

SENSITIVITY OF BIOFILMS OF *Staphylococcus aureus* FROM MASTITIS CASES AND MILKING ENVIRONMENT

(SENSIBILIDADE DE BIOFILMES DE Staphylococcus aureus ORIUNDOS DE CASOS DE MASTITE E AMBIENTE DE ORDENHA)

L. G. S. CHAGAS^{1*}, P. C. MELO², G. B. RAMOS³, A. M. C. LIMA-RIBEIRO⁴

The prevalence of mastitis transmitted by *Staphylococcus aureus* in dairy herds is due to its high infectivity rate associated with virulence factors that give the micro-organism the ability to settle in the breast. This study aimed to evaluate the sensitivity and resistance of *Staphylococcus aureus* strains capable of producing biofilms in isolates from cases of bovine mastitis and milking environment. We evaluated 32 strains, 28 strains isolated from milk of cows with mastitis, two isolated from vacuum tubes, one isolated from the milk hose and another from the milk of the expansion tank. After isolation and characterization of strains such as *Staphylococcus aureus*, tests were performed to evaluate biofilms production capacity using the microplate test, and the susceptibility profile and resistance of strains using the biofilm adhesion model against the antimicrobial cephalexin at concentrations of 30 and 100 mg/mL for 12 hours of contact time of the bacteria with the antimicrobial. The results showed that after production of biofilms of 32 strains, 2 (6.25%) were resistant to cephalexin concentration of 30 mg while 8 (25.00%) were resistant at the concentration of 100 mg. The high concentration of cephalexin rendered ineffective the antimicrobial penetration by the biofilm matrix hindering its performance; it is known that when the bacteria are in biofilms they become more resistant than in the free form. It is concluded that it is important to make a correct assessment of the use and concentration of antimicrobials for the appropriate treatment of infections, particularly of staphylococcal mastitis.

1. Médica Veterinária, Mestranda do Programa de Pós-Graduação em Ciências Veterinárias da Faculdade de Medicina Veterinária (FAMEV) da Universidade Federal de Uberlândia (UFU). Email: lauravetufu@gmail.com

2. Professora Adjunta em Doenças Infecciosas e Parasitárias da Universidade Estadual de Santa Cruz (UESC)

3. Médica Veterinária, Residentes do Programa de Residência Uniprofissional da UFU/MEC

3. Professora Adjunta em Doenças Bacterianas FAMEV/UFU