

Effect of Crude Ethanolic Extract of Mangosteen (*Garcinia mangostana* Linn.) on Intestinal SIgA and Bacterial Colonies in Intestine, Liver, and Spleen in Typhoid Mice Model

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Abstract : Typhoid fever, is a systemic infection caused by *Salmonella enterica* serotype Typhi (*S. typhi*) due to an invasion of intestine and other organs including liver and spleen by *S. typhimurium*, SIgA has been implicated in the removal of immune complexes, and in the neutralization of intracellular viruses *Garcinia mangostana* Linn is a tropical medicinal plant in Asia, its fruit pericarps, are nature's most abundant sources of xanthenes, which help to maintain intestinal health and immunomodulation effect. This study used 24 mice divided into 6 groups, including control positive (infected with *S. typhimurium*), control negative (without infection), T0 (mice administrated with crude extract of mangosteen pericarp 40mg/ml), T1, T2 and T3 (treatment with 20 mg/ml, 40 mg/ml and 60 mg/ml of crude extract mangosteen pericarp). ELISA was used to measure sIgA level and culture was used to measure the bacterial colonies in intestine, liver and spleen. Result showed that the sIgA level increased significantly at the dose 40 mg/mL compared with C+ ($p < 0.05$), but descriptively, the increased sIgA level started at dose 20mg/mL and getting low at higher dose 60 mg/mL. The bacteria colonies in C+ the significantly different to compare other group (C-,T0,T1,T2,T3) ($p > 0.05$), the bacteria colonies start to decrease to zero in all treatment groups. In conclusion, the crude extract mangosteen pericarp can improve immune response by increasing the sIgA level and inhibiting the systemic diseases by prevent the bacterial pass from intestine and invading the organs (spleen and liver).

Keywords: Typhoid fever, mangosteen, *S. typhimurium*.