



EPIDEMIOLOGICAL ASPECTS, DIAGNOSIS AND PREVENTION OF ROTAVIRAL INFECTION

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Introduction. Diarrheal diseases are the leading cause of childhood mortality globally as well as in Republic Moldova. Rotavirus has been recognized as the most common cause of infectious gastroenteritis in infants and young children. The primary mode of transmission is the fecal-oral route, through direct contact between people. Nowadays, various diagnostic methods are available. Antigen-detection immunoassays on stool specimens allows lab to rapidly detect rotavirus antigens. The studied scientific works demonstrated that introduction of rotavirus vaccines in the vaccination calendars in many countries has resulted in significant decreasing in the prevalence of rotavirus gastroenteritis and of infant deaths associated with rotavirus.

Material and methods. The objective of the study was to carry out a analysis of the literature related etiology, epidemiology diagnostic methods and prevention measures of rotavirus infection. The bibliographic search was made using internet search medical databases as Medline (PubMed) and Scopus, as well as through the websites of the World Health Organization (WHO), the Center for Disease Control and Prevention (CDC), the European Center for Disease Control and Prevention (ECDC) and other relevant web pages.

Results. Rotaviruses are the most important cause of severe diarrheal illness in infants and young children worldwide. Rotavirus genotypes vary by season, country. According our finds the co-circulation of several genotypes are noted each year. The vast majority of human cases are caused by five genotypes within serogroup A rotavirus: G1P[8], G2P[4], G3P[8], G4P[8] and G9P[8]. The analyzed scientific works indicated that clinically, it is not possible to differentiate rotavirus infection from other infectious diarrhea. Thus, the laboratory tests of stool are needed to confirm diagnosis of rotavirus infection. At the moment various tests are available for detecting rotavirus as ELISA, latex agglutination, polymerase chain reaction and other assays.

Also, the authors of the papers highlighted that the rotavirus infections are vaccine-preventable following the EU/EEA approval of two oral, live attenuated rotavirus vaccines in 2006 for use in infants. Analyzed studies demonstrated that during the first year of an infant's life, rotavirus vaccine provides protection against severe rotavirus illness and against hospitalization from rotavirus illness. Majority of the research showed that the vaccination of populations against rotavirus led to dramatic decreases of prevalence of the rotavirus infections.

Conclusions. Our study reviewed the published paper and highlighted the following features: the most affected children were those under five years of age; rotavirus infection is highly contagious and easily transmittable; it impossible to diagnose rotavirus infection by clinical symptoms because the clinical features of rotavirus gastroenteritis do not differ from those of gastroenteritis caused by other pathogens. Antigen-detection immunoassays on stool specimens to rapidly detect rotavirus antigens and help lab to establish a diagnosis. Vaccination is the best way to prevent rotavirus. Rotavirus-vaccinated populations have experienced dramatic decreases in rotavirus infections and transmission.