

Science City Davos

Effects of Modern Life

Focusing on the health of pets

Modern life has brought many conveniences – but also more than 350,000 new chemicals. These substances are found in numerous everyday products such as cleaning agents, cosmetics, and food. They are often used without consideration of their potential health effects. The human skin and organs are covered by epithelia, specialized cell layers that function like a protective shield, preventing harmful substances or pathogens from entering the body. The “epithelial barrier theory”, developed by Prof. Cezmi Akdis, Director of the Swiss Institute of Allergy and Asthma Research (SIAF), highlights that a combination of genetic factors and harmful environmental exposures significantly promotes inflammatory reactions.

The role of pets, especially dogs and cats, has also changed considerably. Today, they are more than just companions – they are family members. They share their owners’ daily lives: breathing the same air, lying on cleaned floors, being washed with shampoos, eating from plastic bowls, and chewing on plastic toys. As a result, they are exposed to the same environmental stresses and come into contact with pollutants from cleaning agents, microplastics, and exhaust fumes just as frequently.

Chemical additives in food and pet feed

Particular attention should be paid to pet food. More and more pets are exclusively fed packaged food with a long shelf life. While owners are pleased that their pets eagerly consume this food, its ingredients should be scrutinized more closely. Studies on humans have already shown that chemical additives used to extend shelf life can significantly damage gastrointestinal cells. The flavor of the food is also no coincidence: flavor enhancers are often used, and pet food regulations are often less stringent than those for human food. In many countries, substances that are strictly regulated or even banned in human food are still permitted in pet food.

It is evident that modern lifestyles not only negatively impact human health but also that of pets. The “epithelial barrier theory” applies to pets just as it does to humans. The increase in diseases such as allergies, intolerances, and autoimmune disorders also affects four-legged companions. Therefore, pets should be included in the assessment of environmental risks. Pet diseases can also serve as models for many human diseases. In this context, it is possible to identify common points in the pathogenesis of various animal and human diseases. The International Epithelial Barrier Research Group at SIAF recently published an article in



Prof. Dr. Vet. Sena Ardiçlı, PhD, and the International Epithelial Barrier Research Group. Image: Swiss Institute of Allergy and Asthma Research.

the leading journal 'Allergy' on the effects of lifestyle changes in pets within the framework of the aforementioned concepts.

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