

Hypoxia and Crocodile Blood Supplementation is Associated with Improved Exercise Performance and Hematological Parameters in Well-Trained Male Athletes

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ABSTRACT

Altitude training reported significant disparities on hematological response in among endurance athletes. It is generally recommended that athletes consume a daily oral iron supplement to help adjust the altitude and maintain iron balance. The freeze-dried crocodile blood supplement represents the efficiency for promoting hemoglobin and hematocrit values on iron deficiency. Thus, the crocodile blood supplement, an animal source of blood iron, can be effect on hematological values under hypoxic training. Well-trained male athletes were studied two conditions; low altitude with non-supplement (LOW: n=13) and high-altitude with crocodile blood supplement (HIGH-S: n=13). The HIGH-S group was exposed to normobaric hypoxia (FiO₂ = 16.3%) and the LOW group exercised in room air condition. All athletes underwent endurance training (70-75% HRmax) for seven weeks. The blood samples were obtained to determine hematological parameters in pre- and post-interventions. The results showed that athletes in HIGH-S group significantly improved oxygen uptake by 8.10%. Moreover, only increase in erythropoietin (EPO) concentration (14.40 mIU/ml) was found in the HIGH-S group after 7-weeks of training (p=0.01), and no were changes in the LOW group. The data suggests that the altitude training with crocodile blood supplement is an effective training means for improving aerobic capacity and EPO level.

Keywords: Crocodile blood; Dietary supplement; Hematological parameter; Hypoxic training

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