

indicator of environmental pollution. Radioactive Contamination: Radioactive materials can cause environmental pollution. Radioactive substances can pass from the air or water to plants and then to bees. Monitoring the radioactive contamination of honey can show environmental radiation levels. Biological Pollution: Biological substances such as genetically modified organisms (GMOs) or disease agents can also cause environmental pollution. Nectars collected by bees from flowers may contain such substances. In addition, changes in the smell and taste of honey can be used as an indicator of environmental pollution. Because environmental pollution can affect vegetation and soil, this can change the smell and taste of nectar collected by bees. Monitoring the odor and taste profile of honey can be an indicator of environmental changes. Particularly in regions where large-scale wars take place, chemical substances emitted by weapons, heavy metals and toxic substances released due to environmental destruction are transmitted to soil and water. For this reason, the extent of environmental pollution can be determined by taking honey samples from various regions and analyzing them.

**Keyword:** Honey, environmental pollution, biomarker, toxic substance, heavy metal

УДК 619:616.41:636.12:611.4/.612.119

## INFLUENCE OF ENTERAL NUTRITION ON THE INTESTINAL MICROBIOME IN DOGS WITH GASTROINTESTINAL PATHOLOGY

Suslova N.I. Shkvaria M.M. Makovska E.O.

Dnipro state agrarian and economic university, Dnipro, Ukraine

ORCID iD: 0000-0001-9500-9224

*E-mail:* Suslova@ua.fm;

**Abstract.** Gastrointestinal diseases of animals, remain an urgent problem of modern veterinary medicine and deserve special attention [1,2,3,6]. Over the past few years, there has been convincing evidence, that changes in the composition of intestinal microbiota are involved in chronic enteropathies not only in humans, but also in dogs and cats [1,2,3,4]. Besides, extraintestinal disorders (e.g. atopy) have been triggered by the interaction of the intestinal microbiota with the host's immune system. These results highlight the importance of maintaining a balanced ecosystem in the rumen.

The intestinal microbiota consists of viruses, bacteria, fungi and protozoa [4]. Recently, all microbiome research was focus on composition changes during pathological conditions [3,6], while less research has been devoted to understanding how changes in diet can affect changing microbiome functions and health in domestic animals [6]. Understanding how nutrition can influence the

composition and function of the gastrointestinal microbiome may open new opportunities to improve the health and resilience of cats and dogs, and to maintain a healthy environment for pet owners. However, there are currently few controlled clinical trials evaluating specific dietary manipulations for the prevention of gastrointestinal disease in dogs and cats.

**The purpose of the study.** How effectively possible to protect surrounding animals and their owners from the influence of pathogenic microflora through enteral nutrition and compliance with the sanitary and hygienic conditions of keeping animals with gastroenteritis, taking that fact that the components of pet food have an effect on the composition and functioning of the microbiome. Based on this, it is necessary to develop sanitary and hygienic recommendations to ensure the protection of animals and their owners from the influence of pathogenic microflora and to preserve a healthy environment with the help of enteral nutrition of dogs with gastrointestinal pathology.

**Materials and methods.** The experimental part of the studies is carried out in the conditions of a private veterinary clinic of a doctor Makovska, the city of Dnipro. The material for research is dogs aged from 2 months to 1 year with a clinical picture of gastroenteritis. The animals are in isolation, and their condition is assessed using basic clinical methods: weighing, clinical examination, rectal temperature measurement, palpation, auscultation, heart rate and respiration measurements. Clinical indicators (blood glucose, animal weight, heart rate, respiratory rate, percentage of dehydration, presence of vomiting, diarrhea, urination) are recorded every 12 hours. In addition, cultural analysis of feces and by PCR are carried out at the beginning of treatment and during the recovery period; also performed hematological and biochemical blood tests (total protein, albumin, creatinine, urea, glucose and blood electrolytes), ultrasound examination of the gastrointestinal tract.

The basis of treatment consists of infusion therapy with electrolyte solutions, correction of glucose and potassium indicators, the use of gastroprotectors and proton pump inhibitors, antibacterial therapy. As nutritional support for the animals of the research group were given a liquid veterinary balanced ration by industrial production.

12 hours after the admission of the sick animal to the hospital, the fodder mixture is given. This procedure optimizes the composition and functions of the microbiome, which allows to significantly improve the condition of sick animals.

Recently, the focus of research has shifted towards understanding how to achieve functional changes through nutrition, improve overall animal health and protect the environment. This once again indicates the need to pay significant attention to enteral nutrition of intensive care patients, especially those with diseases of the gastrointestinal tract. Animals of the control group receive feeding from the moment of the appearance of appetite.

**Results.** The main tasks of diet therapy are: elimination of the pathological process with the help of a specially balanced diet, regulation and stimulation of

the functions of various organs and metabolic processes (pathogenetic therapy), replenishment of the deficiency of macro- and microelements, vitamins and essential amino acids (replacement therapy, as a type of etiotropic). It was established that the presence of luminal nutrition contributes to the preservation of the integrity of the mucous membrane of the gastrointestinal tract and improves motility, which leads to a decrease in the frequency of vomiting [1,2,3,6]. To prevent excessive secretion of gastric acid, minimize stretching of the stomach and decrease vomiting, is recommended frequent feeding of small portions of food with a high degree of digestibility.

Since the nutritional components of pet food have an impact on the composition and function of the microbiome and on the health of the host through the microbiome in various pathological conditions of animals, with the help of enteral nutrition and proper sanitary and hygienic conditions of animals during the period of gastroenteritis disease, protection of surrounding animals and their owners from the influence of pathogenic microflora. This is of particular importance because the study of the animal microbiome and the impact of nutrition on the intestinal microflora of companion animals is relevant to human health, given the constant exchange of bacteria between humans and their pets.

**Conclusions.** It has been noted that the presence of luminal nutrition helps to maintain the integrity of the mucous membrane of the gastrointestinal tract and promotes healthier motility, which leads to a decrease in the frequency of vomiting. For dietetic feeding, it is recommended to prescribe small, frequent meals with a high degree of digestibility to prevent excessive secretion of gastric acid and to minimize distension of the stomach, which can stimulate vomiting. Therefore, the purpose of the work is directed to the development of sanitary and hygienic recommendations to ensure the protection of surrounding animals and their owners from the influence of pathogenic microflora and the preservation of a healthy environment with the help of enteral nutrition for dogs with gastrointestinal pathology.

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