

# Comparison of the Effect of Lycopene with Ibuprofen on Sensory Threshold of Pain Using Formalin Test in Adult Male Rats

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Pain is such an experience that every human being is faced in his/her lifetime. On one hand, it is a warning for awareness from tissue damage and on the other hand it is a bad experience which always attacks the body and the soul of human. Treatment of acute and chronic pain is the subject of many clinical and laboratory researches due to the complexity and multiple protests of pain. Through inhibition of cyclooxygenase-2 and thereby inhibition of prostaglandins, lycopene prevents from sensitization of pain receptors caused by these molecules and reduces the pain that comes with these responses. This study is aimed to evaluate the effect of lycopene with ibuprofen on sensory threshold of pain using formalin test in adult male rats. 32 male Wistar rats were randomly divided in this study into 4 groups including a control group and three experimental groups. 5 and 10 mg of lycopene per kg of body weight and ibuprofen at a dose of 6 mg/kg of body weight were intraperitoneally administered to the experimental groups, respectively. Formalin test was performed 30 minutes after the injection. Data were analyzed using one way analysis of variance (ANOVA) and least significant difference (LSD) test at significance level of 0.05. Intraperitoneal injection of lycopene in a dose dependant manner (only at a dose of 10 mg/kg of body weight) can reduce formalin-induced acute and chronic pains. Because of flavonoid and high antioxidant properties and inhibition of cyclooxygenase and prostaglandins, lycopene can probably reduce formalin-induced analgesic effects and according to hazards of nonsteroidal drugs for clinical use, it can be helpful in the future