

Classical Swine Fever

Susceptible species

Classical Swine Fever (CSF) is a contagious virus infection with a high morbidity and mortality rate which can affect domestic pigs and wild boar. For humans there is no risk of infection, as the causative agent of CSF is no zoonotic pathogen.

Distribution area

CSF is widely distributed in Eurasia and Central and South America. Many countries meanwhile have combatted the disease successfully and have for a long time been free from CSF. Within the EU the last CSF outbreaks occurred in the domestic pig population in Lithuania and Latvia (2013). Wild boar populations in Germany (2009) and in other EU member states have repeatedly been affected from outbreaks within the past few years.

Causative agent

The causative agent of Classical Swine Fever is a lipid enveloped RNA virus of the genus *Pestivirus* within the *Flaviviridae* family. It is related with the pestiviruses responsible for Bovine Viral Diarrhea (BVD) and Border Disease of sheep (BD). This relationship is important for CSF diagnostics, as cross reactions leading to false-positive laboratory results may occur.

Transmission

Transmission of the virus may occur either directly e.g. by contact with animals or indirectly e.g. by contaminated food, drinking water or artificial insemination. In

Germany, CSF infected wild boar populations have been an important source of primary outbreaks in domestic pigs.

Clinical Picture

The severity of the clinical picture depends on the virulence of the CSFV isolate, the age of the affected animals and their immune status. Based on duration and severity of the infection acute (either causing death or recovery of the animal), chronic and persistent courses of disease are differentiated. In the acute course of disease fever, reduced food uptake, diarrhea and respiratory symptoms occur after an incubation period of approximately one week. In fatal courses of disease blueish discoloration of ears and extremities, petechiae and central nervous symptoms may occur in the late stage of infection (between days 14 and 21). The chronic course of disease is characterized by unspecific symptoms and constant virus excretion which makes this course of disease important for a spread of the infection. Affected animals die within several months. In addition, the virus can cross the placental barrier at all stages of pregnancy and cause prenatal infection of the fetus. Depending on the stage of pregnancy, abortions, stillbirth, malformations or birth of weak piglets may be observed. Also persistently infected piglets may occur.

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Diagnostics

Due to often unspecific symptoms the final diagnosis must be based on laboratory diagnostic detection (pathogen or antibody detection).

Similar clinical pictures

In case of severe general symptoms particularly African Swine Fever and bacterial septicemia are possible differential diagnoses. In addition, PRRS (Porcine Reproductive and Respiratory Syndrome), Parvovirus infection, Leptospirosis, Aujeszky's Disease and Erysipelas must be considered. Intoxications may cause similar symptoms.

Control

Classical Swine Fever is notifiable and is combatted in Germany pursuant to the Regulation for Protection from Classical Swine Fever and African Swine Fever (Swine Fever Regulation). Early detection of the disease and rapid laboratory diagnosis are integral elements of the control measures. If acute symptoms occur which cannot clearly be associated with any other disease and in particular do not react to antibiotics, suitable samples should be sent to the responsible state diagnostic agencies for clarification.

Further information: [National Reference Laboratory for Classical Swine Fever](#)

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