Feline Herpesvirus—What is the Role of Lysine Supplementation?

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Feline herpesvirus type 1 (FHV-1) has been associated with acute, chronic, and recurrent conjunctivitis; ulcerative and stromal keratitis; corneal sequestra; eosinophilic keratitis; anterior uveitis; dermatitis; and rhinosinusitis. A lifelong neural latency with periodic reactivation is established in 80% of infected cats. Some of these cats experience chronic recurrent herpetic disease. No medications or vaccines have been shown to reduce the establishment of viral latency and frequency of reactivation. However, administration of the amino acid L-lysine limits the in vitro replication of this and many other viruses and has been used as an adjunctive therapy in FHV-1–infected cats. The antiviral mechanism of lysine is not known, although it has been suggested to work via antagonism of arginine. Studies of cats given lysine orally as a bolus of 400 mg once daily or 500 mg twice daily have shown reductions in basal virus shedding and reduced severity of conjunctivitis, respectively. In addition, plasma lysine concentrations were shown to be elevated while plasma arginine concentrations stayed within the normal range. No signs of toxicity were observed, leading the author and colleagues to investigate the inclusion of lysine in a diet as an alternative means of administration. They found that supplementation of lysine up to 8.6% (dry matter) yielded significantly elevated plasma lysine levels in cats while maintaining normal plasma arginine levels. No signs of toxicity were seen, and food intake was normal.

COMMENTARY: Chronic recurrent feline herpesvirus infection reduces the quality of life for a not-insignificant number of cats. A cure for this condition would be ideal; however, until that is possible, reducing the frequency and severity of clinical signs is an acceptable therapeutic goal. L-lysine supplementation has been advocated over the past few years by several researchers as a means to interfere with viral replication and reduce viral load and the frequency of clinical relapses in chronically infected individuals. This presentation reports on a study in which L-lysine was added to a therapeutic diet to avoid the need to handle each infected patient in a multicat environment. This preliminary study shows that the diet is palatable and safe and does not result in either L-lysine toxicity or arginine deficiency. While L-lysine administered orally twice daily has been shown to reduce viral numbers, this has yet to be studied with this L-lysine–supplemented diet. It is hoped that such a study will be forthcoming and will affirm the desired result.—Margie Scherk, DVM, Diplomate ABVP

Feline Liver Disease

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Liver disease in cats differs from that in dogs. Cats do not develop steroid hepatopathy, and their inflammatory disease is centered on the bile ducts, not the hepatic cells. There appear to be 4 primary categories of liver disease: hepatic lipidosis, cholangitis, neoplasia, and reactive hepatopathies. These disorders made up 87% of liver biopsy results in 1 study. Hepatic lipidosis can be primary or secondary. Although the cause of this disorder is unknown, many theories have been suggested. Animals often have a history of rapid weight loss, and icterus and marked elevation of serum alkaline phosphorus are consistent findings. About one third of affected cats have nonregenerative anemia, hypokalemia, and clotting abnormalities. With aggressive management, including tube-feeding, the survival rate can exceed 80%. Cholangitis, or inflammatory liver disease, can be further divided into 2 groups. Acute neutrophilic cholangitis is usually seen in young (3 to 5 years) cats. It is thought to be caused by an ascending bacterial infection. Chronic neutrophilic cholangitis is seen in middle-aged or older cats that have had a long illness. There appears to be a relationship among chronic cholangitis, inflammatory bowel disease, and pancreatitis. When all 3 occur together it is called triaditis. A consequence of cholangitis syndromes is bile sludging or cholestasis, which can sometimes block bile flow.

COMMENTARY: The liver has great reserve capacity, so many cats are very ill by the time they present with clinical signs of liver disease. Many of the clinical signs are nonspecific, occasionally making it difficult to diagnose liver disease or to distinguish the type. Management of these cases should be aggressive and includes ensuring that the cats are receiving the proper nutrition, even if that means tube-feeding.—Patricia Thomblison, DVM, MS