

An Emerging Ferret Disease: Ferret-FIP

A disease resembling feline infectious peritonitis is one of the latest diseases of concern in ferret medicine.
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A disease resembling feline infectious peritonitis has been recognized recently in ferrets and will be referred to here as Ferret-FIP. Most cases of Ferret-FIP have been identified within the last three years, with the count approaching approximately 50 cases. Similar to FIP in cats, this disease in ferrets is associated with a coronavirus, and it may be an immune-mediated disease. It has been hypothesized that the ferret enteric coronavirus (epizootic catarrhal enteritis virus) may be mutating within ferrets to result in Ferret-FIP – the disease state associated with the spread of virus within the body, inflammation and nodule formation. An alternative hypothesis is that there is a separate strain of coronavirus affecting ferrets and causing the disease. Cases are being documented and research is underway to further define and understand the clinical aspects and disease process of Ferret-FIP.

What Ferrets Are Affected With Ferret-FIP?

Ferret-FIP appears to affect young ferrets, with most being less than 18 months of age. Ferrets diagnosed with Ferret-FIP have been from various breeders and been on various diets. Many ferrets diagnosed with this disease lived with other ferrets and/or other pets. At this point, we do not know if or how contagious Ferret-FIP is to other ferrets.

What Signs Are Associated With Ferret-FIP?

Initial signs of a ferret with Ferret-FIP often include lethargy and a generalized (often hind end) weakness. Several owners have mentioned that their ill ferret had never been as active as other normal, young ferrets. Many owners report sudden weight loss, and most of the ferrets with Ferret-FIP become very thin over the course of the disease. Anorexia has been reported as an initial sign in some ferrets, but several ferrets have had a fairly normal appetite initially that has gradually declined throughout the progression of the disease. Sneezing (especially fits) and progressively labored breathing have been reported in several cases. Mild fever, dehydration, tooth grinding, vomiting, abnormal stools, seizures and neurologic signs (e.g. paddling) have also been reported. Some ferret owners have seen very greenish urine.

What Diagnostic Results May Indicate Ferret-FIP?

On physical examination, many ferrets with Ferret-FIP have had one or more abdominal masses. Moderate to severe emaciation, an enlarged spleen and kidneys, and heart murmurs are commonly observed. Enlarged peripheral lymph nodes have also been reported. X-rays have shown an enlarged spleen and abdominal masses in several cases.

Ferrets with Ferret-FIP consistently have increased blood globulin (above 6.0 g/dl; normal is < 3.0 g/dl) and total protein levels. All ferrets that were tested for Aleutian Disease Virus (ADV) were negative (via CEP test). Some ferrets had a mildly increased white blood cell count and/or mild to moderate decreased red blood cell count.

Ferrets with this disease often have abdominal masses, an enlarged spleen, nodules in abdominal organs and sometimes the lungs, and enlarged lymph nodes. To confirm the diagnosis of Ferret-FIP, coronavirus must be identified from a granuloma (nodule) or fluid from the chest or abdomen. Testing is currently being done to find viral ribonucleic acid (RNA) in frozen tissues at Michigan State University. Research at MSU has determined that Ferret-FIP is caused by a coronavirus that is different from the one that causes FIP in cats. Further research is needed to investigate the disease process in ferrets and to determine whether Ferret-FIP is associated with a mutation in the ECE virus or with a different strain of coronavirus.

What Is The Treatment And Prognosis For Ferrets With Ferret-FIP?

Ferrets with Ferret-FIP, like cats with FIP, have an extremely poor prognosis and usually die. Two ferrets diagnosed with the disease are still living, but the other confirmed cases have died. Several drugs and supplements have been used in cats in an effort to improve quality of life and slow the progression of the disease, but there is currently no cure for FIP in cats. There is also currently no cure for Ferret-FIP, and owners of ferrets with the disease generally have seen little or no improvement to the medications tried thus far.

Recommendations If Ferret-FIP Is Suspected

Ferrets suspected to have Ferret-FIP should undergo a comprehensive physical examination and thorough diagnostic tests. A young ferret with a high globulin level that is ADV negative should be suspected to have the disease. Unless fluid can be obtained and used to confirm the diagnosis of Ferret-FIP, an exploratory surgery with biopsies and histopathology may be necessary to get a definitive diagnosis. One must also consider whether the ferret's condition is too compromised for the ferret to survive an invasive procedure such as surgery.

Because many ferrets are already carriers of the ferret enteric coronavirus (ECE), and Ferret-FIP is a poorly understood disease, quarantine recommendations are difficult. Ferrets suspected or confirmed to have Ferret-FIP should not be exposed to any new ferrets, but separating them from current cagemates may be detrimental to the mental health of the ill ferret and to the cagemates. If Ferret-FIP is an immune-mediated disease similar to FIP in cats, treatment should be aimed at controlling the immune response to the virus. Immune-suppressive and anti-inflammatory drugs, rest, minimizing stress, and providing a high quality diet may help slow progression of the disease and help ferrets with mild clinical signs.

If a living ferret is definitively diagnosed to have Ferret-FIP, supportive care may be helpful for a period of time, but humane euthanasia should be considered when the ferret's quality of life is in question. If a ferret suspected to have Ferret-FIP dies or is euthanized, a thorough necropsy should be performed and tissues should be collected for histopathology. Confirmed cases should be reported to document and contribute to further research on this disease. Veterinarians can contact me (exoticpetvet@hotmail.com) if they confirm a case of Ferret-FIP.

Dr. Ramsell is an exotic animal veterinarian in Oregon. She is the president and shelter veterinarian for the Cascade Ferret Network, and she is the on the Health Affairs Committee for the American Ferret Association.