

# **THE ROLE OF IRON IN THE FORMATION OF CELL-MEDIATED IMMUNE RESPONSE IN CHILDREN SUFFERING FROM COMMUNITY-ACQUIRED PNEUMONIA**

K.I. Vasilishin – Sumy State University, postgraduate student  
G.S. Ilyina – EL Adviser

Acute bronchopulmonary pathology, and community-acquired pneumonia in particular, occupies an important place in the structure of child morbidity, and it remains one of the most frequent, potentially life-threatening condition. The frequency of this pathology detection increases with every coming year, and the death rate is still too high in spite of considerable success in the treatment.

At present, there is practically no doubt that susceptibility to different inflammatory illnesses of the respiratory tract and the peculiarities of their clinical course are closely connected with the immunological reactivity state of the human body. T-cell deficit of the immune system, imbalance in the system of immunoregulatory cells, decrease in the functional lymphocytes activity cause a protracted clinical course. Apart from that, a lot of anti-inflammatory drugs and antibiotics can inhibit the immune response and promote the development of secondary immunodeficiency in patients.

In connection with the fact that iron plays a really essential role in the immune response, its deficit may occupy an important place in the occurrence of pneumonia. Iron ions are known to take part immediately in the operation of the mechanisms which regulate the functional activity of T- lymphocytes, and low iron content in the human body leads to the severe impairment of the cell-mediated immunity. Insufficient supply with this microelement to the child's organism causes the decrease of neutrophil activity. One can also observe insufficient production of myeloperoxidase and natural killers as well as production of cytokines range which is ineffective and inadequate to the stimulation level. Thus it is essentially important to study the cell-mediated immunity in children suffering from community-acquired pneumonia, which is associated with iron-

deficient anemia to increase the effectiveness of preventive measures and treatment of the said pathology.

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