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ROTAVIRUS INFECTIONS

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Rotavirus infection is an acute viral disease characterized by symptoms of general intoxication, damage to the gastrointestinal tract, the development of symptoms of toxicosis and exicosis.

Rotaviruses are resistant to temperature, pH environment in the range of 3-9, chemicals and disinfectants. They are stable at a temperature of 60 ° C for 30 minutes and at 18 ° C for 7-9 months.

Rotaviruses do not have shells, but they have various wheel-like structures. The diameter of the nucleus is about 52 nm and it contains a viral genome and an RNA-dependent RNA polymerase. The genome is represented by a 2-strand RNA with 11 segments. According to the antigenic properties, rotaviruses are divided into 9 serological types, 6 of them occur in humans, the others- in animals. Animal rotaviruses are not pathogenic to humans. The sources of infection are either a sick person or healthy virus carriers: children from organized collectives and hospitals, adults, primarily medical personnel of maternity hospitals, somatic and infectious departments.

Rotaviruses are the most common cause of nosocomial infection, especially for newborn premature babies and young patients. Nosocomial infection is facilitated by the cold season, prolonged stay of children in the hospital and crowding in the wards.

Epidemiological features of rotavirus infection in children should be considered in case of inpatient treatment of such patients in infectious boxed departments. Reproduction and accumulation of rotavirus occurs in the upper parts of gastrointestinal tract, in particular in the epithelium of the duodenum. Rotaviruses cause the death of mature cells of the small intestine, they are replaced by immature suction cells that are unable to absorb carbohydrates and other nutrients adequately, leading to osmotic diarrhea. Immunity to rotavirus infection in many cases occurs in early childhood after the disease. Immunity is unstable, so the disease may recur in adults with low levels of antibodies.

The relevance of the problem of rotavirus infection is determined by a high morbidity, widespread, complications with the formation of chronic pathology and the possibility of fatal outcomes, active involvement of children and reproductive people in the epidemic process , significant state expenditures on treatment.