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Antibiotic residues-related adverse food reactions in dogs fed on commercially available pet food

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In the last decades adverse food reactions were considerably increased in dogs and cats. We reported the onset of food intolerances symptoms, including otitis, diarrhea, generalized anxiety, and dermatitis, in a cohort of 8 dogs consuming commercial diets. The aim of this preliminary study is to possibly provide new insights in the idiopathic food intolerances with a particular focus on the role of or their metabolites as possible triggering factors. All dogs were supplemented with an organic chicken-based diet for 15 days. Blood biochemical parameters, kibbles composition, oxytetracycline (OTC) serum concentration were performed before and after 15 days of organic chicken-based diet supplementation. We hypothesize that a chronic intake of contaminated food, enhanced also by the presence of nanoparticles, might foster pharmacologic or idiopathic food intolerances. Biochemical analyses indicated a significant increase in the alkaline phosphatase, from 41 to 52.5 U/L, after 15 days (** $p < 0.01$), while a significant decrease in Gamma-glutamyl transferase and urea, from 9.37 to 6.25 U/L and from 32.13 \pm 8.72 to 22.13 \pm 7.8 mg/dL, respectively, was observed (* $p < 0.05$). A significant decrease in mean OTC serum concentration was also observed from 0.22 to 0.02 μ g/mL (** $p < 0.01$). We provided clinical evidence of the presence of symptoms, which may occur in dogs fed on commercially available pet food diets. Nevertheless we cannot rule out the possible combined pro-inflammatory activity exerted by nanoparticles, whose presence is almost unavoidable during the overall production process.

Biography

Alessandro Di Cerbo obtained his Bachelor's degree in Medical and Pharmaceutical Biotechnologies at University Vita-salute San Raffaele (Milan, Italy) in 2005. In 2007, he achieved the Master's degree in Medical Biotechnologies at University of Modena (Italy) and in 2011 obtained the title of PhD in Nanoscience and Nanotechnology at the same University. In 2016, he got the Specialization in Clinical Biochemistry at University "G. d'Annunzio" of Chieti (Italy). His scientific activities are highly interdisciplinary, ranging from nanotechnology to nanomedicine, microbiology, nutrition and translational medicine. He has published more than 50 papers in reputed journals.

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