Feline Leukemia Virus

Feline Leukemia Virus (FeLV) is a common viral disease of cats. In the United States, prevalence is about 2% overall but varies depending on location and the population of cats. This disease is seen most commonly in young cats less than 2 years of age. It is also more common in cats that are allowed to roam outside because direct contact with infected cats is required for transmission.

Transmission

FeLV is contagious between cats and primarily spreads through direct contact with the saliva of infected cats. This transmission most commonly occurs between cats that groom each other. Less common routes of transmission include shared food and water bowls, litterboxes, bites/fighting, and blood transfusions. FeLV is quickly killed in the environment within a few minutes and is easily killed by disinfectants; therefore, environmental spread does not commonly occur. The virus can also be spread to kittens in the womb from their infected mother. However, many of the kittens will not survive to birth.

If a cat briefly comes into contact with an infected cat, the risk of becoming sick with FeLV is only 3% on average. Furthermore, the risk of an adult cat becoming FeLV positive after living with a FeLV shedding cat for more than several months is only 10-30%.

Clinical Findings

FeLV causes a variety of clinical signs with active infections. Some cats may remain healthy for years before a FeLV-related disease develops, and occasionally some enjoy lifelong health. The most common problem FeLV positive cats face is a weakened immune system (immunosuppression) and anemia. The immune system normally protects the cat from common infectious agents (bacteria, viruses, etc) that do not generally cause disease in healthy cats. However, a weakened immune system leads to recurrent infections, non-healing wounds, and chronic mouth and gum infections (stomatitis). A variety of blood and bone marrow disorders (including leukemia) involving red blood cells, white blood cells, and/or platelets can occur with FeLV infection. FeLV can also cause lymphoma, a cancer of the white blood cells in lymphoid tissues. These lymphoid tissues include lymph nodes, spleen, thymus, gastrointestinal tract, and liver. Cats with FeLV have a 60 times greater risk of cancer development than cats without FeLV.

Diagnosis

It is important that infected cats be identified to prevent spread to other cats and to properly manage the health of the infected cat. Tests need to be accurate because misdiagnosis of infection in uninfected cats may lead to inappropriate changes in lifestyle or even euthanasia.

The most popular screening test for FeLV is a blood test called an ELISA (enzyme-linked immunosorbent assay) test (commonly called a Snap test). This test will detect the disease by 30 days after infection. Whereas negative results are highly reliable, all positives should always be confirmed by another test method and interpreted based on the patient’s health and likelihood of infection.
The most common confirmatory test is the IFA (immunofluorescent assay) test. This type of test uses a blood sample to detect FeLV within blood cells. An IFA positive test indicates that the disease has progressed, and the virus has invaded the bone marrow. This test has to be performed by qualified laboratories.

Treatment

Although many different things have been studied, no treatment has been proven effective in clearing FeLV infection. Therefore, treatment of FeLV is based on management and supportive care of the associated diseases that occur. Lymphoma and leukemia are usually fatal within 1 to 2 months; however, they can be treated successfully in many cats with chemotherapy, and a few will have remissions that may last several years. The various blood disorders that can occur can be treated symptomatically with things such as blood transfusions. Antibiotics may be needed for bacterial infections. One drug, called feline interferon, that is currently being researched has shown potential to increase survival time in infected cats. Additional studies are still needed to evaluate its use.

Prognosis

A cat’s age at the time of the infection is the most important factor determining the clinical outcome. Younger cats are much more prone to becoming progressively infected. Whereas, adult cats are more likely to fight off the infection. For cats that become persistently infected, the prognosis is poor. These cats have an approximately 80% death rate within 3 years of diagnosis.

Prevention:

The key to prevention is testing and housing cats indoor only with FeLV negative cats. When exposure to FeLV cannot be prevented, vaccination can help prevent FeLV infection. All cats should be tested prior to vaccination to verify FeLV antigen-negative status. The American Association of Feline Practitioners (AAFP) Advisory Panel currently recommends that all kittens (8-16 weeks old) receive 2 initial doses of vaccine 3-4 weeks apart and then a booster vaccination 1 year later. After 1 year of age, the need for vaccination is determined by individual risk. Cats at risk include cats with access to outdoors, multicat households with untested incoming cats, cats living with FeLV-infected cats, cats living with frequent introduction of new cats (e.g. foster homes), and shelter cats in group housing. Cats at high risk should be revaccinated annually and cats at low risk every 2 years.
References


