



HIV-related causes globally. There were approximately 35.0 [33.2–37.2] million people living with HIV at the end of 2013 with 2.1 [1.9–2.4] million people becoming newly infected with HIV in 2013 globally. The Russian Federation and Ukraine, along with other countries in Eastern Europe and countries in central Asia, have the most rapidly expanding HIV epidemics. Individuals with risk behavior can have greater risk of contracting HIV. We can reduce the risk of HIV infection by limiting exposure to risk factors, so we need to know about main factors and groups of risk.

**Aim.** To describe and analyze current epidemic situation of HIV infection in Ukraine and estimate key groups of risk in Ukraine.

**Material and methods.** Epidemiological method of investigation was used for the data from Ministry of Health of Ukraine.

**Results:** During 1987 – 6 months 2014 among citizens of Ukraine 255 976 HIV-positive persons, 71 192 patients with AIDS and 33 662 dead from the diseases caused by AIDS were registered. In 2013 incidence of HIV infection was 47,6 per 100 000 population. From 1999 for 2006 the number of new cases of HIV infection among the injecting drug users (IDU) was increasing. Till 2008 HIV mainly was transmitted through injecting drug use. An epidemic of injecting drug use was fuelling the HIV epidemic. Then sexual transmission became the dominant route of transmission. The number of infections among men who have sex with men is increasing annually (from 94 in 2009 to 262 in 2013). In 2013 percentage of HIV cases among men who have sex with men was 5,9%. Since 2008 percentage of HIV cases among IDU is decreasing and in 2008 - 2009 proportion was 22,9%, in 2011 – 21,5%, in 2013 - 19,7%. Percentage of HIV cases among women - sex workers is decreasing from 12,9% in 2009 to 7,3% in 2013.

**Conclusions.** In Ukraine epidemic of HIV concentrated in groups of the behavior risk such as injecting drug users, women – sex workers and men who have sex with men. For decreasing of HIV-infection spreading it is necessary to use key approaches for HIV prevention among groups of behavior risk.

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#### **DIAGNOSTIC VALUE OF GAMMA-GLUTAMYL TRANSPEPTIDASE LEVEL IN PATIENTS WITH CHRONIC HEPATITIS C**

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**Introduction.** Chronic hepatitis C (CHC) is a common disease with a high risk of transition to cirrhosis and hepatocellular carcinoma. According to current data, 200 million people are infected with hepatitis C around the world. The adequate assessment of the hepatobiliary system, including the stage of fibrosis allows not only to predict the course of chronic HCV-infection, but also to prescribe etiotropic and pathogenetic treatment, to assess its effectiveness.

**The purpose** of the research was to evaluate the activity of gamma-glutamyl transferase (GGT) in the blood serum of the patients with CHC, depending on the degree of inflammatory and necrotic changes and fibrosis stage.

**Material and methods.** We observed 25 patients with CHC. There were 15 males (60%) and 10 women (40%). The average age of the patients was  $41,16 \pm 2,45$  years. The level of GGT was evaluated in all patients using reagents firm «Roche» (France), as well as



the degree of inflammatory and necrotic changes and stage of liver fibrosis in the system FibroMax, which is now an alternative to puncture liver biopsy. Statistical processing of the data was performed using Student's t test for small samples and the correlation coefficient  $r$ .

**Results.** The average serum GGT level was  $76,82 \pm 12,98$  IU / L, ALT -  $82,5 \pm 15,8$  U / L, which was higher than in the control group ( $p < 0,05$ ). A0 was defined in 7 (28%) patients, A1 — in 5 (20%), A2 — in 4 (16%) and A3 - 9 (36%) patients. F0 was diagnosed in 7 (28%), F1 - 5 (20%), F2 - 5 (20%), F3 - 4 (16%) and F4 - 4 (16%) patients. There was strong correlation between the activity of GGT in examined patients serum and ALT level ( $r = 0,81$ ;  $p < 0,001$ ), the degree of inflammatory necrotic activity ( $r = 0,82$ ;  $p < 0,001$ ), the severity of liver fibrosis ( $r = 0,81$ ;  $p < 0,001$ ).

**Conclusion.** GGT activity in serum is directly dependent on the degree of inflammatory and necrotic changes and stage of liver fibrosis in patients with chronic hepatitis C, which gives us the reason to use this index as an additional criterion for the diagnosis of these morphological abnormalities.

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**THE CHANGE IN THE CONCENTRATION OF C3 FRAGMENT OF  
COMPLEMENT IN INFLAMMATION AND USE OF THE  
IMMUNOCORRECTION DRUG IN EXPERIMENTAL ANIMALS OF DIFFERENT  
AGES**

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**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* infectious 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* suspension 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* antigen. The immunocorrection drug MF consists of amino acids, 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 animal was small after the action of *E. coli* infectious 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