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A multi modal exercise program ameliorates cardiopulmonary... neck cancer receiving concurrent chemoradiotherapy

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Background & Purpose: One of the 10 most frequent cancers is head and neck cancer (HNC). Many patients with HNC suffered from treatment-related side effects during and after concurrent chemotherapy (CCRT), including radiation-induce pulmonary problems that may impact their physical activity levels and causes of cardiac problems, which may impair cardiopulmonary fitness and cause cardiac events. Exercises are potentially beneficial to these side effects. The purpose of this randomized controlled trial was to prescribe a multi-modal exercise program during treatment and to investigate the effects on cardiopulmonary responses in patients with HNC.

Methods: 12 patients with HNC were randomized to either an 8-week multi-modal exercise program or the control group. Outcomes were measurement on the baseline, 5th week and immediately after the treatment session. The primary outcomes were 3-minute step test and the secondary outcomes were lung and respiratory function.

Results: After 5-week training, there were significantly influenced on exercise's group resting systolic blood pressure (SBP) (from 120±12 to 109.3±9.5) and SBP recovery (from 124.7±14 to 114±11.1). Moreover, the exercise group had significan improvements on inspiratory pressure (from -45±24.9 to -53±23.8). However, the exercise's group FEV1/FVC, MEF 25 and 50% showed the deterioration and the control group showed the improvements in resting and peak SpO2.

Conclusion: The multi-modal exercise program significantly improved the cardiopulmonary exercise responses and respiratory function in patients with HNC receiving CCRT. Further researches should be done with larger sample size and long-term follow up are necessary to verify these findings.

Biography

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