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Poster Presentation

Anti-Inflammatory Effect of Glycyrrhizin on TNF-α Produced by Inflamed Microglia Cell (BV-2)

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Abstract

Glycyrrhiza glabra is a plant used in traditional medicine across the world for its pharmacological value. Its value has been proved such as anti-cough, anti-diabetes, anti-microbial and antioxidant effects. The roots of plant comrised glycyrrhizin which is 50 times sweeter than sugar. Macrophages can stimulated during inflammatory disorders, and with production of multiple inflammatory mediators, they can produce immunogenic effects such as tumor necrosis factor α, but in some cases cause clinical problems and symptoms of infectious and inflammatory diseases. the aim of the present study was to investigate the glycyrrhizin component of the licorice on the level of TNF-α produced as an inflammatory mediator in the cellular model (in vitro). This study was designed through 5 groups (each group has Three times repeatedly). In group 1, BV-2 cells stimulated by lipopolysaccharide, in groups 2, 3, 4 and 5, inflamed cells received 0.2, 0.4, 1.2 and 4 µg/ml glycyrrhizin, respectively. In present study, glycyrrhizin with 0.2 µg/ml concentration had no effect on TNF-α level of inflamed cell. But others groups (0.4, 1.2 and 4 µg/ml) inhibited production of TNF-α in BV-2 cells, rather than first group. We can conclude that licorice is a potential source of natural anti-inflammatory agent. Some studies show that glycyrrhizin have anti-inflammatory effect on microglia cell through reducing other inflammatory factors; also in present study, the inhibitory effect of glycyrrhizin on inflamed cells was confirmed. Although at this time, it still needs further researches for evaluating its pharmaceutical potentialities of its anti-inflammatory mechanisms.

Keywords: TNF-α, Glycyrrhizin, Microglia Cell, Inflammation

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