Changes of Serum Beta-Endorphin by Programmed Exercise Training is Correlated with Improvement of Clinical Symptoms and Quality of Life in Female Mitral Valve Prolapse Syndrome

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Abstract

BACKGROUND: Mitral valve prolapse (MVP) is a common entity in female population. Although this is a minor disease, it may cause annoying symptoms that impair quality of life (QOL), and no established therapy for this problem. The aim of this study isto examine whether programmed exercise training by treadmill in female MVP syndrome would improve clinical symptoms and QOL. METHODS: An interventional study of 39 females with MVP syndrome with treadmill exercise endurance training for 12 weeks. Every individual received training for 30 min a day, thrice a week for 12 weeks. Baseline and post-exercise at 12 weeks serum beta-endorphins were measured. Symptom improvement was assessed by the MVP symptom checklist questionnaire and the Euro-QOL-5D was used to measure QOL improvement in these females. RESULTS: The mean serum beta-endorphin increased from 0.5 to 1.68 ng/ml (p = 0.001) in the exercise group (n = 18) after 12 weeks exercise, whereas the control group (n = 21) did not show any significant changes (0.44 vs. 0.43 ng/ml). Major symptoms of MVP such as chest pain, palpitation, fatigue were improved significantly by the assessment of MVP symptom checklist. The QOL of the exercised females also showed significant changes. CONCLUSIONS: Through programmed exercise training in these MVP females, the improvement of symptoms and QOL is parallel to the increase of serum beta-endorphin. This result implicates that MVP females should initiate exercise to tackle this annoying problem.