

MORPHOLOGICAL CHANGINGS IN BURN WOUNDS AND LEVEL OF PROCALCITONIN

Vera Soshkina, Ludmila Budkevich, Andrew Lecmanov

*Moscow Scientific Institute of Paediatrics and Children Surgery,
Moscow, Russian Federation*

Aim is to define diagnostic value of procalcitonin (PCT) test for early diagnostics of a sepsis at children with severe burns. To carry out morphological researches of burn wounds tissues in parallel with measurement of PCT concentration.

Methods: 50 children were studied. Victims from 6 months till 14 years, burn wounds from 20% up to 90% of total surface of body area (TBSA). Besides standard laboratory tests, semi-quantitative and quantitative PCT level were measured. Morphological studying of changes in burned tissues with definition of depth of microorganism penetration was carried out in parallel. It was standard histology method.

Results: The results of morphological research coincide with estimation of severity of infectious process. We observe presence of microorganisms in superficial layers of a wound, without their penetration into appendages of skin in case of SIRS. $PCT > 0,5$ ng/ml – morphological pattern was characterized by penetration of microorganisms into all thickness of derma. In sepsis – $PCT \geq 2$ ng/ml – bacterial invasion of all depth of derma, subcutaneous fat, walls of blood vessels with their destruction. Heavy sepsis – $PCT \geq 10$ ng/ml – presence of bacteria in a gleam of vessels, penetration of microorganisms into full thickness of derma and subcutaneous fat.

Conclusion: There is connection between PCT and condition of burn wounds. Depth of penetration of microorganisms in wound precisely corresponds to changes of PCT. It confirms an opportunity to base on the results of PCT-test at an estimation of patients condition.