

ORIGINAL ARTICLE

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Guava leaf juice effect towards number of megakaryocytes in bone marrow of thrombocytopenic mice

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ABSTRACT

BACKGROUND

Dengue virus infection that most frequently occur in tropical and subtropical regions can cause many symptoms, one of which is a decrease in thrombocyte count. Recent studies showed that guava leaf extract can increase the thrombocyte count in rats. The present study aimed to determine the effect of guava leaf juice in increasing the number of megakaryocytes in the bone marrow of thrombocytopenic mice.

METHODS

This study was of experimental design. The study subjects were 24 mice (*Mus musculus*). The mice were randomly divided into four groups that were subjected to intervention for 14 days. Group 1 was given guava leaf juice (56 mg/kg) and quinine (14 mg/kg), group 2 guava leaf juice (56 mg/kg) only, group 3 was given quinine (14 mg/kg) and group 4 distilled water. After 14 days, from the bone marrow of the femoral bones of each of the mice, hematoxylin eosin stained histologic preparations were made. Anova test was used to analyze the data.

RESULTS

The mean megakaryocyte count per field of view in group 1 (2.83), group 2 (3.30), group 3 (2.24) and group 4 (2.93). Anova test results for all groups showed significant differences between groups ($p < 0.05$). The mean megakaryocyte count was increased in group 1 compared to group 3, but the difference was statistically not significant ($p = 0.206$).

CONCLUSION

Guava leaf juice can increase the megakaryocyte count in the bone marrow of thrombocytopenic mice. This suggests a potential role of guava leaf juice in improving the platelet count in thrombocytopenic disorders.

Keyword: Guava leaf juice, megakaryocyte, mice, thrombocytopenia.

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