New Immunotherapy for Feline Chronic Rhinitis

There are many possible causes for chronic rhinitis in cats, a syndrome associated with inflammation of the nasal cavity and, frequently, secondary infection of the frontal sinuses. Many cases have been attributed to chronic viral or bacterial infections, although a direct cause-and-effect relationship can be difficult to prove. While many treatments exist for this condition, none has proven to be consistently effective, and recurrence is common. Previous studies have shown that complexes of cationic liposomes and plasmid DNA (CLDC) are potent stimulators of innate immune responses and might, therefore, be useful in treating feline chronic rhinitis, particularly when viral or bacterial infection is involved. In this study, randomized clinical studies were performed to assess the immunologic and clinical effects of CLDC administration to different groups of cats, including healthy, laboratory-reared cats; older client-owned cats with chronic rhinitis; and young shelter cats with chronic rhinitis.

Four different groups of cats were administered CLDC or a placebo by intraperitoneal injection once weekly for 4 or 6 weeks. Clinical signs and several blood parameters, including cytokine profiles, were determined at regular time points that differed between the groups. In adult cats with chronic rhinitis, sneezing significantly improved in cats treated with CLDC compared with the placebo group, but other clinical signs did not. Clinical signs in the young shelter cats did not significantly improve with immunotherapy. Cytokine profiles documented that CLDC is an activator of innate immunity in cats. The authors concluded that CLDC appears to be well-tolerated and safe and may lead to clinical improvement in adult cats with chronic rhinitis.



Photo by Elizabeth Harbin

COMMENTARY: The chronic feline "snuffler" is a frustrating patient to treat and practitioners frequently reach for antibiotics. These make sense if an organism is identified and its sensitivity is known. Too often, however, bacteria do not play a role in the etiology of chronic respiratory disease. Treatment for viruses is logical, however, we lack specific antivirals that can be used safely and effectively in cats. In this blinded cross-over study, intraperitoneal lipid-DNA complexes encoding the feline IL-2 gene were administered weekly for 4 weeks. Improvement was noted in sneezing and nasal discharge in treated cats as compared to those that had received placebo liposomes. The theory for this improvement is that a Th1-type immune response was induced. Whether this work will result in clinically applicable therapies can only be hoped.—*Margie Scherk, DVM, Diplomate ABVP (Feline)*

Evaluation of a novel immunotherapy for treatment of chronic rhinitis in cats. Veir JK, Lappin MR, Dow SW. ***J FEL MED SURG*** 8:400-411, 2006.