Serological IgG Testing to Diagnose Alimentary Induced Diseases and Monitoring Efficacy of an Individual Defined Diet in Dogs

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Abstract : Background: Food-related allergies and intolerances are frequently occurring in dogs. Diagnosis and monitoring according to 'Golden Standard' of elimination efficiency are time-consuming, expensive, and requires expert clinical setting. In order to facilitate rapid and robust, quantitative testing of intolerance, and determining the individual offending foods, a serological test is implicated. Method: As we developed Medisynx IgG Human Screening Test ELISA before and the dog's immune system is most similar to humans, we were able to develop Medisynx IgG Dog Screening Test ELISA as well. In this study, 47 dogs suffering from Canine Atopic Dermatitis (CAD) and several secondary induced reactions were included to participate in serological Medisynx IgG Dog Screening Test ELISA (within < 0,02 % SD). Results were expressed as titers relative to the standard OD readings to diagnose alimentary induced diseases and monitoring the efficacy of an individual eliminating diet in dogs. Split sample analysis was performed by independently sending 2 times 3 ml serum under two unique codes. Results: The veterinarian monitored these dogs to check dog' results at least at 3, 7, 21, 49, 70 days and after period of 6 and 12 months on an individual negative diet and a positive challenge (retrospectively) at 6 months. Data of each dog were recorded in a screening form and reported that a complete recovery of all clinical manifestations was observed at or less than 70 days (between 50 and 70 days) in the majority of dogs(44 out of 47 dogs =93.6%). Conclusion: Challenge results showed a significant result of 100% in specificity as well as 100% positive predicted value. On the other hand, sensitivity was 95,7% and negative predictive value was 95,7%. In conclusion, an individual diet based on IgG ELISA in dogs provides a significant improvement of atopic dermatitis and pruritus including all other non-specific defined allergic skin reactions as erythema, itching, biting and gnawing at toes, as well as to several secondary manifestations like chronic diarrhoea, chronic constipation, otitis media, obesity, laziness or inactive behaviour, pain and muscular stiffness causing a movement disorders, excessive lacrimation, hyper behaviour, nervous behaviour and not possible to stay alone at home, anxiety, biting and aggressive behaviour and disobedience behaviour. Furthermore, we conclude that a relatively more severe systemic candidiasis, as shown by relatively higher titer (class 3 and 4 IgG reactions to Candida albicans), influence the duration of recovery from clinical manifestations in affected dogs. These findings are consistent with our preliminary human clinical studies.

Keywords : allergy, canine atopic dermatitis, CAD, food allergens, IgG-ELISA, food-incompatibility

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