

Transmissible Gastroenteritis Virus (TGEv)

The Transmissible Gastroenteritis virus (TGEv) causes acute, rapidly spreading disease in swine characterized by diarrhea and vomiting. TGEv is not considered a human health or food safety risk.

Virology

TGEv belongs to the coronaviridae family. It is an enveloped RNA virus and is susceptible to common disinfectants. The virus is wide spread and can present as an acute or endemic form of the disease. Severe epidemics are more common during the winter because of survival of the virus in colder temperatures.

Clinical Signs

In acute outbreaks, the incubation period is quite short, 18 hours to 3 days. Vomiting is often the first sign of disease in naive herds, followed by profuse watery diarrhea, dehydration and excessive thirst. The virus can cause up to 100% mortality in neonatal pigs, with the death rate decreasing with increasing age.

In herds with endemic TGE, clinical signs are varied, depending on the level of immunity and magnitude of exposure to the virus. Immunity from antibodies in the sow's colostrum and milk is usually enough to protect piglets until they are 4-5 days of age. As the antibody level in milk decreases, infection and mild disease may occur. The severity of the diarrhea depends on the level of immunity and viral exposure.

Epidemiology of Transmission

TGEv spreads rapidly by aerosol or contact exposure, and transmission occurs via the oral or nasal route. Pigs that survive the disease develop antibodies against the virus, but continue to shed the virus in feces or nasal secretions for two to eight weeks. Some swine have been shown to excrete the virus intermittently for up to 18 months. Infected sows can transmit virus in their milk or feces to their piglets. In operations where animals from various sources are comingled, carrier animals can be a source of exposure to TGEv. Endemic TGE may follow an acute outbreak, particularly in large herds where the whole herd was not infected simultaneously.

While primarily a pig disease, possible wild and domestic animal reservoirs include foxes, dogs, cats and mink. Wild birds and flies have also been proposed as vectors.

Prevention and Control

There is no specific treatment for the disease. Preventive measures for negative herds include maintaining a closed herd and implementing strict biosecurity practices. Infected Piglets of less than 3 weeks of age seldom respond to treatment. Interventions include weaning, oral electrolytes and a warm environment. Older swine usually recover spontaneously.

Attenuated and killed virus vaccines are available. All the vaccines currently available are most effective when used to stimulate a response in previously exposed swine, but are generally unable to protect a naive population from an acute exposure.

References

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