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Effect of the 70% ethanol extract of *Tetragonia tetragonioides* on immunoreactivity in ovariectomized mouse model

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Statement of the Problem: Women who have experienced menopause are at greater risk for immune imbalance including hormone problem. Estrogens are involved in immune response at least of the humoral immunity and androgens and progesterone. However, hormone replacement therapy has limitations of breast cancer incidence. Herbal medicines, which have less adverse effects, have received attention to compensate for the problems related to hormone replacement therapy. The purpose of this study is to demonstrate the immunological efficacy of *T. tetragonioides* (TT) using ovariectomized animal models.

Methodology & Theoretical Orientation: TT has been used for improving women's health and treating inflammatory diseases. The sequencing analysis from the nuclear genome makes the internal transcribed spacer region a valuable resource for plant species identification. We sought to investigate the effects of TT the level of inflammation markers (IL-1β, IL-6, IL-12, IL-17 and IFN-γ) using ovariectomized mice.

Findings: As a result of ITS gene analysis, 20 individuals collected from different region showed 99% homology. IL-1β, IL-2, IL-12, IL-17, and IFN-γ in CD4+T cells were significantly reduced in ovariectomized animal model. It also showed an increase in anti-inflammatory cytokines (IL-10). In addition, they displayed significant immuno modulating activities including inhibition of generation of TNF-α, IL-1β and IL-12 of immune cell cytokine production in mesenteric lymph node, whereas increased the cytokine of IL-4 and IL10.

Conclusion & Significance: These results suggest to target the modulation of inflammatory immune responses for the treatment of menopausal symptoms and related diseases.

Biography

Byoung Seob Ko has done his research focusing on the role of estrogen in cardiovascular disease in healthy menopausal women. Menopausal health demands priority in Korea due to increase in life expectancy and growing population of menopausal women. Our research group concentrates on traditional Korean herb or prescription for improvement and treatment of various target diseases including age-related damages and menopausal disorders as well as drugs and supplements; providing clinical basis for their efficacy and safety and developing and transferring technologies for prevention and treatment of relevant conditions using the materials.

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