

عنوان مقاله:

Wrestlers' immune cells produce higher interleukin-6 and lower interleukin-12 and interleukin-13 in response to in vitro mitogen activation

محل انتشار:

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خلاصه مقاله:

Objective(s): Although recent investigations have shown chronic inflammation and inflammation-associated diseases might be ameliorated by exercise; little is known about the relation between exercise training with anti/pro-inflammatory cytokines. Materials and Methods: This cross sectional study was conducted to compare interleukin-4 (IL-4), IL-6, IL-10, IL-12, IL-13, interferon gamma (IFN- γ) levels in serum, and their in vitro production by whole blood (WB) cells and by peripheral blood mononuclear cells (PBMCs) in response to mitogens lipopolysaccharide and phytohemagglutinin. Twelve elite wrestlers with history of three times per week exercise training for about 9.5 years, and thirteen healthy silent controls were recruited. To analysis the cytokines by enzyme linked immunosorbent assay (ELISA), the blood samples were taken 24 hr after the last training session from the wrestlers. Results: Serum analysis for IL-4, IL-6, IL-10, IL-12, IL-13 and IFN- γ indicated no statistical difference between the two groups. Meanwhile, 48 hr in vitro activation of WB and PBMCs by the mitogens revealed that IL-6 production was elevated in both WB and PBMCs. Whereas, IL-12 and IL-13 were decreased in supernatant of PBMCs and WB cells cultures, respectively. Conclusion: It seems that wrestling cause immune system cells to produce anti-inflammatory myokine IL-6 and decrease production of pro-inflammatory cytokine IL-12 and IL-13.

کلمات کلیدی:

Cytokines, Wrestling, Interleukins, Mitogens, PBMC, Whole blood culture

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