

Systemic Inflammatory Response in Children of the First Months of Life With Acute Otitis Media

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Abstract

Introduction: Specific characteristics of the immune response in children of the first months of life affect both manifestations and the course of the inflammatory response. Changes in peripheral blood parameters, typical for acute otitis media in older children, are not often found in children of the first months of life. Cytokines IL-8 and soluble TNF- α receptor p55 plays an important role in the inflammatory process.

Materials & Methods: We have examined 200 children- 3 months of age infants with acute otitis media. Blood and urine sampling was performed at the 4-5 days of the disease. Determination of the concentration of IL-8 and soluble TNF- α receptor p55 was performed applying a sandwich method of enzyme immunoassay using monoclonal antibodies.

Results: The content of the soluble p55 TNF receptor in the blood ranged from 0.34 to 3.79 g/ml (the mean value was 1.13 g/ml) and

in urine it was in the range of 0.18-6.41 g/ml (mean 1.45 g/ml). The content of the IL 8 ranged from 0.02 to 0.08 g/ml (mean -0.03 g/ml) in the blood and from 0.02 to 0.21 g/ml (mean -0.036 g/ml) in urine. No significant differences between the content of this pro inflammatory cytokines in blood and urine were detected ($p>0.05$). The levels of the soluble p55 TNF receptor and IL 8 correspond

to their levels in the serum of healthy children.

Conclusions: An increase in the synthesis of pro-inflammatory cytokines TNF- α p55 and IL-8 is not typical for children 0-3 months

of age with acute otitis media. Assessment of the cytokine levels in infants with acute otitis media may be useful only in case of high risk of infection generalization in order to exclude the septic process. The absence of significant differences in TNF- α p55 and IL-8 content in blood and urine suggest that the non-invasive method of studying urine samples is more preferable for the benefit of the patient.

Biography:

Alena Merkulava is a Professor of an Ear, Nose and Throat Diseases of Belarusian Medical Academy of Postgraduate Education (Belarus). She is an ENT Doctor in the Department of Neck and Head Tumors at the Scientific Research Institute of Oncology and Medical Radiology

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