Pet Medical Center
525 South State Street
Orem UT 84058
801-225-5395

Feline Coronavirus

Anisa D. Dunham, AS, RVT
Lynn F. Guptill, DVM, PhD, DACVIM (Small Animal)

BASIC INFORMATION

Description

Feline coronavirus (FCoV) is a highly contagious intestinal (enteric) infection that causes few problems in most infected cats. In some cats, however, the intestinal form of FCoV mutates and gives rise to feline infectious peritonitis (FIP), a disease that is generally fatal. Two forms of FIP may occur, effusive (wet) and noneffusive (dry).

Causes

Enteric FCoV is highly contagious via fecal-oral transmission, which means that the virus is swallowed in contaminated materials. Most infected cats intermittently shed the virus. Eventually many cats stop shedding the virus, although persistent shedding occurs in some. Interestingly, lifelong shedders do not usually develop FIP, and the FIP virus is rarely shed in feces. Even though FCoV is inactivated by most disinfectants, it may remain in the environment.

Clinical Signs

Enteric FCoV may cause no signs or only mild diarrhea. FIP tends to affect cats younger than 2 years of age and elderly cats. Signs of the wet form of FIP include fever, pale gums (anemia), jaundice (yellow discoloration of the skin and whites of the eyes), difficulty breathing, and a distended abdomen. With the dry form of FIP, signs reflect the organ system that is affected. Neurologic signs (such as seizures), eye inflammation (uveitis), and difficulty breathing may be seen. Fever and weight loss are also common with the dry form.

Diagnostic Tests

Because there is no single, definitive laboratory test for FIP, a number of tests are commonly performed to look for evidence of the disease. Abnormalities may include the following:

- A complete blood cell count may show anemia.
- A blood biochemistry profile may show increased blood proteins, as well as abnormal liver and kidney tests. A protein electrophoresis test may be recommended to determine what blood proteins are elevated.
- X-rays may show fluid in the chest or abdomen, especially with the wet form of FIP. X-rays and an abdominal ultrasound may show other abnormalities in the lungs and abdominal organs.
- Microscopic analysis of fluid removed from the chest or abdomen can support the diagnosis of FIP.
- Further tests (fecal examination, urinalysis, others) may be recommended to rule out other diseases that cause similar signs.

Tests for antibodies in the blood can indicate exposure to FCoV, but they are not diagnostic for FIP because they do not distinguish enteric FCoV from FIP. Antibody titers also do not indicate whether fecal shedding of the virus is present. Newer tests are being developed that evaluate cells from abdominal or chest fluid, but they still may not provide a definitive diagnosis.

Histopathologic evaluation of tissue samples is currently the best method to diagnose FIP. A definitive diagnosis of intestinal FCoV may be accomplished via electron microscopy or polymerase chain reaction (PCR) testing of feces.

TREATMENT AND FOLLOW-UP

Treatment Options

Since enteric FCoV often causes few signs or only mild, short-lived diarrhea, specific therapy is often not necessary. No known treatment reduces the chance that FCoV-infected cats will develop FIP.

Treatment for FIP is often unsuccessful, and the disease is usually fatal. Supportive care with nutritional supplementation, removal of chest and abdominal fluid, intravenous fluid therapy, blood transfusions, and antibiotics for secondary infections may help prolong and improve the quality of the cat's life. Suppressing or altering the immune system with steroids and other drugs may benefit a small number of cats. Although various treatments have been recommended for FIP, little scientific evidence exists regarding their benefit. Cats with FIP should be isolated from other cats.

Follow-up Care

Animals with FIP require periodic monitoring for progression of the disease. When catteries or multicat households are exposed to FIP, exposure to feces must be avoided and all equipment and cages must be disinfected. Isolate any cats that are potential or identified shedders of the virus. Keep all cats indoors, and remove kittens from antibody-positive queens (mothers) at 5-6 weeks of age.

An intranasal vaccine is available that appears to be safe, but its effectiveness is not well documented. Vaccination of low-risk cats, such as adults or cats in single-cat households, is not usually done. Kittens that are at risk (exposed to multiple cats or infected adult cats) may benefit from vaccination. Vaccination is not recommended for routine use and does not prevent mutation of FCoV in an already infected cat.

Prognosis

Prognosis for the intestinal form of FCoV is good. Cats with FIP have a grave long-term prognosis, because the disease is usually fatal.