

## DISTRIBUTION AND PREVALENCE OF MULTI-DRUG-RESISTANT STAPHYLOCOCCUS IN INFECTED DOGS AT UFMG VETERINARY HOSPITAL

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### RESUMO

Staphylococcus is a genus of gram-positive bacteria, with more than 40 distinct species, which belongs to the normal mammalian skin microbiota. Despite the presence in the microbiota, these species are associated with several infectious in dogs, such as pyoderma, otitis, genitourinary tract infections and surgical wounds. In addition to the capacity to infect different tissues, this genus stands out for its easy acquisition and transmission of antimicrobial resistance genes. This resistance occurs mainly due to acquisition of the *mecA* gene, present in a specific mobile genetic element, namely SCCmec. This gene can be shared among several species of this bacterial genus and allows simultaneous resistance to several classes of antimicrobials, including all beta-lactams. Studies have reported the emergence of multi-drug-resistant Staphylococcus (MRS) in dogs, but few studies have investigated the frequency of this pathogen at different sites of infection. In addition, the role of companion animals in the dynamics of human MRS transmission has been questioned. Thus, this study aimed to evaluate the frequency of MRS in dogs with staphylococcal infections treated at the UFMG Veterinary Hospital. During 24 months of study, 71 strains of Staphylococcus sp. were obtained, from these, 23 (32.3%) were skin infection, 16 (22.5%) genitourinary tract infections, 16 (22.5%) otitis, 11 (15.4%) surgical wound and five (7%) from other sites. All strains were cultivated on Mannitol salt agar and submitted to the MALDI-TOF technique for identification. Then, the presence of the *mecA* gene was screened by PCR. Positive samples for the *mecA* gene were defined as multidrug resistant (resistance to three or more classes). The most frequent staphylococcal species was *S. pseudintermedius* (77%), followed by *S. schleiferi* (12.7%) and *S. aureus* (2.8%). Among all isolates, 18 (25.4%) were multiresistant. Evaluating the frequency of MRS per site, a high occurrence was observed at the surgical wound site (54.5% -  $p < 0.05$ ), followed by otitis (25%), skin infections (21.7%) and TGU (6.3%). It was concluded that, among the tested sites, isolated from surgical wounds presents higher frequency of MRS

**PALAVRAS-CHAVE:** antimicrobial resistance, *mecA*, nosocomial infection, *S. pseudintermedius*

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