

Feline Immunodeficiency Virus Infection

Basics

OVERVIEW

- A complex retrovirus that causes immunodeficiency disease in domestic cats
- “Immunodeficiency” is the medical term for inability to develop a normal immune response
- Feline immunodeficiency virus (FIV) is in the same genus (*Lentivirus*) of viruses as human immunodeficiency virus (HIV), the causative agent of acquired immunodeficiency syndrome (AIDS) in people

GENETICS

- No genetic susceptibility for infection
- Genetics may play a role in progression and severity of disease

SIGNALMENT/DESCRIPTION OF PET

Species

- Cats

Mean Age and Range

- Likelihood of infection increases with age
- Mean age—5 years of age at time of diagnosis

Predominant Sex

- Male—more aggressive; more likely to roam (increasing exposure to virus)

SIGNS/OBSERVED CHANGES IN THE PET

- Diverse signs owing to the decreased ability to develop a normal immune response (that is, the immunosuppressive nature of infection)
- Associated disease cannot be distinguished clinically from feline leukemia virus (FeLV)-associated immunodeficiencies
- Recurrent minor illnesses, especially with upper respiratory and gastrointestinal signs
- Enlarged lymph nodes (known as “lymphadenomegaly”)—mild to moderate



- Inflammation of the gums (known as “gingivitis”), of the mouth (known as “stomatitis”), and/or of the tissues surrounding and supporting the teeth (known as “periodontitis”), seen in 25% to 50% of cases
- Upper respiratory tract disease seen in 30% of cases—inflammation of the nose (known as “rhinitis”); inflammation of the moist tissues of the eye (known as “conjunctivitis”); inflammation of the cornea (known as “keratitis”)—the cornea is the clear part of the eye, located in the front of the eyeball; often associated with feline herpesvirus and calicivirus infections
- Long-term (chronic) kidney insufficiency due to immune-mediated damage to the kidneys
- Persistent diarrhea, seen in 10–20% of cases
- Long-term (chronic), non-responsive, or recurrent infections of the external ear and skin—from bacterial or fungal infections
- Fever and wasting—especially in later stage
- Eye disease—inflammation of the front part of the eye, including the iris (known as “anterior uveitis”); disease of the eye, in which the pressure within the eye is increased (known as “glaucoma”)
- Cancer (such as lymphoma; “lymphoma” is a type of cancer that develops from lymphoid tissue, including lymphocytes, a type of white-blood cell formed in lymphatic tissues throughout the body)
- Nervous system abnormalities—disruption of normal sleep patterns; behavioral changes (such as pacing and aggression); disorders usually affecting the nerves to the legs and paws (known as “peripheral neuropathies”)

CAUSES

- Cat-to-cat transmission; usually by bite wounds
- Occasional transmission of the virus at the time of birth
- Sexual transmission uncommon, although feline immunodeficiency virus has been detected in semen

RISK FACTORS

- Male
- Free-roaming cat

Treatment

HEALTH CARE

- Outpatient sufficient for most pets
- Inpatient—with severe secondary infections, until condition is stable
- Primary consideration—manage secondary and opportunistic infections; “opportunistic infections” are infections caused by organisms that usually do not cause disease, but are able to cause disease because the cat's body and/or immune system has been weakened, in this case by the feline immunodeficiency virus infection
- Supportive treatment—fluids and nutritional supplements, as necessary

ACTIVITY

- Normal

DIET

- Normal
- Diarrhea, kidney disease, or long-term (chronic) wasting—special diet, as necessary

SURGERY

- Dental cleaning, tooth extraction, biopsy of the gums
- Biopsy or surgical removal of tumors

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Zidovudine (Retrovir)—direct antiviral agent; most effective against sudden (acute) infection; monitor for bone-

marrow toxicity

- Medications to alter the immune response (known as “immunomodulatory drugs”)—may alleviate some clinical signs; may increase survival rates and improve clinical status; examples include alpha-interferon; feline omega-interferon; *Propionibacterium acnes* (ImmunoRegulin), or acemannan
- Antibiotic or antifungal drugs—useful for overgrowth of bacteria or fungi; prolonged therapy or high dosages may be required; examples include metronidazole and clindamycin
- Medications to decrease the immune response (such as steroids or gold salts)—judicious but aggressive use may help control immune-mediated inflammation
- Short-term appetite stimulation medications may be required
- Steroids applied directly to the eye (topical steroids)—for inflammation of the front part of the eye, including the iris (anterior uveitis); long-term response may be incomplete or poor
- Yearly vaccination for respiratory and intestinal viruses with inactivated vaccines is recommended

Follow-Up Care

PATIENT MONITORING

- Varies according to secondary infections and other manifestations of disease

PREVENTIONS AND AVOIDANCE

- Prevent contact with feline immunodeficiency virus–positive cats
- Quarantine and test incoming cats for FIV before introducing into households currently with one or more cats
- *Vaccine*: Cannot distinguish between vaccinated and FIV-infected cats with antibody assays; virus detection by polymerase chain reaction (PCR) is inconsistent—discuss with the veterinarian

POSSIBLE COMPLICATIONS

- Recurrent infections
- Lymphoid tumors
- Immune-mediated diseases
- Wasting
- Death

EXPECTED COURSE AND PROGNOSIS

- Within the first 2 years after diagnosis or 4.5–6 years after the estimated time of infection, about 20% of cats die, but over 50% remain with no clinical signs of disease
- In late stages of disease (wasting and frequent or severe opportunistic infections), life expectancy is less than 1 year
- Inflammation of the gums (gingivitis) and mouth (stomatitis)—may not respond to treatment or may be difficult to treat

Key Points

- Feline immunodeficiency virus infection is slowly progressive, and infected cats may remain healthy for years; overall survival time and quality of life may be similar to uninfected cats
- Cats with clinical signs will have recurrent or long-term (chronic) health problems that require medical attention
- Keep FIV-infected cats indoors to protect them from exposure to secondary disease-causing agents and to prevent spread of FIV to other cats