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Monitoring of Serological Test of Blood Serum in Indicator Groups of the Population of Central Kazakhstan

Authors : Praskovya Britskaya, Fatima Shaizadina, Alua Omarova, Nessipkul Alysheva

Abstract : Planned preventive vaccination, which is carried out in the Republic of Kazakhstan, promoted permanent decrease in the incidence of measles and viral hepatitis B. In the structure of VHB patients prevail people of young, working age. Monitoring of infectious incidence, monitoring of coverage of immunization of the population, random serological control over the immunity enable well-timed identification of distribution of the activator, effectiveness of the taken measures and forecasting. The serological blood analysis was conducted in indicator groups of the population of Central Kazakhstan for the purpose of identification of antibody titre for vaccine preventable infections (measles, viral hepatitis B). Measles antibodies were defined by method of enzyme-linked assay (ELA) with test-systems "VektoKor" – Ig G ('Vektor-Best' JSC). Antibodies for HBs-antigen of hepatitis B virus in blood serum was identified by method of enzyme-linked assay (ELA) with VektoHBsAg test systems – antibodies ('Vektor-Best' JSC). The result of the analysis is positive, the concentration of IgG to measles virus in the studied sample is equal to 0.18 IU/ml or more. Protective level of concentration of anti-HBsAg makes 10 mIU/ml. The results of the study of postvaccinal measles immunity showed that the share of seropositive people made 87.7% of total number of surveyed. The level of postvaccinal immunity to measles in age groups differs. So, among people older than 56 the percentage of seropositive made 95.2%. Among people aged 15-25 were registered 87.0% seropositive, at the age of 36-45 – 86.6%. In age groups of 25-35 and 36-45 the share of seropositive people was approximately at the same level – 88.5% and 88.8% respectively. The share of people seronegative to a measles virus made 12.3%. The biggest share of seronegative people was found among people aged 36-45 – 13.4% and 15-25 – 13.0%. The analysis of results of the examined people for the existence of postvaccinal immunity to viral hepatitis B showed that from all surveyed only 33.5% have the protective level of concentration of anti-HBsAg of 10 mIU/ml and more. The biggest share of people protected from VHB virus is observed in the age group of 36-45 and makes 60%. In the indicator group – above 56 – seropositive people made 4.8%. The high percentage of seronegative people has been observed in all studied age groups from 40.0% to 95.2%. The group of people which is least protected from getting VHB is people above 56 (95.2%). The probability to get VHB is also high among young people aged 25-35, the percentage of seronegative people made 80%. Thus, the results of the conducted research testify to the need for carrying out serological monitoring of postvaccinal immunity for the purpose of operational assessment of the epidemiological situation, early identification of its changes and prediction of the approaching danger.

Keywords : antibodies, blood serum, immunity, immunoglobulin
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