

# FELINE IMMUNODEFICIENCY VIRUS INFECTION

## Definition:

FIV is a cat immunodeficiency virus

## Signs:

Can vary from none to serious depending on the virus strain and the cat's immune response. Repeat illnesses, inflamed gums, respiratory infections, weight loss, big lymph nodes and just not doing well. It is spread by cat bites and is most common in outside cats

## Advice:

Treatment is supportive therapy such as treating infections. Some patients never get unwell, others slowly decline

## 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

### 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

### **PREVENTION 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

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