed with IS. The serum levels of some enzyme-linked immunosorbent assays (by ELISA method) were assessed: S100B protein, endothelial vascular growth factor (VEGF) and ciliary factor neurotrophic (CNTF).

Results The mean value of the markers in the acute period was as follows: (1) S-100B - 0.524 ± 0.0850 ng / ml ($F = 9.330$, $p < 0.01$); (2) VEGF - 613.41 ± 39.299 pg / ml ($F = 60.701$, $p < 0.001$) and (3) CNTF - 7.84 ± 0.322 pg / ml ($F = 32.550$, $p < 0.001$), attesting to a statistical difference significant between batches. The S100B protein, more than six months after the disease, was found to be higher in the study group compared to the control group, in which the levels of this protein are relatively stable ($F = 16.948$, $p < 0.001$). The mean value of VEGF in the study group, six months after stroke, is twice that of the control group ($F = 55,240$, $p < 0.001$).

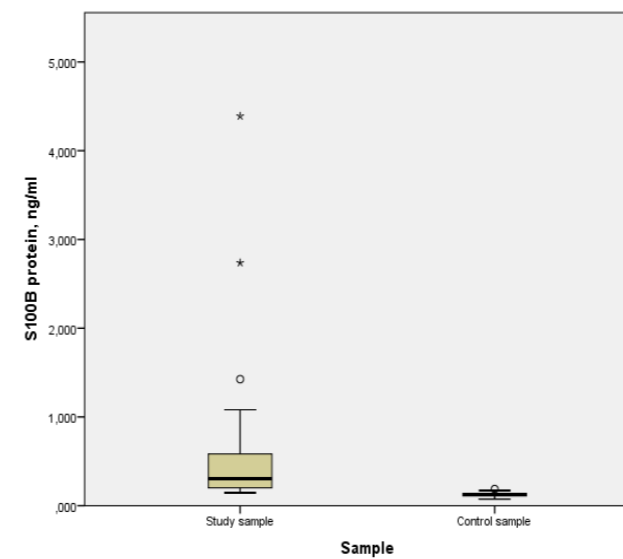


Figure 1. Serum levels of S100B proteins in children with IS compared to the sample of “practically healthy” children, ng/ml.

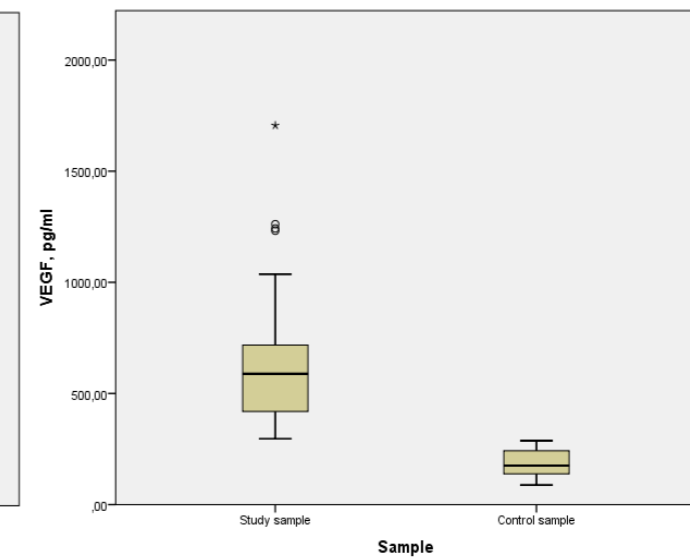


Figure 2. Serum levels of VEGF protein in children with IS compared to the sample of “practically healthy” children, pg/ml.

Conclusions

In the acute period of stroke in children there is an increase in the serum level of the protein S100B, VEGF, CNTF, which is necessary through its neuroprotective effects, in the processes of neurorecovery and vascular remodeling in the injured area.