DETECTION OF THE HEPATITIS A VIRUS AND ROTAVIRUSES IN THE WATER OF THE SOUTH-WESTERN PART OF THE BLACK SEA

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Allochthonous viruses have been introduced to the hydrosphere from other ecosystems. These are the viruses of bacteria, plants, animals and human. The main way for infiltration for such viruses is sewage. Sea water is not an exclusion. Contamination of water reservoirs by pathogenic human viruses in particular plays certain role in human pathology and has become the main reason of sporadic diseases, outbreaks of infections and even epidemics among the human population.

Especially dangerous in epidemiological sense are rotaviruses and Hepatitis A Viruses. Consumption of contaminated seafood, especially bivalve molluscs, contaminated by these viruses, causes numerous outbreaks of hepatitis A and rotavirus gastroenteritis in the whole world.

The purpose of our work was to identify the rotaviruses antigens and Hepatitis A Virus in the water of the south-western part of the Black Sea in 2009.

Water samples were extracted from the depth of 10-15 cm from the sea level. The water volume of one sample is 3 liters. Methods of enzyme immunoassay (ELISA) and polymerase chain reaction (PCR) were used to detect antigens of viruses. Forty-five seawater samples were investigated.

Our results revealed that in 2009 the detection rates of rotaviruses reached 16.7%: from 42 investigated samples of the sea water, seven were contaminated with the virus. In 15,6% cases Hepatitis A Virus was found.

Comparative analysis showed that the source of the infection is the household water inadequately purified which permeated into the marine environment. It led to aggravation of the epidemic situation for such infections as Hepatitis A and rotavirus gastroenteritis in Odessa in 2009.

Many authors consider that constant contamination of the hydrosphere with allochthonous pathogenic viruses helps to attract other hosts into the ecology of the virus. Therefore, under certain conditions there is a possibility of "transition" of Allochthonous viruses, which infiltrated into water reservoirs, in a group of autochthonous viruses that is likely to be an evolutionary change in ecology of viruses of terrabionts.,