Case report

Providencia alcalifaciens as the presumptive cause of diarrhoea in dog

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Abstract

A case of diarrhoea in a four-month-old golden retriever is described. On the basis of anamnesis and bacteriological examination, the diagnosis of bacterial enteritis due to Providencia alcalifaciens was reached. Although there are contradictory opinions about the role of this organism as the enteric pathogen, it seems that Providencia alcalifaciens should also be taken into consideration in the routine bacteriological diagnostics of diarrhoea in dogs.

Key words: Providencia alcalifaciens, diarrhoea, dog

Introduction

Among over 100 bacterial species physiologically colonizing the gastrointestinal tract in dogs, only few are believed to be a cause of diarrhoea. Known bacterial enteropathogens include Salmonella enterica, Shigella spp., Campylobacter jejuni and enteropathic Escherichia coli. In addition, there is a group of toxigenic organisms such as Clostridium perfringens, C. difficile and enterotoxigenic strains of E. coli (ETEC) which produce toxins that disrupt fluid flux across the intestinal mucosa (Hall et al. 2005). However, it is often difficult to estimate unequivocally the role of these microorganisms in the pathological process, as they can be present in dogs without clinical signs (for example, there is a high incidence of subclinical carriers of Salmonella and Campylobacter in cats and dogs). Moreover, bacteria constitute only one of many factors (viral infections, stress, malnutrition, intestinal immunodeficiency and others), that may disturb the normal intestinal microflora relationships (Greene 1984). In practice, an infectious diarrhoea is diagnosed on the basis of faecal culture, faecal cytology and the detection of viral antigens. However, the faecal cultures often yield ambiguous results – finding a potentially pathogenic organism is not the same as identifying the cause of diarrhoea, and disturbances in the composition of microflora will not be detected unless quantitative cultures are performed. The identification of enterotoxigenic strains requires specific diagnostic techniques that are not routinely available. Even with pathogenic E. coli, the identification of genes encoding virulence determinants by PCR does not necessarily indicate that the organism is responsible for the clinical signs (Hall et al. 2005).