THE HEPATOPROTECTOR EFFECT OF BEETROOT (*Beta* vulgaris *L.*) EXTRACT IN DECREASING MALONDIALDEHYDE (MDA) LEVEL ON RATS (*Rattus norvegicus*) INDUCED WITH CARBON TETRACHLORIDE (CCl_4)

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ABSTRACT

The purpose of this research was to determine the hepatoprotector effect of beetroot (*Beta vulgaris* L.) extract in decreasing malondialdehyde level on rats induced with carbon tetrachloride (CCl_4). Experiment design used Completely Randomized Design and 25 male rats divided into 5 groups randomly. There are negative control group (CMC Na 0.5% and olive oil), positive control group (CMC Na 0.5% and 3 ml/kg BW CCl_4 dissolved 60% in olive oil), T1 (beetroot extract 200 mg/kg BW and 3 ml/kg BW CCl_4 dissolved 60% in olive oil), T2 (beetroot extract 400 mg/kg BW and 3 ml/kg BW CCl_4 dissolved 60% in olive oil), and T3 (beetroot extract 800 mg/kg BW and 3 ml/kg BW CCl_4 dissolved 60% in olive oil). This research held for 22 day and CCl_4 given intraperitoneally on 21st day. On 22nd day, rats were sacrificed and the liver was taken. The malondialdehyde level were examined using TBARS assay. The data were analyzed using One-Way Anova followed with Tukey HSD test. The result are C(-) is $78.75^{a} \pm 42.56$ nmol/gram; C(+) is $646^{c} \pm 130.86$ nmol/gram; T1 is $408^{bc} \pm 216.4$ nmol/gram; T2 is $263.25^{ab} \pm 122.35$ nmol/gram; and T3 is $128.5^{a} \pm 25.42$ nmol/gram and showed significant difference ($p<0.05$) in T3 group. In conclusion, the administration of beetroot (*Beta vulgaris L.*) extract is able to protect rat's liver by decreasing the level of malondialdehyde induced with CCl_4.

Keywords: beetroot extract, CCl_4, malondialdehyde, oxidative stress, and TBARS

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