

ANTIMICROBIAL ACTIVITY OF POMEGRANATE EXTRACT AGAINST CANINE SKIN PATHOGENS.

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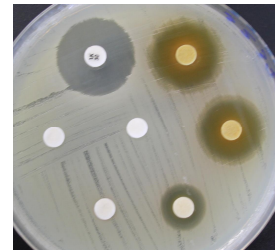
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BACKGROUND

In recent years the increasing antibiotic resistances, have lead to a high interest in antimicrobial activity of natural compounds. Punicalagins, active bioflavonoids present in pomegranate, have been shown to exert antimicrobial¹⁻³, anti-oxidant⁴ and anti-inflammatory⁵⁻⁷ effects.

THE MAIN OBJECTIVE OF THIS STUDY

was to investigate the antimicrobial properties of pomegranate extract against the most common canine skin pathogens (*Malassezia spp.* and *Staphylococcus spp.*) by determining the minimum inhibitory concentration (MIC).



MATERIAL AND METHODS

Malassezia, sensitive and methicillin-resistant *Staphylococcus* isolates (n=10 for each microorganism) were obtained from dogs with yeast overgrowth or superficial pyoderma. Antibiograms from *Staphylococcus* isolates were performed in order to determine antibiotic resistances.

Antimicrobial activity of pomegranate was assessed with Kirby Bauer agar diffusion technique. Pomegranate (50 mg/ml) impregnated disks were deposited onto TSA (*Staphylococcus*) and Sabouraud agar (*Malassezia*) plates inoculated with microorganism suspensions (0.5×10^5 CFU/mL).

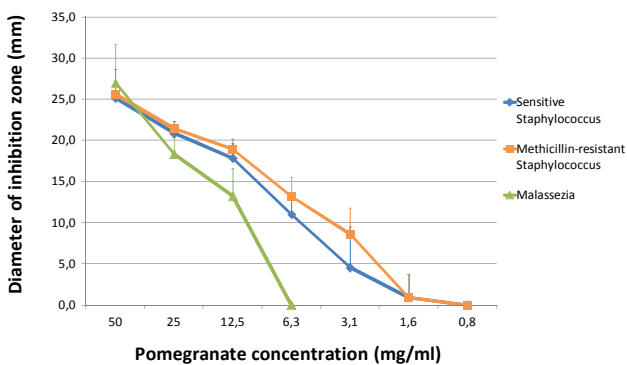
Afterwards, in order to establish the MIC, impregnated disks with pomegranate serial dilutions, ranging from 50 to 0.1 mg/mL at pH 5.5, were tested by the Kirby-Bauer technique.

Microorganism suspensions were inoculated at the same concentration than the previous test and MIC was obtained after 30 hours of incubation.

Differences between means were analyzed by ANOVA and Tukey's multiple comparison post-hoc tests. Amikacin disks (30 µg/disk) were used as positive control for *Staphylococcus* isolates and ringer lactate impregnated disks as negative control for each test.

RESULTS

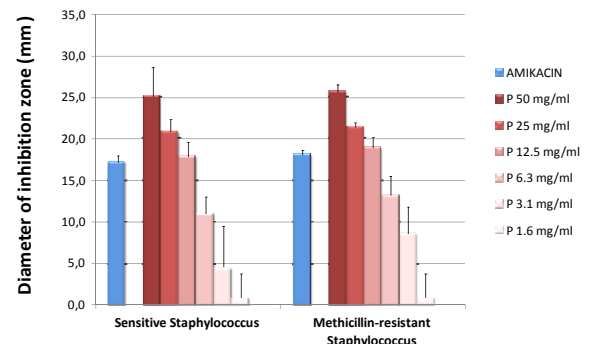
POMEGRANATE GROWTH INHIBITION



MICROORGANISM	MIC* (mg/ml)
Sensitive <i>Staphylococcus spp</i>	4.8 ± 1.9 ^a
Methicillin-resistant <i>Staphylococcus spp</i>	3.3 ± 1.2 ^a
<i>Malassezia spp</i>	12.5 ± 0.0 ^b

* Mean ± SD, N=10

POMEGRANATE STAPHYLOCOCCUS GROWTH INHIBITION COMPARED WITH AMIKACIN



CONCLUSIONS:

Pomegranate extract showed a concentration related antimicrobial effect against the most common canine skin pathogens useful for the treatment and/or prevention of skin infections.

Pomegranate may represent a new strategy to reduce antibiotic treatments in recurrent pyoderma and *Malassezia* dermatitis.

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