

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

D. J. DeBoer,<sup>1</sup> M. Verbrugge,<sup>1</sup> M. Morris<sup>2</sup>

<sup>1</sup>Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, Wisconsin, USA

<sup>2</sup>Allergy Associates of La Crosse, La Crosse, Wisconsin, USA

**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  $150.2 \times 10^3$  AU to  $3.6 \times 10^3$  AU ( $P < 0.05$ ). Concurrently, median DF-specific IgG levels increased from  $18.5 \times 10^6$  AU to  $3923.4 \times 10^6$  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.

This study was supported by a grant from the Morris Family Foundation.