GI EXCHANGE: Immune support for a strong start

What benefits can probiotics have for puppies and kittens?

Although puppies and kittens are born with nearly fully developed immune systems, the immune system continues to mature during the first few months of life. Gastrointestinal (GI) microflora play a critical role in this process. Probiotics fed to puppies and kittens can help them develop strong and healthy immune systems. They can also support GI tract health by minimizing the adherence and colonization of pathogenic bacteria. This helps reduce the risk of diarrhea or soft stools commonly seen in puppies and kittens.

How does *Enterococcus faecium* SF68, the probiotic in Purina Veterinary Diets® FortiFlora® Canine and Feline Nutritional Supplements, help nutritionally manage diarrhea?

SF68 has been proven to strengthen the immune system and promote normal intestinal microflora—a key factor in managing diarrhea. In one study, shelter cats with diarrhea were fed SF68 or a placebo. The percentage of cats with diarrhea lasting two days or longer was significantly lower in the probiotic group (7.6%) than in the control group (20.7%). SF68 also helps reduce variability of fecal quality in puppies and kittens.

How does SF68 support immune system health?

In another study, puppies supplemented with SF68 from weaning to 1 year of age were compared to a control group. All were vaccinated for canine distemper virus (CDV). Antibody response to the CDV vaccination was greater in SF68-supplemented puppies than in the controls. SF68-supplemented puppies also had higher levels of fecal IgA, which helps enable the gut to reduce pathogens and neutralize toxins. This response demonstrated that SF68 promotes a strong immune system, at the local (gut) level and systemic level (as demonstrated by enhanced vaccine response).1-3

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Feline Calcium Oxalate Urolithiasis: A Dietary Possibility

Changes in nutrition may be involved in the progressive increase in feline calcium oxalate (CaOx) urolithiasis, as oxalates are a product of the incomplete oxidation of dietary carbohydrate. This study examined whether a high carbohydrate diet would induce endogenous oxalate synthesis, causing increased urinary CaOx excretion and increasing risk for CaOx urolithiasis. A pilot study (n = 4 cats) established that when diet changed, CaOx excretion levels adapted and reached a steady state after 5.9 ± 0.7 days. For the experiment, 12 healthy adult female cats were first fed a high protein (HP) diet, then a high carbohydrate (HC) diet, followed by a high fat (HF) diet. Urine was collected on days 9–11 of each phase and analyzed for specific gravity, pH, urine oxalate (UOx) and urine creatinine (Ucreat) concentrations and total UOx excretion. UOx and Ucreat concentrations were significantly lower with HP compared with HC and HF. However, neither UOx excretion nor UOx:Ucreat ratio were significantly influenced by diet. Blood was collected on day 12, and plasma oxalate concentration was significantly lower when cats ate HP compared with HF. HC diets were not proved to induce endogenous oxalate synthesis in cats; possibly the metabolic pathway involved in oxalate synthesis did not reach threshold or the mechanism is more complex than proposed.

Commentary

This study attempted to discover why feline CaOx urolithiasis prevalence has recently increased. By offering 3 different diets, the researchers investigated differences in UOx excretion. HP was associated with slightly more acidic and concentrated urine, with no significant difference in UOx excretion. Several limitations were present; for instance, young adult, intact, lean, female cats were used, while CaOx stones are more common in older, overweight, neutered cats. The cats were fed experimental semipurified, wet diets rather than commercially available dry products. Further research is needed to define risk factors for CaOx urolithiasis.—Craig Datz, DVM, MS, DABVP, DACVN

Source