

Feline Infectious Peritonitis

Feline infectious peritonitis (FIP) is a complex and inevitably fatal disease caused by the Feline Coronavirus (FCoV).

Virology

Feline infectious peritonitis arises as a mutation of feline coronavirus (FCoV) and leads to a fatal systemic disease that progresses over weeks or months. FCoV belongs to the family Coronaviridae, a group of enveloped, RNA viruses frequently found in cats.

Clinical Signs

FIP occurs typically in very young or very old cats. There are two forms of the disease, wet/effusive and dry/non-effusive. The wet form presents itself with abdominal distension due to the accumulation of fluid in the peritoneal cavity and rapid disease progression closely followed by death. The dry form progresses at a slower rate and without the fluid build-up in the peritoneal cavity. Both demonstrate similar initial clinical signs including anorexia, chronic fever, malaise, and weight loss.

Epidemiology of Transmission

The initial pathogenic event causing FIP is the infection of a cat with a genetic variant of an original enteric coronavirus. Coronavirus-specific antibodies are present in as many as 90% of cats in catteries and in as many as 50% of those in single-cat households. However, <5% of FCoV-infected cats develop FIP in multi-cat households. The virus is endemic in environments in which many cats are kept together in a confined space (e.g., catteries, shelters, pet stores). This disease occurs most commonly in cats younger than 18 months and older than 12 years of age.

FCoV is shed mainly in the feces and is generally contracted through the oronasal route by inhalation or contact with contaminated fecal matter via the fecal-oral route. Once infected, cats begin to shed the virus in the form of feces within one week of initial infection. The virus may also be found in saliva, respiratory secretions, and urine during the early stages. Some cats become chronic FCoV shedders, providing a continual source for reinfection of other cats. The most common route of transmission between domesticated cats is through the sharing of litter boxes between uninfected cats and cats that are shedding the virus. This sharing of contaminated litter can lead to continuous reinfection, which encourages the development of new viral strains.

Although many coronaviruses such as Severe Acute Respiratory Syndrome (SARS) are zoonotic and have the ability to be spread between animals and humans, FCoV has no recorded history of infecting humans.

Treatment and Control

Cats are diagnosed with Feline Infectious Peritonitis when they are found to have an abnormally high antibody titer after immunofluorescence testing or an enzyme immunoassay. 95%–100% of cats exposed to FCoV become infected and develop antibodies 2–3 weeks after exposure.

Feline infectious peritonitis (FIP) is a complex and inevitably fatal disease. There is currently no vaccine that has demonstrated effectiveness against it.

FCoV is a fragile virus surrounded by a lipid envelope that allows for easy inactivation by most commonly approved EPA and Health Canada registered disinfectants. However, FCoV has the ability to survive on surfaces and nutrient-poor environments for up to 7 weeks and can be transmitted via fomites such as clothes, toys, and grooming tools unless properly disinfected.

References

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