Testing IgA in Dogs with GI Disease

Courtesy Jörg M. Steiner

Deficiency of immunoglobulin A (IgAD) is known to occur in humans and can result in various recurrent infections as well as increased risk for chronic gastrointestinal disease. Reports indicate that IgAD also occurs in some dog breeds, including German shepherds, and clinical signs resemble those in humans. Unlike humans, however, dogs may not have serum IgA levels reflective of intestinal concentrations. A better indicator of intestinal IgA secretion in dogs might be fecal concentrations. This study reports on the development of a fecal sample collection strategy and quantification method to measure fecal IgA. Immunoglobulin A was extracted from fecal samples of 23 healthy pet dogs of various ages and breeds. An ELISA for measuring fecal IgA was established, and results were found to be sensitive, reproducible, accurate, and precise. On the basis of results from intraindividual variation in fecal IgA levels, the authors determined that a total of 4 fecal samples per dog should be analyzed, with each sample collected on 2 consecutive days with 28 days between (ie, samples collected on days 1, 2, 28, and 29). This technique should counterbalance physiologic variations that can occur in individuals. The reference range values in the study for IgA were 0.22 to 3.24 mg/g of feces. The authors concluded that the techniques in this study will allow further investigations into the possible association between low fecal IgA concentrations and signs of gastrointestinal disease in dogs. *Supported by Masterfoods, Vernon, CA*

COMMENTARY: The molecular mechanism of IgAD is not known and as yet there is no reliable diagnostic test for this disorder in dogs. Previous methods for assessing intestinal IgA secretion in this species have included obtaining intestinal biopsies. The procedures described here provide a practical, noninvasive method of quantifying fecal IgA. This may help make owners more willing to test their pets, which in turn could provide more data to evaluate a possible hereditary link to IgAD.—*Jennifer Schori, VMD*

Development of a fecal sample collection strategy for extraction and quantification of fecal immunoglobulin A in dogs. Tress U, Suchodolski JS, Williams DA, Steiner JM. ***AM J VET RES*** 67:1756-1759, 2006.