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Food-specific serum IgE and IgG reactivity in dogs with and without skin disease: lack of correlation between laboratories.

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BACKGROUND:

Despite conflicting data on their utility and no reports on interlaboratory reproducibility, serum food-specific antibodies are commonly assayed in first-opinion canine practice.

HYPOTHESIS/OBJECTIVES:

To determine both the variability of test results between two laboratories and the frequencies and magnitudes of food reactivity in dogs of different disease status.

ANIMALS:

Sera were obtained from eight dogs with cutaneous adverse food reaction (Group A), 22 with nonfood-induced atopic dermatitis (Group B), 30 with an allergic/inflammatory phenotype (Group C), 12 with miscellaneous skin diseases (Group D) and nine healthy dogs (Group E).

METHODS:

Paired sera were submitted to two laboratories (A and B) for assays of food-specific IgE and IgG antibodies.

RESULTS:

Numbers of positive IgE and IgG tests determined by each laboratory in Groups A, B, D and E were comparable (Group C not included). Significant differences in the magnitude of IgE reactivity between groups for each allergen were seen only for lamb (Laboratory A, $P = 0.003$); lamb reactivity in Group D exceeded Group E ($P = 0.004$) but was comparable between all other groups. Agreement (kappa statistic) between the two laboratories' tests was 'moderate' for one antigen (potato IgE), 'fair' for four (corn IgE, rice IgE and IgG and soya bean IgG), 'slight' for eight (six IgE and two IgG) and 'less than chance' for the remaining six antigens (three IgE and three IgG).

CONCLUSIONS AND CLINICAL IMPORTANCE:

These laboratories' tests appear to have dubious predictive clinical utility because they neither correlate nor distinguish between dogs of different disease status.