عنوان مقاله:

Nano-selenium supplementation upregulate TLR-۷, MyD۸۸, NF-kB, and TRAF۶ genes in thymus of Wistar rats following treatment with cyclosporine A

محل انتشار:

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خلاصه مقاله:

Objective(s): Selenium Nanoparticles can modulate the function of the immune system and improve immunity. We investigate the expression of toll-like receptor-۷ (TLR-۷), myeloid differentiation primary response ۸۸ (MyD۸۸), Nuclear factor kappa B (NF-KB), and TNF receptor associated factor ۶ (TRAF۶) genes in thymus of Wistar rats following treatment with cyclosporine A (CsA) and Nano-selenium (Nano-Se) supplementation. Materials and Methods: Twenty-four male Wistar rats (۲۰۰-۲۲۰ grams) were divided into ۳ groups of control (n=۸), CsA (n=۸), and CsA+Nano-Se (n=۸). Rats in CsA and CsA+Nano-Se group's received cyclosporine A and olive oil solution by subcutaneous injection for ۱۰ days at a dose of ۵ mg/kg/day. Nano-Se with a dose of ۲.۵ mg/kg of body weight was gavaged to the CsA+Nano-Se group once a day and ۳ times a week. Real-time PCR were used for gene expression of TLR-۷, MyD۸۸, NF-kB, and TRAF۶ at thymus. Results: The result of this study show that CsA significantly decreased expressions of TLR-۷, MyD۸۸, NF-kB, and TRAF۶ at thymus compared to control group (P<۰.۰۵). However, expressions of TLR-۷, MyD۸۸, NF-kB, and TRAF۶ at thymus in CsA+ Nano-Se group was significantly increased compared to CsA group (P<۰.۰۵). Conclusion: Nano-Se supplementation significantly regulated the expression of TLR-۷, MyD۸۸, NF-kB and TRAF۶ genes in the thymus of rats treated with cyclosporine A. Therefore, Nano-Se supplementation can be recommended to boost immune function after using immunosuppressive drugs. However, more research is needed in the future.

کلمات کلیدی:

Cyclosporine A, Immune system, Nanoparticle, Selenium, thymus

لینک ثابت مقاله در پایگاه سیویلیکا: