**Kovalenko T., Panich R.**

**The change in the concentration of C3 fragment of complement in inflammation and use of the immunocorrection drug in experimental animals of different ages**.

**Kharkiv National Medical Universal, Kharkiv, Ukraine**

**Department of microbiology, virology and immunology**

**Introduction.** An important link between the formation of immune responses and specific adaptive immunity are proteins of the complement system. Threshold reactivity of young and old experimental animals can detect relevant changes of the primary humoral factor immunoresistance in response to infectious antigens and action of immunocorrection drug. The purpose of this study was to identify differences between the concentration of complement C3 fragment in experimental animals of different ages in the model of the inflammatory process, after the action of E. coli infection antigens, and after administration of the immunocorrection drug MF.

**Results.** At the first stage in the experimental work 3-month rats and 22-month rats were used. Inflammation developed after a single intraperitoneal injection of 1,5 ml of Escherichia coli suspensions in experimental animals. The immunocorrection drug MF was injected in the second stage of the experiment to two age groups of animals with inflammation induced by E. coli antigens. The immunocorrection drug MF consists of amino acid, nucleotides, enzymes and vitamins. This drug was administered per os 48 hours prior to infection in experimental animals, and for 24 hours after the inflammatory process. In experimental animals blood was taken. The serum is obtained by centrifugation from that blood. In serum activity of the complement system was discovered by using a photometric method. The concentration of the complement C3 fragment in young animals was small after the action of E. coli infection antigens, but in older animals, concentration of C3 fragment of complement system proteins was higher than control values. The administering of immunocorrection drug MF to control animals led to decrease in the concentration of complement C3 fragment, both in young and old animals. The administering of immunocorrection drug MF before induction of inflammation led to increase of concentration of complement C3 fragment in both groups of experimental animals. The administering of immunocorrection drug MF after induction of inflammation led to decrease in the concentration of complement C3 fragment only in young animals on the 7th day of the experiment.

**Conclusions.** The primary humoral immune response was observed only in young animals after induction of inflammation antigen E. coli. The administering of a immunocorrection drug MF before inflammation resulted in increase in the concentration of complement C3 fragment in young experimental animals. This indicates that resistance and reactivity during the presence of immunocorrection drug MF in young animals has interplay.