

OCCURRENCE OF ANTIMICROBIAL-RESISTANT *ESCHERICHIA COLI* FROM DIFFERENT BODY SITES IN A DIVERSIFIED HEALTHY CAT POPULATION.

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Abstract

Escherichia coli have been targeted for studying antimicrobial resistance in companion animals because of opportunistic infections and as a surrogate for resistance patterns in zoonotic organisms. The aim of this study is to investigate the antimicrobial resistance in *E. coli* isolated from different body sites in healthy cats and to identify significant differences between three cat populations whose owners live near human health center (HHC), near animal health center (AHC) and without proximity (WP) with these places in Ituverava City, São Paulo State. From January to December, 2014, 65 healthy cats from different populations HHC (23 cats); AHC (17 cats) and WP (25 cats) were sampled. *E. coli* was isolated from swabs of oral, rectal, genital and abdomen areas. Antimicrobial susceptibility testing against 17 antimicrobials was performed using the disk diffusion method. Although rectal swabs yielded the most *E. coli* (159/231; 68.8%), the organism was distributed evenly among the other body sites sampled. *E. coli* isolates from cats exhibited resistance to all antimicrobials tested with the exception of amoxicillin-clavulanic acid and norfloxacin. Resistance to ampicillin, cephalothin, cefazolin and tetracycline were the most prevalent resistance phenotypes detected among the three different cat populations examined. Among the resistant isolates, 61 resistance patterns were observed, where 53 patterns represented multidrug resistance (MDR; resistance ≥ 2 antimicrobial classes). A similarity of antimicrobial resistance among *E. coli* isolates was found between rectal and genital areas and between oral and abdomen areas. Healthy cats can harbour antimicrobial resistant *E. coli* on body sites that routinely come in contact with human handlers and these strains were found in the three cat populations' examined, what increases the risk of dissemination of MDR strains from cats to humans.

Keywords: *Escherichia coli*, cat, companion animal, antimicrobial resistance, MDR.

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