ABSTRACT

Background: Malaria is a disease that is transmitted through the bite of a female *Anopheles* mosquito caused by the *Plasmodium* parasite. Globally, there were an estimated 435,000 malaria deaths in 2017. *Plasmodium* has been reported to become resistant to Artemisinin. Therefore, alternative medicine emerging from nature is required. Thus, the study on the ethanol extract of mango parasite leaves (BM) on *P. berghei*-infected BALB/c mice with and without artemisinin combination has been performed.

Method: BM leaves were extracted by maceration using ethanol 96% solvent. The study was conducted on 8 groups of mice infected with *P. berghei* ANKA. Group 1,2,3 were given BM leaf ethanol extract at a dose of 10,100,200 mg/kgWB. Group 4,5,6 were given ethanol extract of BM leaves with a combination of Artemisinin (BM+A) at a dose of 10,100,200 mg/kgWB and 0,52 mg/kgWB. Group 7 was a positive control given Artemisinin 0.52 mg/gWB. Group 8 was a negative control that was given 0.5% Na-CMC. Percent parasitemia was observed on day 1 to day 4 of treatment and the spleen index value was measured on day 4 following treatment.

Result: The percentage of parasitemia in mice treated with ethanol extract of BM and BM+A leaves decreased. There was no difference in the spleen index in mice given ethanol extract of BM and BM+A leaves with $p = 0.203$ and the spleen weight of mice with $p = 0.134$ (significance: $p < 0.05$). Pearson Correlation test showed a correlation between spleen index with parasitemia and spleen weight with parasitemia, but there was no correlation between body weight and parasitemia.

Conclusion: The ethanol extracts of BM and BM+A leaves had significant antimalarial activity and the difference in the percentage of parasitemia between

groups was significant but not so far. The spleen index value was not affected by the ethanol extract of BM and BM+A leaves, but the parasitemia percent was affected.

Keyword: *Dendrophthoe pentandra*, Antimalarial, In vivo, *P. berghei* ANKA, Spleen index, Artemisinin

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