Selected aspects of tropical medicine: neglected tropical diseases

We are witnessing changes in climatic conditions in the world, Europe and Ukraine.

Are there any tropical infectious diseases among Ukrainians, for example, malaria? Unfortunately, yes, and even more often in the severe, cerebral form with high lethality and resistance to “popular” antimalarial drugs. Is it possible to “expand the list” of dangerous infectious diseases typical for tropical countries and the appearance of some of them on the territory of Ukraine? Such a probability exists due to certain factors (climate change, academic and labor migration of the population, etc.). By the International Day of the Tropics, we offer to consider certain aspects of tropical medicine, which can be useful in medical practice for

specialists in various fields of medicine, and Bukovinians, who are fond of travelling and discover new horizons.

Today, the total human population is more than 7 billion, and about 1.5 billion of them live in developing countries, of which 500 million are children. This part of the population is conventionally called the “lower billion”, mainly - they are natives of Africa, Asia, Latin America and the Caribbean. Heavy climatic conditions, low level of aggregate income and medical care among this population belong to the leading factors that “strengthen” the epidemic process and contribute to the spread of social infectious diseases - HIV / AIDS, tuberculosis, malaria and more than a dozen other infectious diseases. However, HIV infection, tuberculosis and malaria contrast with the so-called neglected infectious diseases (NID), the prevalence of which is also significantly high.

As defined by the WHO Expert Council, the following groups include the following protozoal and helminthic invasions: leishmaniasis (skin, mucocutaneous, visceral), amoebiasis, giardiasis, cryptosporidiosis, trypanosomiasis (African and American - Chagas disease and sleeping sickness), cysticercosis, dracunculiasis (rishta), echinococcosis, trematode infections of food origin, lymphatic filariasis, onchocerciasis (river blindness), schistosomiasis (bilharzia) and intestinal geogelmintoses (strongyloidiasis, ankylostomidosis).

The conduct of military campaigns in Africa and Asia drew the attention of international organizations to the NID group. The use of free medicines provided by international pharmaceutical corporations, as humanitarian aid, mass screening programs and prescription of drugs against NID, helped to reduce morbidity and completely eradicate certain diseases in some countries.
Most “neglected tropical infections” are difficult to control, there is a high risk of reinfection, it is sometimes impossible to effectively assess the elimination of the pathogen. Therefore, the development of preventive drugs, including vaccines, has

become one of the necessary areas for continuing the fight against the above-mentioned group of infectious diseases. Since NID is most often found among the poorest segments of the population, there is no classical commercial market for new vaccine preparations. As a result, the efforts of scientists to develop immunobiological drugs are significantly less than the development of more traditional vaccines to prevent childhood infectious diseases. Unfortunately, there are also significant scientific obstacles that slow the development of NID vaccines, including complex genomic and antigenic structures, in particular eukaryotic pathogens, and the lack of systems for supporting pathogens in vitro in laboratory settings, the absence of appropriate disease models in animals, and corresponding results for statistical correlation.

Thus, the issue of tropical medicine and neglected tropical diseases has not been adequately covered in the literary resources available to the majority of specialists, therefore, general practitioners of family medicine, specialists in other medical spheres, as well as Bukovinians who plan to travel to countries with tropical climate, are to be able to understand these infectious diseases. Preventive measures are reduced to adherence to a number of simple recommendations, depending on the path of transmission of the pathogen: for blood infections (malaria, trypanosomiasis, leishmaniasis), prevention of mosquito bites, chemoprophylaxis with antimalarial drugs (as prescribed by the doctor), for intestinal infections - clean water, hand hygiene and food products, heat treatment, “safe food”; for contact geogelmintosis - avoid walking barefoot, swimming in rivers, endemic for individual infections and the like.