Otitis Media in Cats: Not as Rare as Once Thought

Otitis media is most commonly caused by extension of otitis externa, but it can also result from auditory canal dysfunction or systemic infection. In humans, otitis media is a common sequela to respiratory infections and nasal infections. It is believed to be caused, in part, by malfunctions of the external auditory canal. Sinonasal disease in cats is common; inflammation and neoplasia are the most common causes. In this retrospective study, the prevalence of bulla effusion in cats presented for sinonasal disease was compared with the prevalence in cats without sinonasal disease. Computed tomography found bulla effusion in 13 of 46 cats with sinonasal disease (28%); this rate was significantly higher than in normal cats (1 of 18). All 13 cats with bulla effusion had fluid in the bulla but no evidence of thickening of the bulla. Bulla effusion was unilateral in 4 cats and bilateral in 9 cats. Inflammatory nasal disease and neoplasia were the most common causes of bulla effusion. Few cats had any signs of bulla effusion or otitis media. Healthy auditory canals allow for passage of gas and secretions from the middle ear to the nasopharynx with minimal resistance. The authors hypothesize that impaired auditory tube function may be involved in the pathogenesis.

COMMENTARY: Otitis media was once considered rare in cats and to almost always be associated with polyps. Development and increasing availability of computed tomography are changing this opinion. From a dermatologic perspective, primary otitis media is rare. However, findings in this study suggest that secondary otitis media is common in cats with sinonasal disease. Sinonasal disease is a common clinical problem in practice, and computed tomography is not readily available in private practice. Bulla disease could be diagnosed via routine radiography in many cases. Clients with cats that have sinonasal disease should be asked about ear disease, and a careful otoscopic examination should be part of the evaluation. *Mycoplasma* and *Bordetella* species reportedly induce otitis media in other species. Because both agents can be difficult to isolate on culture, therapy with azithromycin may not be an unreasonable treatment approach.—Karen A. Moriello, DVM, Diplomate ACVD


Human TSH in Testing for Canine Hypothyroidism

The thyroid-stimulating hormone (TSH) stimulation test is considered the most accurate test for hypothyroidism in dogs, although the bovine TSH traditionally used is no longer commercially available. These researchers evaluated use of recombinant human TSH (rhTSH) in dogs suspected of having hypothyroidism. Intravenous rhTSH was given to 64 dogs (75 µg per dog) with clinical signs of hypothyroidism. Blood samples were taken immediately before and 6 hours after injection to measure total serum thyroxine (T4) concentration. None of the dogs had adverse reactions to rhTSH. In 14 of the 64 dogs (21.9%), T4 concentrations were unchanged after TSH testing; values were normal in 35 (54.7%); and intermediate in 15 (23.4%). On the basis of serum T4 and canine TSH levels alone, 1 euthyroid dog would have been misinterpreted as hypothyroid and 1 hypothyroid dog would have been misinterpreted as euthyroid. Nine of the 15 dogs with intermediate T4 concentrations after TSH testing had received medication known to affect thyroid function before the test, and 2 of the dogs had severe nonthyroidal illness. The authors speculate that at least some of the dogs with intermediate responses to the test might have been in a subclinical hypothyroid state in which the thyroid gland was stimulated by exogenous TSH but the resulting response was lower than would be expected in a euthyroid dog. An intermediate response to this test would most likely, however, be attributed to concurrent disease or medication. Further studies would be necessary to confirm this. Still, the rhTSH test was shown to be a useful diagnostic tool for testing thyroid function in selected dogs in which hypothyroidism could not be diagnosed on the basis of serum T4 and TSH concentrations alone.

COMMENTARY: This study highlights the difficulty of diagnosing hypothyroidism in dogs. The authors previously published a paper showing similar effectiveness of the rhTSH compared to the bovine form in healthy dogs. The current paper supports the finding that rhTSH is well tolerated and may help clarify the thyroid status in a small percentage of dogs with clinical signs, in which the endogenous TSH and thyroxine levels are equivocal. However, costs of rhTSH are high, and approximately 25% of dogs still remained in the gray zone of unknown thyroid function after rhTSH stimulation. Concurrent disease or medications can lead to suppressed stimulation, thus limiting the application of the test in those situations.—Laura D. Garrett, DVM, Diplomate ACVIM (Oncology)