

Content of Complement C3 in Blood Serum of Young Children Suffering from Rotavirus Infection

Rotavirus infection has a special place among other intestinal diseases. According to WHO, the incidence of this disease in different countries ranges from 250 to 3,000 per 100,000 children. In Ukraine about 50,000 children suffer from acute intestinal infections every year. Contraction of a disease, its run and clinical outcome depend mostly on the immune system of the children, which guarantees protection of the child from disease. Complement component C3 - is an important part of the defense system against infections and it contains approximately 70% of all complement system proteins.

The aim of our study was to determine the content of serum complement C3 in young children suffering from rotavirus infection.

Under supervision of physicians there were 33 children under 5 years; among them - 19 hospitalized children suffering from acute intestinal infection of rotavirus etiology and 14 virtually healthy children.

Study results showed that children suffering from rotavirus infection had very low level of complement C3 in serum -to $0,66 \pm 0,02$ g / l comparing with the same in healthy children ($1,35 \pm 0,2$ g / l , $p \leq 0,001$). Ill children had lower C3 as its reduction was a reaction to infection, because classical and alternative ways of complement system activation is fulfilled this way. A complement C3 is one of the humoral immune protection factors required for the histamine release from mast cells and platelets, for leukocyte chemotaxis, and for the connection of antibodies to the antigen, for phagocytosis regulation. So we can see immunological disorders and reducing of the organism resistance of the children in the main study group.

Thus ill children had a significant decrease of complement C3 and it can mean complement system activation as a result of immune response. So it is necessary to study further the role of pathophysiological mechanism of acute phase

protein and it will help to identify diagnostic and prognostic markers of rotavirus infection development.

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