

Winter Epidemic Disease – Rotavirus

Rotavirus

Rotavirus was first recognized as a cause of acute gastroenteritis in 1973. The virus has a wheel-like appearance under the electron microscope, hence the name “rota”. Virtually every child will be infected and will become ill with rotavirus at least once in the first 5 years of life. 20-60% of diarrhoea hospitalizations in infants and young children are due to rotavirus.

Rotavirus gastroenteritis severe enough to require hospitalization characteristically occurs most frequently in infants and young children from approximately 6 months to 2 years of age. Infants under 6 months of age experience the next highest frequency of such illness. Adults can also be infected by rotavirus reinfections commonly but there is usually minimal or no symptoms.

Rotaviruses have been detected throughout the world. They are transmitted mainly by the faecal-oral route. The efficient transmission of rotaviruses is related to the presence of large number of viral particles shed in faeces and the relative resistance of the viruses to physical inactivation.

Rotaviruses display a seasonal pattern of infection in developed countries, with epidemic peaks occurring in the cooler months of each year. Symptoms may include fever, vomiting, diarrhoea, and dehydration. Rotavirus infection produces a spectrum of responses that vary from subclinical infection to mild diarrhoea to a severe and occasionally fatal dehydrating illness. Rotaviruses can produce a chronic symptomatic infection or serious illness in immunodeficient children.

Prevention and Treatment of Rotavirus

Diagnosis can be made either by detection of viral antigen in the faeces or by electron microscopy to look for virus particles in the faeces. The most important aspect of treatment is adequate replacement of fluid and electrolytes to the patients.

Effective disinfection of contaminated material and careful handwashing constitute important measures to contain rotavirus infection. There is no vaccine currently available for rotavirus on the commercial basis. Further work on new rotavirus vaccines are underway.

Winter Vomiting Disease – Norwalk-like Viruses

What are Norwalk-like Viruses?

Norwalk-like viruses are small round structured viruses. The diameter of the viral particles is about 25-32 nm and is round in shape. Norwalk-like viruses are fairly resistant to environmental conditions, including resistance to some disinfectants. They are common and important causes of gastroenteritis. The incubation period of Norwalk-like viruses is around 1-2 days. Patients infected by Norwalk-like viruses will have symptoms of nausea, vomiting, non-bloody diarrhoea, light fever and abdominal cramps. The excreta of recovered patients may contain Norwalk-like viruses for several weeks.

Norwalk-like viruses mainly spread by the faecal-oral route via contaminated food and water. Since Norwalk-like viruses are usually found in sewage-contaminated water, shellfish harvested from polluted water or vegetables irrigated with polluted water may contain Norwalk-like viruses. Anyone who consumes contaminated food may be infected. Other routes of transmission include contact with patient's vomitus or excreta, touching contaminated objects, and close person-to-person contact. Since the virus can also be found in the vomitus of the patients, aerosol spread has been suggested to be an important route of transmission.

Prevention and Treatment of Norwalk-like Viruses Infection

There are no specific anti-viral agents to treat Norwalk-like viruses. Treatment is primarily supportive, with the emphasis on replacement of fluid and electrolytes lost through diarrhoea and vomiting. Death from Norwalk-like viruses infection is extremely rare.

As there is still no vaccines available for Norwalk-like viruses, so hygienic measures are crucial in the prevention of the disease. The public should observe food, personal and environmental hygiene strictly. We should patronize only licensed food premises. Food products, especially shellfish and other seafood, must be cooked thoroughly. Hands should be washed thoroughly after using the toilet and before handling food. Food handlers, health care workers, and schoolchildren who developed Norwalk-like viruses infection should refrain from work or school till they are recovered.

Hand, Foot and Mouth Disease

Hand, foot and mouth disease is a viral infection caused by either coxsackieviruses or enteroviruses (such as EV71). This disease is usually commonest in summer and early autumn. Its incubation period is approximately 3– 7 days. Most of the patients are under 5 years of age.

Flu-like symptoms will develop during the early stage of the infection, the fever sustains for few days, and rash or vesicles will appear on palms, soles and buttocks. Painful ulcers will develop in the oral cavity, that's why patients usually will lose their appetite. Hand, foot and mouth disease patients also experience difficulties in swallowing food. These symptoms will disappear within a week. The viruses causing the disease may occasionally cause more serious infections such as viral meningitis or heart complications, but these are generally rare.

Hand, foot and mouth disease is mainly transmitted by the faecal-oral route through contaminated food and water. This virus can also be transmitted by respiratory secretions from person to person. Besides, direct contact with contaminated objects or open and weeping skin vesicles may help to spread the virus. Patients are most contagious in the first week of illness. Infectious agent can be found in the excreta for a few weeks.

Prevention and Treatment of Hand, Foot and Mouth Disease

Generally speaking, symptoms such as fever, rash, and ulcers vanish spontaneously in one week after recovery. Currently, there is no specific antiviral treatment for this disease. Doctors usually adopt symptomatic treatment to ease the fever and pain of the ulcers.

There is no vaccine to prevent hand, foot and mouth disease at present. Prevention relies on maintaining good personal hygiene. Meticulous hygiene, such as washing the hands before meals, after going to the toilet and handling diapers or excreta are crucial. Maintain good air circulation and cover nose and mouth while sneezing or coughing. Dispose nasal and mouth discharge properly and clean or disinfect children's toys thoroughly. Patients should stay at home until all symptoms have subsided and all vesicles have healed.