

- There is decrease of MT-2 receptors relative to MT-1 in 4 times in group of patients with ulcer complication. It can be used in complication prediction.
- Probably, the duration of ulcer case history influences the melatonin receptor expression, but we need additional study and general sampling to prove this.

Key words: melatonin, pylorobulbar ulcers.

BIOCHEMICAL ANALYZE AS INDIRECT MARKER OF SEPSIS

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Introduction: Sepsis is a complex pathophysiological disorder arising from systemic inflammatory response to infection. The inflammatory cascade has two limbs: one- inflammatory and one- pro-coagulant. Endothelium plays an important role in activation of clotting system and, simultaneous, in suppression of fibrinolytic system, that appears to be an essential component in the development of multi-organ failure (MOF). The objective of this study is analysing and describing clinical signs and biochemical values in adults with sepsis syndrome, which could allow the screening of indirect features of sepsis followed by early treatment as soon as possible.

Methods: Thirty patients meeting the inclusion criteria who got admitted to the ICU at Municipal Clinical Hospital N3, Chisinau, between 2008-2010 were studied. Detailed history was taken and physical examination performed. Patients were investigated according to the clinical situation as defined by criteria set by the ACCP/SCCM Consensus Committee. Biochemical values were done on admission to detect metabolic derangements and organ dysfunction. The tests were repeated during 7 days depending on the severity of the derangement.

Results: The patients were divided into two groups: the first group-20 patients with septic complications and the second group- 10 non-septic patients. The comparative analyze of biochemical profiles was performed between the groups. Thus, in the first group, on admission, the average level of fibrinogen is 5,102 g/l and the average level of indirect bilirubin is 20,14 mcmol/l. The correlation coefficient between prothrombin and ASAT is - 0,89434. In the second group, on admission, the average level of fibrinogen is 5,14 g/l and the average level of indirect bilirubin is 29,16 mcmol/l. The correlation coefficient between prothrombin and ASAT is 0,091.

Conclusions: Biochemical profile analyze of patients from both groups reveals a multiple organ dysfunction (MOD) in first hours of septic process. Thus, the indirect relation between hepatocyte injury markers (ALAT/ASAT) and prothrombin reveals hepatic failure, triggered in first hours of sepsis. Fibrinogen elevated levels in first 24-72 h reveals the suppression of fibrinolysis and the activation of clotting system with the spread of microthrombi in the microcirculatory bed and perfusion disorders. Hyperbilirubinemia due to indirect bilirubin confirms hepatocyte affection with the involvement of microsomal enzyme systems, which are exhausted in hypercatabolism conditions and ATP deficiency. The study confirms the alteration of clotting system, even in the first hours of septic process installation and the necessity of early supervised thrombolytic therapy.

In the absence of specific markers in sepsis diagnosis, we could sense the evolution of septic complications through indirect analyze of patient's biochemical profile with the early beginning of resuscitation therapy.

Key words: sepsis, systemic inflammatory response, clotting system, fibrinogen, prothrombin, hyperbilirubinemia.

THE INFLUENCE OF THE PULSED ELECTROMAGNETIC FIELDS ON THE PROLIFERATION AND MORPHOLOGY OF MESENCHYMAL STEM CELLS

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Stimulation of cell division is the source of physiological recovery that provides the most reliable perspective in tissue engineering. A non-invasive and accessible method of amplifying the process of cell division is using electromagnetic fields.

Our **purpose** was to analyze the pulsed electromagnetic fields capacity to influence the cellular proliferation *in vitro*. For this purpose, were used cell cultures of mesenchymal stem cells, derived from 14 days aviary embryos. Cells were subjected to a quasi-rectangular pulsed electromagnetic field with duration of 300 μ s, a frequency of 7.5 Hz, 2hours each day for 7 days.

The **results** indicate a rise with 25% of the number of cells subjected to the magnetic field, and this report was not influenced by the cell density. The cell morphology showed no difference between groups.

These results suggest the possibility of using low frequency pulsed electromagnetic fields in tissue engineering with the purposes to accelerate mesenchymal stem cell division, which can be applied in bone regeneration therapy.

Key words: Stem cell, pulsed electromagnetic field, cell culture, tissue engineering, bone regeneration.

CONSTITUTIONAL FEATURES OF THE CENTRAL BRANCHES OF SPHENOIDAL SEGMENT OF MIDDLE CEREBRAL ARTERY

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Pathology of the central perforating arteries of the brain has an important place among the cerebrovascular diseases. Since the structure of a hemorrhagic stroke hypertensive intracerebral hemorrhage occupy the first place. From all off the central perforating arteries, the greatest interest presents the lentikulostriales artery middle cerebral artery (MCA), a gap which leads to the formation of hemorrhages in putamen area. Due to the functional significance of these arteries goal: to identify options for building lentikulostriales arteries depending on the length of the sphenoid segment of the MCA in patients with different forms of the skull. The study was conducted at the Department of Topographical Anatomy and Operative Surgery KrasGMU. Studied 68 drugs with drawn from the brain dead who died of causes unrelated to the CNS. Prior to removal of the brain were measured longitudinal and transverse size of the skull with cranial index calculation and allocation: dolicho, meso-and brachycephalic. In the brain after