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Applications of probiotic administration in prevention and therapy of small animal diseases

Marcella D. Ridgway
University of Illinois College of Veterinary Medicine, USA

Abstract

Probiotics are live microorganisms administered to provide a health benefit to the recipient. They are usually administered via fortified food products or nutritional supplements and dosing is currently empirical. Though there is not yet sufficient basis for specific therapeutic claims for probiotics, there is evidence that probiotic use can result in improved GI and immune system function and growing evidence of therapeutic benefits in diverse disease conditions including allergy, diabetes mellitus, obesity, and mental disorders. In veterinary medicine, probiotics have been shown to be beneficial in managing acute diarrhea in dogs and cats and chronic nonspecific or diet-related diarrhea in dogs; lowering cholesterol levels in dogs; reducing inflammatory marker levels in atopic dogs; improving growth and vaccine responses in puppies; and reducing severity of clinical signs associated with feline herpesvirus infection in cats. Probiotics are generally considered to be safe although a few human cases of probiotic-associated complications, such as infection or sepsis, have been reported, usually in individuals with compromised immune systems. There are no reports of probiotic-associated complications in small animal patients. Lack of standardization in available probiotic products remains a problem. Studies of probiotic products marketed for small animals showed only 3 products to be accurately labeled and contain viable organisms of the type and quantity indicated: Proviable-DC (Nutramax, nutramaxlabs.com), FortiFlora (Purina, purina.com) and Prostora (Iams, iams.com). Much work still needs to be done to define medical indications and dosing but probiotics show much promise for health applications in small companion animals.

Biography

Marcella Ridgway received her Veterinariae Medicinae Doctoris degree at the University of Pennsylvania School of Veterinary Medicine and completed a clinical internship in Small Animal Medicine and Surgery and residency in Small Animal Internal Medicine at the University of Illinois College of Veterinary Medicine. She received her Master of Science degree in Veterinary Clinical Medicine from the University of Illinois in 1997 and joined the faculty of the College of Veterinary Medicine that same year. She achieved American College of Veterinary Internal Medicine board certification in Small Animal Internal Medicine in 2002. Her research interests center around veterinary clinical gastroenterology and small animal infectious disease, focusing on investigation of methods to improve diagnosis and optimize therapeutic outcomes.