

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

Hanieh Amiri

Department Of Biochemistry, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Nuredin Bakhtiary

Department Of Biochemistry, Tehran North Branch, Islamic Azad University, Tehran, Iran

Zana Karimi Kurdestani

Department Of Biology, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

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