Exercise Biochemistry Review

Proceedings of IBEC 2018, Beijing, China, October 23-25
PO-219

# Experimental study on exercise intervention to improve cardiac risk during exercise in men aged 40~49 years

Jianya Huang[1],Jianmin Cao[2],Minhao Xie[3],Jiashi Lin[4],Sen Li[1],Qiang Tang[1]
1.Jiangsu research institute of sports science
2.Beijing sport university
3. Institute of Sports Medicine， General Administration of Sport of China
4.Jimei university

**Objective** Through 12 weeks exercise interventions of different exercise volume (1200kal/w or 2000kcal/w) on 40-49 years old male subjects，trying to explore the effect of exercise intervention on the d risk indicators of ECG (ST、QTcd) during the exercise, to provide a scientific basis for the public health in the future .
**Methods** The subjects were randomly divided into 3 groups. (1)control group (n=9); (2) low volume group (n=7); (3) high volume group (n=8). The exercise group exercise intervention lasted 12 weeks. The indices of HRV at rest and risk indices of ECG (ST、QTcd)during exercise.
**Results** (1) Compared the underdraught of ST segment during exercise before and after the intervention, we found that exercise intervention did not produce significant change, and QTcd during the exercise in both high and low volume group after the intervention was significantly lower than before ($P < 0.05$). (2) Compared the difference of ECG indices during exercise before and after, we found that descender of QTcd in low volume was significantly higher than the control group ($P<0.05$), while the descender of QTcd in high group was very significantly higher than the control group ($P<0.01$). The difference of ST segment in different group did not have significantly change.
**Conclusions** (1) 12 weeks exercise intervention (intensity of 65-80% VO2max, exercise volume of 2000kcal/w) has no effect under the pressure amplitude of the ST segment during the exercise. (2) 12 weeks exercise intervention (intensity of 65-80% VO2max, exercise volume of 2000kcal/w) produce QTcd during exercise significantly reduced, reducing the risk of exercise-induced myocardial ischemia.