Platelet activation and function in response to high intensity interval exercise and moderate continuous exercise in CABG patients

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The purpose of present study was to compare the responses of platelet activation (CD62P) and function (platelet aggregation) in response to high intensity interval exercise (HIIE) and moderate continuous exercise (MCE) in coronary artery bypass grafting (CABG) patients. Thirty patients who had CABG were randomly divided into HIIE, MCE and control groups. After determining the VO2peak, subjects in HIIE group performed an interval protocol included 8 intervals of 2 min activity (running on treadmill) at 90% of VO2peak and 2 min active recovery at 30% of VO2peak, whereas, the subjects in the MCE group carried out 30 minutes of continuous exercise at 60% of VO2peak, and subjects in control group had rested for similar duration. Two blood samples were collected before and immediately after exercise and were analyzed for markers of platelet activation and function. Data analyzes revealed that responses of CD62P to MCE trial was significantly lower compared to HIIE group (P<0.05). In addition, increases in platelet aggregation induced by ADP and corrected for increases in platelet count in response to MCE trial was significantly lower than HIIE group (P<0.05). Among the platelet indices only changes in plateletcrit and platelet distribution width were significantly different among the three trials. Based on the findings of the present study it could be concluded that the risk of exercise-induced thrombosis is lower during MCE than HIIE in patients with coronary artery disease.