IN VITRO ANTIMICROBIAL RESISTANCE OF INTESTINAL *ESCHERICHIA COLI* AND ENTEROCOCCI IN CLINICALLY HEALTHY DOGS IN ESTONIA

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Abstract. The aim of this study was to estimate the antimicrobial resistance of intestinal *Escherichia coli* and enterococci and identify the risk factors that are associated with resistance of enteric microflora in clinically healthy dogs.

Fecal samples were collected from 86 clinically healthy dogs. Antibacterial susceptibility of *E. coli* and enterococci was determined using the disc diffusion assay on Mueller–Hinton agar.

E. coli was isolated in 68 of 86 (79.1 %) fecal samples, and *Enterococcus spp*. was isolated in 66 (76.7 %) cases. The resistance to at least one antimicrobial agent was found among 10.3 % (n = 7) of *E. coli* and 60.6 % (n = 40) of *Enterococcus* spp. isolates. No cefotaxime resistant *E. coli* and vancomycin resistant enterococci were found. The isolated enterococci were resistant to tetracycline (45.5 %) and ciprofloxacin (21. 2 %). Previous antibiotic treatment, dog age, bodyweight, living environment and travelling were not associated with the resistance of *E. coli* and enterococci.

This was the first study addressed to the issue of the resistance of indicator bacteria in dogs in Estonia. Although significant resistance to antibiotics was not detected and suspected risk factors did not influence the antimicrobial resistance, the potential transmission of resistant bacteria between animals and humans needs to be considered and investigated in future studies.

Keywords: antimicrobial resistance, intestinal microflora, dog