

Antibacterial Effects of *Garcinia mangostana* on Canine Superficial Pyoderma Pathogen, *Staphylococcus pseudintermedius*

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Abstract : Introduction: Discarded pericarp of mangosteen (*Garcinia mangostana*) is a benefit to be developed as veterinary phytopharmaceutical products since it made up of abundance pharmacological active compounds. The active compounds of mangosteen pericarp not only act as an antihistamine, an anti-inflammatory, heart disease and HIV therapeutic substances but also act as antibacterial and antifungal agents. Aim: This study was an in vitro procedural attempt to determine the antibacterial effects of mangosteen pericarp 95% ethanol extract on the main causative pathogen of canine superficial pyoderma, *Staphylococcus pseudintermedius*. Methods: *S. pseudintermedius* were collected from various sites of the skin of canine superficial pyoderma dogs and were revived and lawn cultured. The *S. pseudintermedius* growth inhibition study was determined by disc diffusion technique, the mangosteen pericarp crude extracted was dissolved in 3 types of solvents (95% ethanol, 2% DMSO and distilled water, respectively). The micro broth dilution technique was used for determining both minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) values. Statistical analysis was done by calculating the mean of the zones of inhibition of tested microorganisms. Results: *S. pseudintermedius* growth inhibition study showed that the inhibition efficacy of 95% ethanol was greater than the inhibition efficacy of 2% DMSO and distilled water (9.10 ± 0.18 mm, 6.95 ± 0.60 mm and 6.80 ± 0.18 mm, respectively). The MIC value was 125 $\mu\text{g/ml}$ and the MBC value was 1 mg/ml. Conclusion: Mangosteen pericarp extract dissolved with 95% ethanol showed the highest zone of inhibition against the tested microorganisms. The MIC value was 125 $\mu\text{g/ml}$ and the MBC value was 1 mg/ml which suggests its potent antibacterial action against *S. pseudintermedius*. However, further analytical studies are needed to isolate the key molecules of mangosteen pericarp for higher effect on canine superficial pyoderma microorganism therapeutic products.

Keywords : mangosteen, *Garcinia mangostana*, *Staphylococcus pseudintermedius*, canine superficial pyoderma, in vitro study

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