Comparison of the Effects of Red Yeast Rice with Guava Leaf Extract on Platelet and Megakaryocyte Count in Thrombocytopenic Rats

Thrombocytopenia is an important parameter in Dengue Hemorrhagic Fever (DHF). Herbal therapies have been used by the community to increase the platelet count in DHF cases, e.g. red yeast rice and guava leaf extract. The purpose of this study is to compare the effect of red yeast rice with guava leaf extract on the increase of platelet and bone marrow megakaryocyte count in thrombocytopenic rats. Thirty male Wistar rats were divided into 5 groups, rendered thrombocytopenia by administering 1.350 u/kg rat BW/day of heparin by subcutaneous injection for a day. K1 was immediately terminated. K2 was continued with administration of placebo for 3 days, K3 with boiling water of 108 mg/kg rat BW/day red yeast rice, K4 with 108 mg/kg rat BW/day red yeast rice powder, and K5 with 270 mg/kg rat BW/day guava leaf extract. The highest platelet and megakaryocyte count were K3, followed by K4, K5, K2, and K1. MANOVA test showed significant differences (p < 0.05). Based on the LSD test, the boiling water of red yeast rice is the most effective remedy to increase platelet and bone marrow megakaryocyte in thrombocytopenic rats. Red yeast rice powder and guava leaf extract showed increasing trend of platelet count in thrombocytopenic rats although not statistically significant.

Keywords: red yeast rice, guava leaf extract, platelet, megakaryocyte, thrombocytopenia