

LABORATORY METHODS OF LYAMBIOSIS DIAGNOSTICS IN PEOPLE AND ANIMALS

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Introduction. Pathogen – *Giardia duodenalis* (synonyms – *Giardia lamblia*, *Giardia intestinalis*) is a the simplest parasite that can cause pathology in many mammals. The main mechanism of infection is fecal-oral, and the main ways of infection are water, food and contact-household. It is possible autoparticulation due to bad habits (sucking fingers, biting hands, pencils, gnawing nails). Diagnosis of giardiasis is a rather laborious task, as it is very often possible to confuse the symptoms of giardiasis with different variants of gastroenterological pathologies and clinical manifestations of atopic demethat, gastrointestinal forms of food allergy and recurrent urticaria. Therefore, the leading role is given to laboratory diagnostic methods in the diagnosis.

Aim. Determine the most effective methods for diagnosing the examination of patients with giardiasis of animals and humans.

Materials and methods. We investigated blood, serum, faeces and duodenal contents of animals and humans. Verification of the pathogens of giardiasis is carried out using various methods: detection of cysts of lamblia in native smear, immunochromatographic method (express test), polymerase chain reaction (PCR) method, immunoassay (ELISA) method.

Results and discussion. A retrospective analysis of the results of biological material studies, animals tested for various infectious and parasitic diseases by molecular genetic methods (polymerase chain reaction) was conducted. In 25% of animals, giardiasis was detected. When conducting a clinical-microscopic examination of feces, a positive result was observed in 25% of the studied animals. Immunological studies were used in the study of humans, in which the seropositivity and the positivity index were evaluated. When evaluating seropositivity (IgG content), the positive result was in 41.2% of cases. Under the index of seropositivity, the positive result was 100%. But sometimes circulating immunoglobulins were raised not only in the giardiasis disease.

Conclusions. The most effective methods of diagnosis of giardiasis today are modern diagnostic methods: polymerase chain reaction and immunoassay in combination with microscopic examination of faeces and duodenal contents.

MEASLES EPIDEMIC STATISTICS IN EUROPE

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Introduction. Measles is an extremely contagious, severe disease of viral origin. Before the introduction of measles vaccine in 1963 and widespread vaccination, major measles epidemics occurred every 2-3 years, with 2.6 million measles deaths per year. In 2017, an estimated 110,000 people died of measles, most of whom are children under five, despite the availability of a safe and effective vaccine for the disease. The causative agent of measles is a virus from the paramyxovirus family. The measles virus is usually transmitted through direct contact, as well as through the air, infects the mucous membrane, and then spreads through the body. Measles is a human disease and has not been recorded in animals.

Aim. The study of statistical data on the spread of measles in Europe (in particular, Ukraine), and the identification of patterns of the disease in various countries in the period 2017-2019.

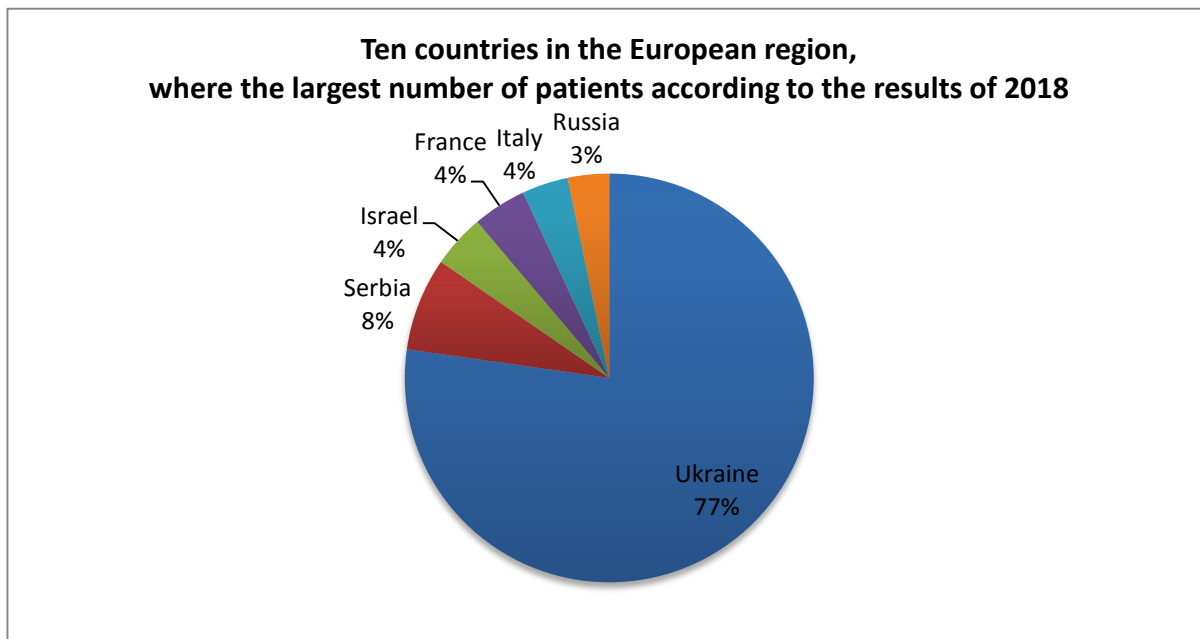
Materials and methods. Analysis of the scientific literature and the results of the advanced research in the field of medicine and pharmacology.

Results and discussion. Unvaccinated young children are at the highest risk for measles and the development of complications, including death. Unvaccinated pregnant women are also at risk. Anyone

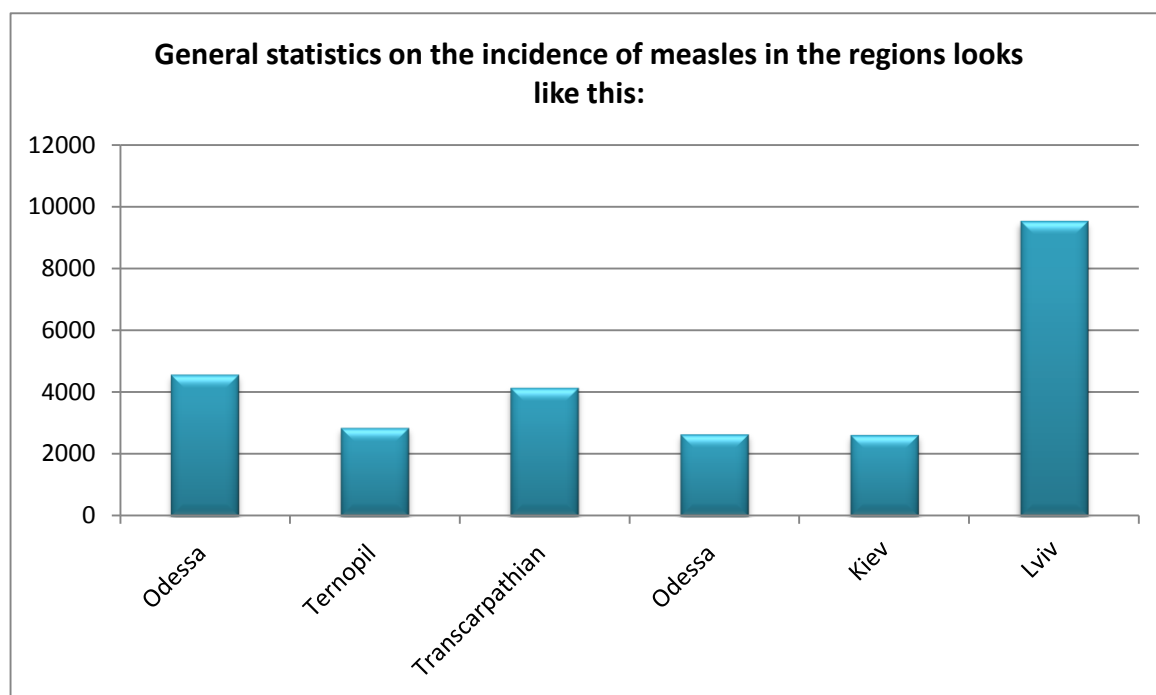
who does not have immunity can become infected with measles – one who has not been vaccinated or one who has not developed immunity after vaccination.

The World Health Organization estimates that in 2017, about 110 thousand people died from measles in the world, most of whom are children under five years of age. In 10% of children with malnutrition, the disease is fatal in the absence of adequate medical care. In Russia, the incidence of measles in 2018 was 1.7 cases per 100,000 people.

Measles is still widespread in many developing countries – especially in parts of Africa and Asia. The vast majority (more than 95 %) of measles deaths occur in countries with low per capita incomes and poor health infrastructures.



It is noted that from December 28, 2018 to March 1, 2019, 26 544 people fell ill with measles in Ukraine. Most people experience measles in areas where routine vaccination coverage is the lowest.



Measures taken to combat measles by WHO (mass vaccination) have reduced the global measles death rate from 2000 to 2014 by 79 %, that is, almost five times. By 2015, it was planned to reduce

measles mortality by 95 % (20 times) compared with 2000, and by 2020, completely eliminate measles (as well as rubella) in at least five WHO regions. WHO experts note that the current situation was caused by a sharp decline in measles vaccination levels, especially in marginalized groups in several European countries.

Conclusions. Only since the beginning of 2018 in Ukraine, 15 people died of complications from measles, among them four adults and 11 children. The risk of getting sick also increases due to the joint presence of children in schools and kindergartens. Therefore, it is very important that children are vaccinated in time according to the preventive vaccination calendar. The Ministry of Health added, according to the operational data of the Center for Public Health of the Ministry of Health of Ukraine, during the 9th week of 2019, 2.524 people fell ill with measles – 1.230 adults and 1.312 children. Since the beginning of this year, ten people have already died in Ukraine, including three children.

THE DISINFECTANTS' ANTIBACTERIAL ACTIVITY DETERMINATION

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Introduction. In the socio-medical context, disinfection can be defined as a set of measures taken to reduce to a «safe» level of pathogenic microorganisms (viruses, bacteria, fungi, spores, protozoa) present on the surface or in the environment, by neutralization or removal. Although modern preparations are highly effective, safe, compatible and harmless for materials of treated surfaces and products, have specialized cleansing action for organic and inorganic types of pollution, are stable in use, the problem of the microorganisms' resistance to disinfectants formation remains relevant. The observed resistant microorganisms number increase in poses the task of new disinfectants developing and the modes of their use that meet the needs of medical institutions.

Aim. To study modern methods for determining the activity of disinfectants? To determine the effective disinfecting parameters of the complex preparation based on the oxidizing agent with respect to test strains of bacteria of the genera *Escherichia*, *Staphylococcus*, *Bacillus*.

Materials and methods. Selection of concentrations, modes of use and methods of the disinfectant based on peracetic acid activity testing was carried out at the base of the departments of microbiology, virology and immunology and analytical chemistry, NUPh. Museum strains *E. coli* ATCC 25922, *S. aureus* ATCC 25923, *B. subtilis* ATCC 6633 were used. The unified method was used to determine the bacteria sensitivity to disinfectants in solution.

Results and discussion. The purpose of disinfection is to reduce or eliminate the microbial load present in the environment or at the facilities to be used. The main methods of disinfection are mechanical, chemical, physical, biological and combined. There are local (current and final) and prophylactic (planned and as needed) types of disinfection. According to the main active substances, modern disinfectants are divided into haloid-, aldehyde-, alcohol-containing preparations; oxidizing agents; surfactants; guanidine derivatives; phenols; acids, alkali. Resistance to disinfectants is formed more slowly than to antibiotics. The mechanisms of this process have not been studied enough, its cause may be the long-term use of the same disinfectants. Microbial resistance to surfactants and chlorine-containing substances develops faster.

Conclusions. In the past decade, the main trend in the development of chemical disinfectants is not to create new ones, but to find ways to activate the disinfectants used. It is aimed at developing of modes in which a high bactericidal effect is maintained at a minimum concentration of active ingredients, and corrosive or destructive activity in relation to the materials of the product, as well as toxic effects on humans, becomes minimal.