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Effect of Midazolam on The Oxidative Stress and Activation of Nrf2 Mice Neural Cell Culture

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Abstract : Midazolam is a short-acting benzodiazepine in adults with an elimination half-life of 1.5-2.5 hours. In the elderly, as well as young children and adolescents, the elimination half-life is longer. Midazolam is metabolized into an active metabolite alphal-hydroxymidazolam. Age-related deficits, rental and liver status affect the pharmacokinetic factors of midazolam as well as its active metabolite. Research purposes: To determine whether midazolam improve the MDA in the brains of mice injected by midazolam and to determine whether midazolam increase activation of NRF2 in the brain of mice that injected by midazolam. Materials and Method: This study is experimental laboratory research using randomized design. The experiments applied simple random sampling. The treatment for the dose provision of NRF2 in every mice that received different concentration. Oneway ANOVA and Kruskal Wallis test will perform for the analysis. Result: when MDA high, so NRF2 not color brown it means Midazolam supported NRF2 when MDA high. But when MDA low, it mean NRF2 still brown color and clear. There is different result between control group and another group that significant in level 10%. Midazolam change theMDA in neuronal culture cell of mice and change the activation of NRF2 in neuronal culture cell of mice. So hypothesis in this research accepted. So midazolam can change MDA in neuronal culture cell of mice and change NRF2 activation in neuronal culture cell of mice.
Keywords : Midalozam, mice, NRF2, MDA.

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