

Perinuclear Antineutrophilic Cytoplasmic Antibody and Response to Treatment in Diarrheic Dogs with Food Responsive Disease or Inflammatory Bowel Disease

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ABSTRACT

The goal of this study was to investigate the correlation between perinuclear antineutrophilic cytoplasmic antibody (pANCA) and clinical scores before and after treatment in diarrheic dogs with food-responsive disease (FRD) or inflammatory bowel disease (IBD). pANCA serology was evaluated prospectively by indirect immunofluorescence in 65 dogs with signs of gastrointestinal disease, and if positive, pANCA antibody titers were determined. Thirty-nine dogs with FRD responded to a novel diet, and 26 dogs with IBD were treated with corticosteroids. The severity of clinical signs was scored by means of a canine IBD activity index (CIBDAI). At initial examination, a significantly ($P = .002$) higher percentage of dogs were pANCA-positive in the FRD group (62%) compared with the IBD group (23%). pANCA titers were significantly higher ($P = .003$) before treatment in the FRD group (median titer 100) compared with the IBD group (median titer 1). However, there was no difference in pANCA titers between the groups after respective treatments because dogs in the IBD group had a significant increase in pANCA titer after treatment. The CIBDAI score decreased significantly ($P < .001$) after treatment in both groups (74% moderate to severe in FRD dogs before versus 8% after treatment; 85% moderate to severe in IBD dogs before versus 32% after treatment). There was no correlation between pANCA status in FRD or IBD dogs before treatment and scores for CIBDAI, endoscopy, or histopathology before or after treatment, except for the endoscopic duodenal score in dogs with FRD after treatment ($P = .03$). A positive pANCA test before therapy may aid in the diagnosis of FRD.

Abstract

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Evaluation of assays for perinuclear antineutrophilic cytoplasmic antibodies and antibodies to *Saccharomyces cerevisiae* in dogs with inflammatory bowel disease

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Objective—To evaluate the use of immunofluorescence assays for perinuclear antineutrophilic cytoplasmic antibodies (pANCAs) and antibodies to *Saccharomyces cerevisiae* (ASCAs) in dogs with inflammatory bowel disease (IBD) and assess the clinical value of these serologic markers of the disease.

Animals—39 dogs with IBD, 18 dogs with acute diarrhea, 19 dogs with chronic non-IBD-associated diarrhea, 26 healthy dogs of various breeds and age, and 22 healthy young working dogs.

Procedure—Sera obtained from the dogs in each group were added to canine granulocyte- and *Saccharomyces cerevisiae*-mounted slides for detection of pANCAs and ASCAs via immunofluorescence techniques. Sensitivity and specificity (with 95% confidence intervals [CIs]) were calculated for the group of dogs with IBD versus each of the 2 groups of healthy dogs, the group of dogs with acute diarrhea, and the group of dogs with chronic non-IBD-associated diarrhea.

Results—Among the 39 dogs with IBD, 20 yielded positive results via the pANCA assay (sensitivity, 0.51 [95% CI, 0.35 to 0.67]) and 17 yielded positive results via the ASCA assay (sensitivity, 0.44 [95% CI, 0.22 to 0.69]). The specificity of the pANCA assay in the 4 groups of non-IBD-affected dogs ranged from 0.83 (95% CI, 0.85 to 0.96) to 0.95 (95% CI, 0.72 to 1.00).

Conclusions and Clinical Relevance—Immunofluorescence assays for pANCA and ASCA appear to be useful for the detection of IBD in dogs. The pANCA immunofluorescence assay had high specificity for canine IBD, and pANCAs appear to be accurate markers of intestinal inflammation. (*Am J Vet Res* 2004;65:1279–1283)

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Clinical Assessment of Disease Activity for Canine Inflammatory Bowel Disease

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Clinical indices, consisting of gastrointestinal signs and laboratory parameters, are widely used for assessing disease activity in human inflammatory bowel disease (IBD). The development of a standardized scoring index for use in dogs with IBD would be useful in the management of clinical cases, both at diagnosis and in response to medical therapy. This review provides a synopsis of current strategies used to assess IBD activity in humans and companion animals. The clinical application of a simple scoring index (e.g., canine IBD activity index [CIBDAI]) for measurement of canine IBD activity is also reviewed.