

Evaluation of ursolic acid effect on weight, blood glucose and expression of GnRH genes in rat of C57BL /6

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ABSTRACT

Ursolic acid has a different effect, including: anti-inflammatory, the liver protection, anti-tumor, heart protection, Nervous protection, antimicrobial, anti-obesity, anti-diabetes. It also has a proven anti-aging effect. Therefore, in this study, considering the potential role of the immune system in the aging process, the effects of ursolic acid on expression of anti-aging proteins of GnRH in rats was investigated. In this study, the rat of C57BL / 6 were used. Ursolic acid was dissolved in 20 mg / ml concentrations in corn oil and injected with 200 mg / kg intraperitoneally to the mice for 2 weeks and 2 times daily. After treatment, blood glucose, rats weight and after separation of hypothalamic tissue using RNA extraction techniques and Real-time PCR, expression of proteins was investigated. The results showed that Ursolic acid significantly reduced weight ($p = 0.003$) and decreased blood glucose ($p = 0.002$) in rats. Ursolic acid also increases the expression of GnRH (0.03/0 =p) protein. Given the key role of the hypothalamus in the aging process, the data from this study suggest that Ursolic acid may prevent age-related diseases. It can also be used to lower blood glucose in diabetics.

Key words: Aging, Hypothalamus, GnRH, Ursolic Acid