TITLE: IDENTIFICATION AND PROFILE OF RESISTANCE OF URINARY TRACT INFECTION-CAUSING MICROORGANISMS IN SMALL ANIMALS PRESENTED TO THE VETERINARY HOSPITAL OF THE UNIVERSIDADE FEDERAL DO PARANÁ - PALOTINA

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ABSTRACT:

Urinary tract infection (UTI) is one of the most commonly identified diseases in small animals. The indiscriminate use of antibiotics to treat UTI based on clinical examination of suspect animals, often without a proper microbial identification of the infectious agent and the effectiveness of antibiotics against it, has contributed to the development of microorganism resistance to antimicrobial agents commonly used in veterinary practice. The goal of this study was to analyze 53 urine samples from 12 cats (22.6%) and 41 dogs (77.36%) with clinical suspicion of UTI, presented to the Veterinary Hospital of the Universidade Federal do Paraná - Palotina from April 2016 to April 2017. Microbial identification was performed according to the methodology described in the Manual de Microbiologia Clínica para o Controle de Infecção Relacionada à Assistência à Saúde, Módulo 6: Detecção e identificação de bactérias de importância médica da Agência Nacional de Vigilância Sanitária – Brasília, 2013. After the identification, cultures were submitted to antibiogram according to the recommendations of the manual Clinical & Laboratory Standards Institute, 2011. UTI causing agents were identified in 20 analyzed samples, the most commonly found microorganisms identified were *Escherichia coli, Enterobacter* spp. *Proteus* spp., *Pseudomonas* spp., *Staphylococcus* spp. *Streptococaceae* and *Micrococcus* spp. adding up to 19 Gram negative and 6 Gram positive microorganisms. Seven classes of antibiotics were tested, including β-Lactams, Macrolides, Quinolones, Tetracyclines, Fluoroquinolones, Aminoglycosides and Folate Inhibitors. 52.6% of the identified Gram-negative bacteria showed resistance to the tetracyclines, fluoroquinolones and Folate inhibitors. Regarding the Gram-positive microorganisms, a higher resistance to β-lactam antimicrobial agents were observed, up to 66.7% of the group. The results of this study confirms the importance of performing tests to identify de microorganisms and determine its antimicrobial susceptibility in cases of UTI in order to prescribe effective and prevent or minimize the selection of resistant bacteria to antimicrobials routinely used in veterinary practice.

Keywords: antimicrobial resistance, microorganisms, urinary tract infection