TITLE: ANTIMICROBIAL DRUGS WITH BETTER EFFICACY AGAINST ETIOLOGICAL AGENTS ISOLATED FROM URINE, SKIN, AND EAR SAMPLES FROM DOMESTIC ANIMALS: AN *IN VITRO* ANALYSIS

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ABSTRACT:

The bacterial disease diagnostic laboratory in the Federal District of Brazil received 29 different types of samples from 12 different animal species. Amongst a total of 997 samples with positive cultures, the majority were from skin (26.7%), ear (24.7%), and urine (21.8%), mostly from dogs. Bacteria isolated from these samples were identified and tested using the disk diffusion method coupled with the log-linear statistical model. Of all bacteria isolated from skin samples, 71.4% were Gram-positive and 28.6% were Gram-negative. Both groups showed a higher frequency of amikacin sensitive bacteria. Gram-positive bacteria showed more sensitivity to nitrofurantoin, amoxicillin + clavulanic acid and cephalotin; Gram-negative bacteria showed more sensitivity to amikacin, neomycin and gentamicin. Among the bacteria isolated from ear samples, 73.5% were Gram-positive and 26.5% were Gram-negative. Both groups showed higher sensitivity to gentamicin and amikacin. Gram-positive bacteria showed more sensitivity to amoxicillin + clavulanic acid, nitrofurantoin and doxycicline, whereas Gram-negative bacteria showed increased sensitivity to gentamicin and amikacin. Among all bacteria isolate from urine samples, 32.3% were Gram-positive and 67.7% were Gram-negative. Both groups showed higher sensitivity to gentamicin. Gram-positive bacteria showed higher sensitivity to nitrofurantoin and amoxicillin + clavulanic acid, whereas Gram-negative showed increased sensitivity to amikacin and gentamicin. The Gram-positive species more prevalently found among all three samples was *Staphylococcus intermedius* (31.7%), showing higher sensitivity to cephalexin and gentamicin (ear samples) and nitrofurantoin and amoxicillin + clavulanic acid (skin and urine samples). The most prevalent Gram-negative species found in skin and urine samples was *Escherichia coli* (30.4%), which showed higher sensitivity to gentamicin and amoxicillin + clavulanic acid; lastly, the Gram-negative more frequently found in ear samples was *Proteus mirabilis* (53.1%), which showed higher sensitivity to gentamicin and amikacin. The majority of antimicrobial treatments are done without the support of culture and antibiogram. This abstract reports the main bacterial species isolated from skin, urine and external auditory canal, as well as their susceptibility to antimicrobial drugs used in veterinary practice.

Keywords: antibiotics, infection, susceptibility, otitis, dermatitis, cystitis

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