

Veterinarians identify problems in cats with dysbacteriosis

Pathogens, July 2022

RUDN veterinarians studied how the intestinal microbiota in cats changes during dysbacteriosis. The patterns obtained will help to make a more accurate diagnosis and select an adequate treatment. The results are published in Pathogens. They described how the microbiota and the sensitivity of the animal to drugs change with different dysbacteriosis severity. "The gut microbiota plays an important role in the development of gastrointestinal diseases in animals. At the same time, there is practically no data on the microbiota in cats with dysbacteriosis. Our goal was a detailed analysis of the quantitative and qualitative spectrum of the microbiota in cats with intestinal dysbacteriosis of varying severity," said Irina Popova, Ph.D., researcher of the Department of Veterinary Medicine, RUDN University. It turned out that depending on the dysbacteriosis degree the composition of the microbiota changes significantly, namely, the balance between gram-positive and gram-negative bacteria changes. In healthy cats, there are almost twice as many gram-positive bacteria as gram-negative ones, and with the maximum severity of dysbacteriosis—four times less. Cats with dysbacteriosis have more streptococcal bacteria Streptococcus spp, and the more serious the disease, the more. They also found differences in the response to antimicrobial agents in four groups of cats. For example, as dysbacteriosis develops, sensitivity to the antifungal agent itraconazole sharply decreases - from 100% to 70%.

Extensive Connections of the Canine Olfactory Pathway Revealed by Tractography and Dissection

The Journal of Neuroscience, July 11th 2022



The domestic dog's olfactory sense is widely recognized as being highly sensitive with a diverse function, however, little is known about the structure of their olfactory system. Researchers have provided the first documentation that dogs' sense of smell is integrated with their vision and other unique parts of the brain, shedding new light on how dogs experience and navigate the world. The study examined a cohort of mixed sex mesaticephalic canines and used Diffusion MRI (DTI), to map connections from the olfactory bulb to other cortical regions of the brain. An extensive pathway composed of five white matter tracts connecting to the occipital lobe, cortical spinal tract, limbic system, piriform lobe and entorhinal pathway was identified. This is the first documentation of a direct connection between the olfactory bulb and occipital lobe in any species and is a step towards further understanding how the dog integrates olfactory stimuli in their cognitive function.

2022 AAHP/AAHA Antimicrobial Stewardship Guidelines

AAHA, July 2022



American Animal Hospital Association (AAHA) and the American Association of Feline Practitioners (AAFP) published The Antimicrobial Stewardship Guidelines in companion animals. The document is designed to aid practicing veterinarians in choosing appropriate antimicrobial therapy to serve their patients best and minimize the development of antimicrobial resistance and other

adverse effects. AAHA and AAFP, in their position statement, urge companion animal veterinarians to follow the five core principles of antimicrobial stewardship as defined by the AVMA: Commit to stewardship, Advocate for a system of care to prevent common diseases, Select and use antimicrobial drugs judiciously, Evaluate antimicrobial drug use practices, Educate and build expertise. The detailed guidelines are available in AAHA and FECAVA websites.

STUDY

Randomized, Controlled, Crossover trial of Prevention of Clindamycin-Induced Gastrointestinal Signs Using a Synbiotic in Healthy Research Cats (ACVIM)

Synbiotics often are prescribed to limit antibiotic-associated gastrointestinal signs (AAGS) in cats, but data to support this recommendation are lacking.

Objective - To determine whether synbiotic co-administration mitigates AAGS in healthy research cats treated with clindamycin.

Methods - A randomized, double-blinded, placebo-controlled, 2-way, 2-period, crossover study with a 6-week washout was performed in 16 cats. Each study period consisted of a 1-week baseline and a 3-week treatment period. Cats received 75 mg clindamycin with food once daily for 3 weeks, followed 1 hour later by either 2 capsules of a synbiotic or placebo. Food consumption, vomiting, fecal score, and completion of treatment were compared using repeated measures split plot or crossover designs with covariates, with $P < 0.05$ considered significant.

Results - Cats that received the synbiotic were more likely to complete treatment in period 1. Cats vomited less when receiving the synbiotic, cats had higher food intake while receiving the synbiotic.

Conclusions - Administration of a synbiotic 1 hour after clindamycin administration decreased hyporexia and vomiting in healthy cats. Additionally, significant period effects suggest that clinical benefits of synbiotic administration persist for at least 6 weeks after discontinuation, decreasing the severity of AAGS in cats that subsequently received clindamycin with placebo.

SynFOSium



Presentation:

A box having
10 strips of
10 capsules each

Dose

1 Capsule daily

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