

Thesis Title Effect of Phyllanthus amarus on Carbon Tetrachloride
(CCl₄)-induced Hepatotoxicity in Rats

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ABSTRACT

The study of effect of the ethanolic extract of Phyllanthus amarus on carbon tetrachloride (CCl₄) induced hepatotoxicity in Sprague-Dawley male rats was carried out. The animals were given the extract of Phyllanthus amarus before administration of carbon tetrachloride.

In this study, we investigated the effect of Phyllanthus amarus on growth, nutritional status and some possible toxicities in rats after administration of various doses of Phyllanthus amarus (5.0, 1.0, and 0.2 ml/kg bw.) for 28 days. The results revealed that rats receiving Phyllanthus amarus 5.0 ml/kg bw had a decrease in growth rate and food intake in comparison to the control group. The levels of AP, BUN, total protein and plasma glucose were

significantly higher than the control group ($P < 0.05$). However, there was no hematologic changes in rats receiving Phyllanthus amarus 5.0 ml/kg bw. These evidence indicated that the administration of Phyllanthus amarus 5.0 ml/kg bw. for 28 days had some toxic effects on rats.

The inhibition of Phyllanthus amarus on hepatotoxicity induced by carbon tetrachloride was observed when Phyllanthus amarus (1.0 ml/kg bw.) was administered for 28 days before carbon tetrachloride (2.5 ml/kg bw.) was given. It was found that Phyllanthus amarus could reduced hepatotoxicity by lowering liver enzymes (GOT and GPT) when compared with the control group given carbon tetrachloride alone ($P < 0.05$). In view of histopathologic study, it was revealed that administration of Phyllanthus amarus (1.0 ml/kg bw.) decreased the necrotic hepatocytes from the toxic effect of carbon tetrachloride. On the other hand, in the group given Phyllanthus amarus (5.0 ml/kg bw.) and carbon tetrachloride, it appeared that Phyllanthus amarus induced more hepatotoxicity than the control group. The inhibitory effect of liver damage in rats given Phyllanthus amarus (0.2 ml/kg bw.) and carbon tetrachloride was not found.