Effects of 12 weeks trans-resveratrol supplementation and endurance training on responses of platelet indices to exhaustive exercise in male rats

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The aim of this study was to evaluate the effects of twelve weeks of resveratrol supplementation and endurance training on platelet indices in response to severe exercise. Thirty two male wistar rats were randomly divided into 4 groups including control (C), supplement (S), training (T) and training-supplementation (T+S). Rats in the T+S and T groups performed 12 weeks of running on treadmill, 5 days a week, started with 10 min at 10 m/min and increased to 60 min at 25 m/min by the final session. S and T+S groups received 10 mg/kg/day resveratrol 5 days a week. After the last training session, all rats in 4 groups performed an acute exercise trial encompassed running on treadmill at speed of 25 m/min and incline of 10% up to exhaustion which was immediately followed by taking a blood sample. Responses of mean platelet volume (MPV) to exercise were significantly different among the 4 groups (P=0.03), though the other indices were not significantly different. The rates of MPV were 7.20±0.50, 6.90±0.15, 7.48±0.48 and 6.96±0.37 femtolitre for C, S, T and T+S groups, respectively. Pairwise comparisons showed significant differences between S and C (P=0.01), as well as S and T (P=0.01) groups. Based on the reductions in responses of MPV to exhaustive exercise, it could be concluded that long-term resveratrol supplementation either accompanied by training or alone might be recommended for reducing the risk of exercise–induced thrombosis.