Effect of purple sweet potato leaves consumption on the moulation of the immune response in basketball players during the training period

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Abstract

The aim of this study was to evaluate the effect of the consumption of purple sweet potato leaves (PSPLs) on the immune response and the modulation of that response in 15 basketball players during a training period. They completed the 7-week study consisted of a run-in period (week 1), a PSPLs diet (200 g PSPLs/d; weeks 2, 3), a washout period (weeks 4, 5), and a control diet (low polyphenols content and carotenoid content adjusted to the same level as that of PSPLs diet; weeks 6 and 7). Blood, urine, and saliva samples were collected for biochemical analysis. The results showed that the plasma polyphenols concentration increased significantly in the PSPLs period. Compared with the control period, the PSPLs consumption produced a significant increase in the proliferation responsiveness of peripheral blood mononuclear cells (PBMC), cytotoxic activity of nature killer (NK) cells, and secretion of interferon (IFN)-gamma. However, no significant increase in the secretion of salivary immunoglobulin A (sIgA), interleukin (IL)-2, or interleukin-4 was observed after PSPLs consumption. In conclusion, consumption of a PSPLs diet for 2 weeks can modulate the immune response of basketball players during a training period.