

**MULTIPLE ANTIMICROBIAL RESISTANCE IN *Staphylococcus* spp. AND  
DETECTION OF METHICILLIN RESISTANT ISOLATES**

*(RESISTÊNCIA MULTIPLA A ANTIMICROBIANOS EM Staphylococcus spp. E DETECÇÃO  
DE AMOSTRAS METICILINA RESISTENTES)*

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The recent decades have seen the emergence of antibiotic resistant microorganisms, among which stands out the methicillin-resistant *Staphylococcus* spp. (MRS). These strains are not commonly reported in animals; however, in recent years, there are reports of increasing cases of infections in domestic animals (RICH et al., 2005; MIDDLETON et al., 2005). This study aimed to identify MRS isolates and check the index of multiple antimicrobial resistance (MAR). The samples were obtained from clinical cases seen at the Veterinary Hospital of the Universidade Estadual de Maringá, where 48 strains of *Staphylococcus* spp. were screened by disk diffusion with oxacillin and cefoxitin. The profile of antibiotic resistance was performed according to the standards recommended by the veterinarian CLSI (2008) for disk diffusion with 27 antimicrobials. The MAR index is determined by the ratio of the number of antibiotic resistant by the total tested, considering values equal to or greater than 0.2 as indicative of multiple resistance (KRUMPERMAN, 1983). Of the 48 samples, 29 (60.4%) were resistant to oxacillin while 26 were also resistant to cefoxitin, which indicates MRS positive samples. These rates were higher than the 33.8% reported by Coelho et al., 2007. Of the 29 oxacillin-resistant samples, 27 (93.1%) had MAR index greater than or equal to 0.2 (between 0.26 and 0.8) since oxacillin-resistant strains tend to be resistant to other classes of antibiotics. On the other hand, of the 19 samples sensitive to oxacillin and cefoxitin disks, only 3 (15.8 %) displayed MAR index greater than or equal to 0.2 (from 0.32 to 0.56). Misuse of antibiotics associated with the natural selection of organisms probably resulted in the resistance phenomenon, both in human and in veterinary medicine, which shows the importance of controlling antimicrobial agents once high rates of resistance by the microorganisms are determined.

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