

Basic Health Sciences

Poster

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Evaluation of the phytochemical content and the use of the essential oil from the leaves of Malaysian *Plectranthus amboinicus* (lour) spreng as antimalarial in vivo

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Introduction: This study was conducted to evaluate the phytochemical contents and antimalarial properties of the essential oils extracted from the leaves of Malaysian *Plectranthus amboinicus* in mice infected with *Plasmodium berghei*. **Methods:** The essential oils were extracted and prepared by using a steam distillation technique and subjected to phytochemical screening by using gas chromatography-mass spectrometry (GC-MS). The antimalarial activity of different extract doses of the essential oil was tested *in vivo* in ICR (Institute of Cancer Research) mice infected with *Plasmodium berghei* (PZZ1/100) during early, established and residual infections. The control groups were treated with distilled water (containing 10% DMSO, the solvent of the test extracts) and 2 standard drugs: chloroquine and Fansidar. **Results:** In all, 5 compounds made up 88.34% of total oil and the major chemical compounds were carvacrol (85.14%), thymoquinone (1.65%), terpinen-4-ol (0.70%), octenol (0.62%) and thymol (0.23%). Antimalarial assay showed this essential oil as a potential prophylactic agent with the percentage chemosuppression of 45.23%, 18.28%, 45.38% and 58.26%, while treated with 50, 200, 400 and 1000 $\mu\text{L}/\text{kg}$ respectively of essential oil. It also showed a potential as a curative agent with percentage of chemosuppression of 54.10%, 47.35%, 56.75% and 65.38% while treated with the above dose of essential oil. Statistically, no reduction of parasitemia was calculated for suppressive test. **Conclusions:** The extract has prophylactic and curative effects on *P.berghei* in mice.

KEYWORDS: phytochemical, toxicity, *Plectranthus amboinicus*, antimalarial