

Feline Leukemia Virus (FELV) and Feline Immunodeficiency Virus (FIV)

A PowerPage Presented By



FELV and FIV are retroviral diseases of cats that have several features in common but many more that are different; students tend to confuse these when studying for board exams. With that in mind, this PowerPage seeks to point out the important features and key differences between the two viruses.

Key Points

- Most commonly transmitted through saliva
- Should be considered in almost any sick cat due to the wide range of potential signs
- Vaccination and testing are very important for at-risk cats
- FELV antigen testing is reliable, although you must rule out a transient infection with a positive test
- FIV antibody testing can be complicated in young cats and vaccinated cats

Transmission

FELV

- Transmitted by **close, intimate contact, mutual grooming**
- Transmission by biting can occur but is an infrequent mode of transmission
- A “friendly” cat disease
- Up to 98% of cats may only develop a transient infection, but cats with progressive infection die within 3 years 80% of the time

FIV

- Transmitted by bite wounds in most cases
- An “unfriendly” cat disease
- Cats can live with FIV for years particularly if identified and managed

Clinical Signs

- Both diseases can be asymptomatic and can be clinically indistinguishable. The common signs include:
 - Lymphadenopathy
 - Oral lesions- gingivitis, periodontitis, stomatitis, oral ulcers
 - Neutropenia, fever, development of opportunistic infections (particularly skin or respiratory infections)
 - Severe emaciation
 - Lymphoid depletion
 - Common to see concurrent or opportunistic diseases
 - Fungal – Cryptococcus, Aspergillus, dermatophytes
 - Parasitic – Toxoplasma, Demodex, Hemobartonella, Giardia, Coccidia, Cryptosporidia
 - Atypical bacterial – Mycobacteria, Nocardia, Actinomyces

Diagnostic Tests

The differences between the vaccines and diagnostic tests for these diseases are important for board exams

FELV Test

- ELISA- Detects a core **antigen**
- Neither maternal antibody nor recent vaccination will affect the test
- If a healthy cat tests positive: Should re-test in 1-3 months because up to 98% of cats infected with FELV will have a transient, self-limiting infection, develop antibodies and then become antigen-negative

FIV Test

Two tests you need to know are ELISA and Western Blot

- ELISA is not a confirmatory test and should be verified by Western Blot
- Both tests are **antibody**-based
- It is generally useless to test kittens under 6 months of age as they may not have seroconverted (i.e. False negative) or they may have interference with the test from maternal antibodies (i.e. False positive)
- There are other tests that may become better options including viral isolation or PCR, but they are neither currently widely available nor validated sufficiently to be asked on boards questions

Treatment

It is unlikely that you could be asked very much about treatment of retroviral diseases

- Bacterial and fungal infections need to be treated aggressively and for longer duration in these cats
- Routine preventative antiparasitics, oral prophylaxis, skin care
- AZT- reverse transcriptase inhibitor – an option for FIV but not used commonly

Vaccination Considerations

As these are non-core vaccines, consideration should be given to the risk factors and the risk vs. benefit of immunization

FELV

- Key risk factors:
 - Age: Young cats are much more naturally susceptible
 - Indoor/Outdoor: Cats in close contact with other cats are most susceptible
- Given as 2 injections 2-3 weeks apart in kittens 8-9 weeks or older, booster annually
- There is NO reason to vaccinate a cat that is FELV-positive because:
 - Cats remain FELV + despite vaccination
 - Cats remain infectious despite vaccination
 - Cats have the same risk of developing clinical signs despite vaccination
- The vaccine will not result in a positive test

FIV

- Key risk factors:
 - Indoor/Outdoor – Outdoor cats are much more likely to be bit
- Given as 3 injections 2-3 weeks apart in kittens 8-9 weeks or older, booster annually
- Vaccine is considered 80% effective
- Vaccine will result in a positive test on all commercially available antibody tests

