The Effect of Two Months Resistance Training with and without Crocin Consumption on Catalase and Glutathione Peroxidase of Heart Tissue of Nandrolone Poisoned Rats

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Abstract

Background & Aim: Nandrolone is a testosterone derivative which increases the size of the muscle by increasing protein production. This chemical is sometimes abused by athletes. The aim of present study is to review the effect of resistance training and crocin consumption on catalase and glutathione peroxidase of heart tissue of nandrolone poisoned rats.

Methods: 40 rats were selected and assigned to 8 groups including: 1; control, 2; sham, 3; nandrolone, 4; nandrolone with resistance training, 5; nandrolone with 12.5 mg/kg crocin, 6; nandrolone with 25 mg/kg crocin, 7; nandrolone with resistance training and 12.5 mg/kg crocin, and 8; nandrolone with resistance training and 25 mg/kg crocin. Groups 4, 7 and 8 performed resistance trainings for eight weeks and three sessions per week and groups of 5-8 received daily doses of crocin. To analyze the findings of the study, one-way ANOVA and Bonferron's post hoc tests were used.

Results: 25 mg/kg crocin (P=0.002), training + 12.5 mg/kg crocin (P=0.003), training + 25 mg/kg crocin (P=0.001), significantly reduce the catalase activity; training + 12.5 mg/kg crocin (P=0.001) and training + 25 mg/kg crocin (P=0.001) rather than training have more potent effect on reduction of catalase; 12.5 mg/kg crocin significantly increased glutathione peroxidase (P=0.02).

Conclusion: It appears that co-administration of crocin and resistance training does not have antioxidant interactions in nandrolone poisoned rats.

Keywords: Nandrolone, Training, Crocin, Catalase, Glutathione Peroxidase