Detection of gastric *Helicobacter* spp. in stool samples of dogs with gastritis

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Abstract

The aim of this study was to determine the prevalence and identify the species of gastric *Helicobacter* in the stool of dogs with gastritis. The study was carried out on thirty dogs of different breeds, of both genders and of various ages, diagnosed with gastritis. *Helicobacter* spp. was detected in stool samples using the nested-PCR method. *Helicobacter* bacteria were identified in stool samples from seven (23.3%) dogs. *Helicobacter heilmannii* was found to be the most common species of gastric *Helicobacter*. *Helicobacter salomonis* was identified much less frequently, while *Helicobacter felis*, *Helicobacter pylori* and *Helicobacter bizzozeronii* were not detected in any of the samples.

Key words: *Helicobacter* spp., faeces, dog, PCR

Introduction

*Helicobacter* bacteria may colonize the gastrointestinal mucosa of humans, domestic animals (such as the dog, cat, pig, ferret and poultry) and wild animals (such as the cheetah or monkey) (Haesebrouck et al. 2009, Casagrande Proietti et al. 2010, Abdi et al. 2014, Hong et al. 2015). In human medicine, *Helicobacter pylori* has been confirmed as contributing to the development of chronic inflammation of the gastric mucosa as well as gastric and duodenal ulcers. In 1994, the International Agency for Research on Cancer (IARC) qualified this bacterium as a class I risk for the development of gastric cancer and gastric mucosa associated lymphoid tissue (MALT) lymphoma (Sjunneson et al. 2003, Falsafi et al. 2009, Smith et al. 2012).


Depending on the place of colonization of the gastrointestinal tract, *Helicobacter* spp. is divided into gastric and enterohepatic species. The first group includes species that colonize the upper gastrointestinal tract (stomach and duodenum), such as *Helicobacter pylori*, *Helicobacter heilmannii*, *Helicobacter felis*, *Helicobacter salomonis*, *Helicobacter bizzozeronii*, *Helicobacter suis* and *Helicobacter mustelae*. The second group contains species found in the lower gastrointestinal tract (ileum, colon, rectum and liver – bile ducts), such as *Helicobacter canis*, *Helicobacter bilis*, *Helicobacter rappini*, *Helicobacter hepaticus*, *Heli-