

2nd World Congress on **CARDIOLOGY**

&

39th Annual Congress on

MICROBIOLOGY AND MICROBIAL INFECTION

July 23 - 24, 2018 | Rome, Italy

Biomed Res 2018, Volume 29 | DOI: 10.4066/biomedicalresearch-C1-003

THE EFFICACY OF *GARCINIA MANGOSTANA* TO REDUCE ENDOTHELIAL DYSFUNCTION AND DYSLIPIDEMIA IN HIGH FRAMINGHAM RISK SCORE PATIENTS

Aditha Satria¹, Djanggan Sargowo^{1,3}, Ardian Rizal¹, M Ryan Ramadhan¹, Olivia Handayani¹, Aris Munandar¹, Muhamad Rizki Fadlan^{1,2}, Puspa Lestari¹, Dion Setiawan¹ and William Prayogo Susanto¹

¹Dr Saiful Anwar General Hospital, Indonesia

²Brawijaya University, Indonesia

³Center Study of Degeneratif Disease

Background: Endothelial dysfunction and dyslipidemia have an important role in the development of atherosclerotic cardiovascular disease. *Garcinia Mangostana* is an extract of mangosteen that has anti inflammation, immunomodulator, antioxidant, and anti lipid effect. High level of inflammation, lipid profiles, oxidant markers, and circulating endothelial cell (CEC) with low level of endothelial progenitor cell (EPC) predict poor outcomes of endothelial damage. This study was aimed to compare the efficacy of *Garcinia Mangostana* to reduce endothelial dysfunction and dyslipidemia in high framingham risk score to be compare with placebo. Parameters measured are inflammatory markers (IL-6, TNF α , HsCRP), CEC, EPC, and lipid profiles (total cholesterol, HDL, LDL, and triglycerides).

Methods: A randomized, single blind, placebo-controlled clinical trial was conducted in 90 high framingham risk score patients. Study group consumes *Garcinia Mangostana* 5x550 mg for three months as an additional therapy of their regular medications and control group consumed placebo. The data was analyzed by paired t-test for parametric data and wilcoxon test for non parametric data.

Results: Post tests were performed after *Garcinia Mangostana* administration for three months. Inflammation parameters in study group (IL-6, IL-1, and HsCRP) concentration was significantly decreased compared with placebo (-90.85 \pm 99.29, 3 pg/ml vs. 50.25 \pm 140, 52 pg/ml; P=0.000; -12.08 \pm 12, 1 pg/ml vs. 10.3 \pm 13.4 pg/ml; P=0.000; and -130.5 \pm 106, 3 pg/ml vs. -17.1 \pm 71, 7 pg/ml; P=0.000). We also observed significance decrease in total cholesterol, LDL, and HbA1c (-12.52 \pm 37.31 mg/dl vs. 1.36 \pm 26.25 mg/dl; P=0.05; -18.29 \pm 28.6 mg/dl vs. 1.8 \pm 18.5 mg/dl; P=0.003; -0.29 \pm 1.1 vs. 0.25 \pm 0.78; P=0.012; respectively) when compared to placebo group. There was no difference in HDL, triglycerides and fasting blood glucose. CEC also significantly reduced with increasing of EPC in study group (p=0.000).

Conclusion: The result shows that *Garcinia Mangostana* extract has an efficacy to reduce inflammation (IL-1, IL-6, MDA, and HsCRP), lipid profile, CEC and increase EPC level that reflects an improvement of endothelial function.

adithasatria@gmail.com