



BACTERIAL DISEASES

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ANTIBACTERIAL ACTIVITY OF RHODOMYRTONE AGAINST *STREPTOCOCCUS SUI*S

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The major pig pathogen *Streptococcus suis* is considered a zoonotic agent that causes severe infections in humans. Currently, higher level of resistance to different antimicrobials has been detected and natural products could be an alternative to the control of this pathogen. Rhodomyrtone, a natural compound extracted from *Rhodomyrtus tomentosa*, displays potent antimicrobial activity against a wide range of Gram-positive bacteria. The objective of this work was to analyze its antimicrobial activity against *S. suis* strains obtained from pigs and humans.

Material & Methods

The broth microdilution method, according to CLSI, was performed to determine the Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) of Rhodomyrtone (0.03125-64 µg/mL) against 60 *S. suis* strains, obtained from diseased and healthy pigs (n=54) and diseased humans (n=6). MIC_{50,90} and MBC_{50,90} were determined and the bactericidal power (rate MBC₅₀ and MBC₉₀ / MIC₅₀ and MIC₉₀) was calculated (bactericide effect was considered with rate <4). All the assays were carried out in triplicate.

Results

The MIC and MBC values of Rhodomyrtone against pigs isolates were similar (MIC, 1-16 µg/mL, MBC 4-64 µg/mL) than human strains (MIC values of 4 to 16 µg/mL and MBC 32 to 64 µg/mL). The values of MIC₅₀ (8 µg/mL), MBC₅₀ (16 µg/mL), MIC₉₀ (16 µg/mL), MBC₉₀ (32 µg/mL) and the bactericidal power (rate_{50 and 90} =2) showed a good activity against *S. suis*.

Discussion & Conclusion

The MIC and MBC values obtained against *S. suis* were higher than those obtained for other Gram positive pathogens, but not exceed the toxicity limits of this product. Rhodomyrtone has shown a good antimicrobial activity, and may be a promising alternative for the control of diseases caused by *S. suis* in human and veterinary medicine.