

RETROSPECTIVE STUDY OF MULTIPLE ANTIMICROBIAL RESISTANCE IN CLINICAL SAMPLES

(ESTUDO RETROSPECTIVO DE RESISTÊNCIA MÚLTIPLA A ANTIMICROBIANOS EM
AMOSTRAS CLÍNICAS)

L. G. CORONEL^{1*}, R. A. P. SFACIOTTE², J. T. BORDIN³, V. K. C. VIGNOTO⁴, S. R.
WOSIACKI⁵

Bacteriological studies are tools used to determine trends in antimicrobial susceptibility of bacteria and to investigate the occurrence of multiresistant strains that may result from cross-transmission between humans and animals. Constant monitoring of bacterial resistance profile is essential, for it varies with time and differs from place to place (Siqueira et al., 2008; ISHII et al., 2011). The multiple antibiotic resistance index (MAR Index) is the ratio between the number of antimicrobials to which the isolate was resistant and the total number tested, values greater than or equal to 0.2 indicate multiple resistance (KRUMPERMAN, 1983). This study aims to determine the multiple-antibiotic resistance index as an alert to the risk of emerging multidrug-resistant strains. The 109 samples were collected from clinical cases seen at the Hospital Veterinário of the Universidade Estadual de Maringá, of which: *Staphylococcus* spp. (60); *E. coli* (14); Gram-negative (12); *Streptococcus* spp. (6); *Proteus* spp. (5); *Providencia* spp. (4); *Pseudomonas aeruginosa* (3); *Enterobacter* spp. (3); and *Serratia* spp. (2). Antibiotic resistance profile was determined according to the standards recommended by the Clinical and Laboratory Standards Veterinary Institute (CLSI, 2008) for disk diffusion according to the bacterial genus. The results showed that 72.5% of the samples had MAR index greater than or equal to 0.2, indicating multiple resistance. Of the 43 Gram-negative samples and 66 Gram-positive samples, 74.4% and 72.2%, respectively, were multidrug resistant. These values are relatively close to the results of Arias et al., 2008, where 100% of Gram-negative and 83.3% of Gram-positive isolates displayed MAR index values greater than 0.2. Therefore, it is necessary to perform tests to identify the bacteria and their antimicrobial sensitivity to avoid the emergence of early resistance of potentially pathogenic microorganisms.

1-Acadêmico de Medicina Veterinária da Universidade Estadual de Maringá, e-mail: lincolnrcoronel@gmail.com .2- Mestrando em Ciência Animal da Universidade Federal do Paraná setor Palotina. 3 - Médica Veterinária Residente de Microbiologia e Doenças Infecciosas Animal da Universidade Estadual de Maringá. 4- Técnica e Auxiliar do Laboratório de Microbiologia Animal da Universidade Estadual de Maringá. 5 - Professora Doutora da Universidade Estadual de Maringá.