

TITLE: EFFECT OF ESTITIC ACID AS ANTIMICROBIAL COMPOUND AND ANTIBIOFILME ON ISOLATES OF *Staphylococcus* spp.

AUTHORS: MARINS JUNIOR, E.C.¹; CELESTINO, R.E.F.¹; SOUZA, R.F.S.¹; COSTA, M.M.¹

INSTITUTION: 1. UNIVERSIDADE FEDERAL DO VALE DO SÃO FRANCISCO – UNIVASF (RODOVIA BR 407, LOTE 543 PROJETO DE IRRIGAÇÃO NILO COELHO, S/N, CEP 56300-000, PETROLINA, PERNAMBUCO, BRASIL).

ABSTRACT:

For many people, dogs and cats are no longer just pets, but family members. Therefore, the care with them has increased and as a consequence the demand by veterinarians. Skin problems are more prominent, since it is a easiest condition to be identified by owners. The most frequent causes of skin diseases are infections of bacterial origin, mainly by *Staphylococcus* spp. In the treatment, antibiotics are adopted, however the search for new therapeutic alternatives is important as it provides clinicians with other treatment options for the animals. Recent studies on lichens have advanced significantly showing that their compounds have antimicrobial potential, among other functions. In this way, the objective of this work was to evaluate the antimicrobial potential and antibiofilm in vitro of the esthetic acid on *Staphylococcus* spp. isolated from the skin of dogs and cats. Eight isolates of *Staphylococcus* spp. and two reference strains, ATCC's 25923 and 12228 were selected for the assays. The minimum inhibitory concentration (MIC) and minimum bacterial concentration (MBC) were determined from the microdilution method in broth, where they ranged from 150; 75; 37,5; 18,75; 9,37 µg / mL. Where the results were in the range of 37.5µg / mL to 150.0 µg / mL. The quantification of the biofilm produced by the isolates was performed by the microplate adhesion test. Antibiofilm activity of esthetic acid was also evaluated. Three isolates of *Staphylococcus* spp. were characterized as strong biofilm producers and 5 moderate; which were reduced to moderate and weak, respectively by interference test. To date, it is possible to verify that the esthetic acid presents good bactericidal potential against isolates of *Staphylococcus* spp. and in the presence of the test substance, it was observed that the molecules interfered with the formation state of the *Staphylococcus* spp. biofilm, leaving a state of strong producer to moderate or weak.

Keywords: Antimicrobial resistance. Companion animal. Liquids. Pyodermatites.

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