Changes in mite-specific IgE and IgG levels during sublingual immunotherapy (SLIT) in dust mite-sensitive dogs with atopic dermatitis

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Abstract: Immunotherapy via sublingual administration of allergen (SLIT) is increasingly used for treatment of atopic people, particularly in Europe. We previously reported clinical response in a group of ten mite-sensitive dogs undergoing a 6-month, open pilot trial of SLIT with mite extract. After 6 months of SLIT, owner subjective evaluation indicated improvement in eight dogs, and no improvement in two dogs; the median improvement was 72.5%. Over the course of the study, median CADESI-03 scores, pruritus visual analog scale determinations, and concurrent medication usage declined significantly. Pre- and post-SLIT intradermal test scores for mite allergen varied markedly by patient; median results were not significantly different over time. Mite-specific IgE and IgG levels in serial serum samples from these dogs were assayed by ELISA in a quantitative fashion, using a positive serum as a reference standard and with results expressed in arbitrary units (AU). Over the course of 6 months of SLIT in this patient group, median Dermatophagoides farinae (DF)-specific IgE levels declined significantly from 150.2 x10^3 AU to 3.6 x10^3 AU (P<0.05). Concurrently, median DF-specific IgG levels increased from 18.5 x10^6 AU to 3923.4 x10^6 AU (P<0.05; Wilcoxon signed-rank tests). Successful immunotherapy was generally associated with development of high mite-specific IgG levels. We conclude that SLIT, in addition to producing clinical improvement in dogs, is also associated with serologic changes supporting this improvement.

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