

# **THE EFFECTS OF PALMVITEE ON LIPID PEROXIDATION IN RATS FED A HIGH-METHIONINE DIET.**

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**Introduction:** Oxidative stress is involved in various pathogenesis of diseases. Hyperhomocysteinemia has been suggested as one of cause. It can be achieved by supplementation of a high-methionine diet. Thus, the objective of this study is to determine the effects of palmvitee and folic acid on lipid peroxidation marker in male Wistar rats fed a high-methionine diet.

**Methodology:** Male Wistar rats weighing 180 to 200 gram were divided into six groups. The control group was given rat chow throughout the ten week study period. The second group, positive control, was fed a high methionine diet (10g methionine/kg diet) only. The four treatment groups (group 3, 4, 5 and 6) were given a high methionine diet (from start until end) into which folic acid 8 mg/kg diet or palmvitee at 30, 60 or 150 mg/kg diet were added respectively from week 6 onward. The weights were measured weekly. Animals were sacrificed at the end of the study. Liver and plasma thiobarbituric-acid-reactive substance and protein were measured. The result, i.e. malondialdehyde (MDA) level, was expressed as nmol/mg protein.

**Results:** Student's t-test was used to compare means between two groups. Data are presented as mean  $\pm$  S.E.M. Results are considered significant at  $P < 0.05$ . Compared to control, the high methionine diet (in group 2) significantly increased hepatic MDA level but not the plasma level. Palmvitee at 60 mg/kg diet or 150 mg/kg diet and folic acid significantly reduced MDA level. The initial weights among the groups were not significantly different. The final weights achieved were also not significantly different.

**Conclusion:** A high methionine diet increases oxidative stress marker. Palmvitee and folic acid appear to protect the liver against this. Further studies on palmvitee's role as a therapeutic agent in oxidative stress related diseases is warranted.