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The n-6 polyunsaturated fatty acid (PUFA)-rich oil intake may enhance the susceptibility to develop adverse food reactions in dogs

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The prevalence of adverse food reactions (AFR) in dogs is increasing; it is therefore important to explore novel causal pathways. Results of studies in human and mice have shown that increasing n-6 PUFA-rich oils in the diet enhances the risk to develop allergic diseases. The aims of this study were to investigate the association of AFR with vegetable oils n-6 PUFA-rich intake in dogs, with food preparations (homemade versus commercial diet or both) and with regular use of treats. Data on dietary intake of 204 privately owned dogs with skin disease were obtained from a food survey. The use of oil was recorded in 24 of 204 (11.8%) dogs included in the study, in 4 on 19 dogs with FA (21%), 2 on 10 (20%) with FA and DA, 5 on 35 (14.3%) with DA and 13 on 134 with other conditions (9.7%). The frequency of the oil consumption was significantly higher in dogs with AFR than in dogs with other diagnoses ($P < 0.05$). 62 of 204 dogs (30.1%) were fed homemade diet, 96 (47.1%) commercial diet and 46 (22.6%) both of them. No statistical difference was found between dogs that developed AFR and the others. 46 dogs of 204 (25.6%) received regularly treats. The frequency of dogs with treats was significantly higher in dogs with AFR (37.9%) than in other diseases (20%; $p < 0.05$). In conclusion, dietary vegetable oils rich in n-6 PUFA and the regular administration of treats may enhance the susceptibility to AFR in dogs.

Biography

Michael Pelst graduated as Master in Veterinary Medicine, specialization Research at Ghent University in July 2015. His master thesis focused on the effect of allergen-specific sublingual immunotherapy on the immune system of dogs and was awarded the prize for best master thesis of the specialization research 2015 by Ecuphar. Having successfully applied for a PhD grant at the Flemish Agency for Innovation by Science and Technology, he is currently working on his PhD-project at the laboratory of Veterinary Immunology which is focused on characterizing allergen-specific immune responses and homing-receptor expression by lymphocytes in dogs with allergies

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