

HEPATOPROTECTIVE EFFECT OF MENTHOL IN MALE RATS INDUCED WITH CARBON TETRACHLORIDE

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Thymol in concentration of 0.01% is used as an antioxidant to trichloroethylene and tetrachloroethylene (in vitro). The chemical structures of menthol and thymol are almost similar. The difference between them is that menthol has a cyclohexane ring and thymol has a benzene ring in their structures. Orally in rats, the LD₅₀ of menthol is 3180 mg/kg body weight and the LD₅₀ of thymol is 980 mg/kg body weight. To evaluate hepatoprotective effect of menthol, this compound was tested in male rats. The study employed a complete randomized design, using sixty male rats which were divided into 10 groups. Each of group including the positive and negative controls was orally given with different dose of menthol. Following 48 and 120 hours of the treatment, the blood from vena lateralis of all subjects were collected to measure the level of Glutamate Piruvate Transaminase serum (GPT-serum) activity by spectrophotometric method. Soon after that, the subjects were killed to make the histological-microscopic photographs of their livers using the Hematoxylin-Eosin dyes. Based on the statistical analysis and illustration of liver cell photographs, menthol has no hepatoprotective capability.

Keywords: Menthol, Carbon tetrachloride, GPT-serum, Histological-microscopic photograph