심폐재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:04 Room G(3F)

P 1-25

Clinical Effect of LV Diastolic function On Exercise Capacity After AMI during 1-year follow-up

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Objective

Myocardial infarction impacts diastolic function and diastolic dysfunction has been known as an independent predictor of mortality after acute myocardial infarction. It is not clear how the diastolic function impacts on exercise capacity during cardiac rehabilitation program. This study aimed to examine the relationship between diastolic function and exercise capacity in patients who have participated cardiac rehabilitation program after onset of acute myocardial infarction.

Design

Among the patients diagnosed as acute myocardial infarction and referred for cardiac rehabilitation (CR), 200 patients (178 men, 22 women; 57.90±11.63 years) who were performed a transthoracic echocardiography after percutaneous coronary intervention. The left ventricular ejection fraction (EF) of studied subjects was 54.4±12.65 % and body mass index (BMI) was 25.09±0.03kg/m2. All patients underwent graded exercise test with gas analysis to determine peak oxygen consumption (peakVO2), peak metabolic equivalent (MET) and total exercise time (TET) which were parameters of exercise capacity. The patients were divided into two groups according to diastolic dysfunction grade: those which were associated with grade 0 or 1 diastolic dysfunction (normal group) and those with grade 2 or grade 3 diastolic dysfunction (advanced group).

Results

(1) PeakVO2 was significantly correlated with early diastolic velocity from tissue Doppler (E'), ratio between E velocity of mitral flow and E' velocity from tissue Doppler (E/E') and (RVSP). These diastolic function parameters were significantly correlated with peak MET and exercise time. (2) peakVO2, MET and TET were significant lower in advanced group than in normal group (25.8±6.51 vs. 21.04±6.58; p=0.004 , 7.4±1.72 vs. 6.0± 1.73; p<0.001 and 12.3± 2.48 vs. 10.5± 3.04; p=0.001). (3) On multivariate analysis, peakVO2 and MET was significant lower in advanced group than in normal group (p=0.001 and p=0.001). (4) MET and TET were improved after completion of cardiac rehabilitation (CR) program (p=0.026 and p = 0.007). There is no significant different between two groups (p=0.782

and p=0.542) (5) During the one-year follow-up, major adverse cardiac events (MACE), which consist of cardiac death, myocardial infarction, revascularization, coronary artery bypass surgery, hospitalization due to heart failure, and cerebrovascular accident occurred in 5 percent of patients. There are no significantly differences between two groups (p=0.721).

Conclusion

Exercise capacity lowered in patients with advanced diastolic dysfunction after acute myocardial infarction, but improved over time after completing CR regardless of diastolic dysfunction grade.

Keywords: Tolerance, Exercise, Diastoles, Myocardial infarction, Cardiac rehabilitations

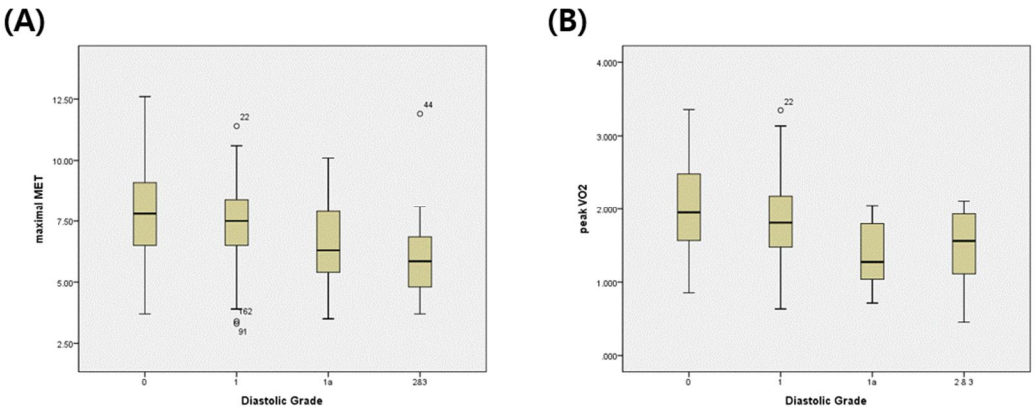

fig 1. Boxplots with maximal MET and peakVO2 according to diastolic dysfunction grade

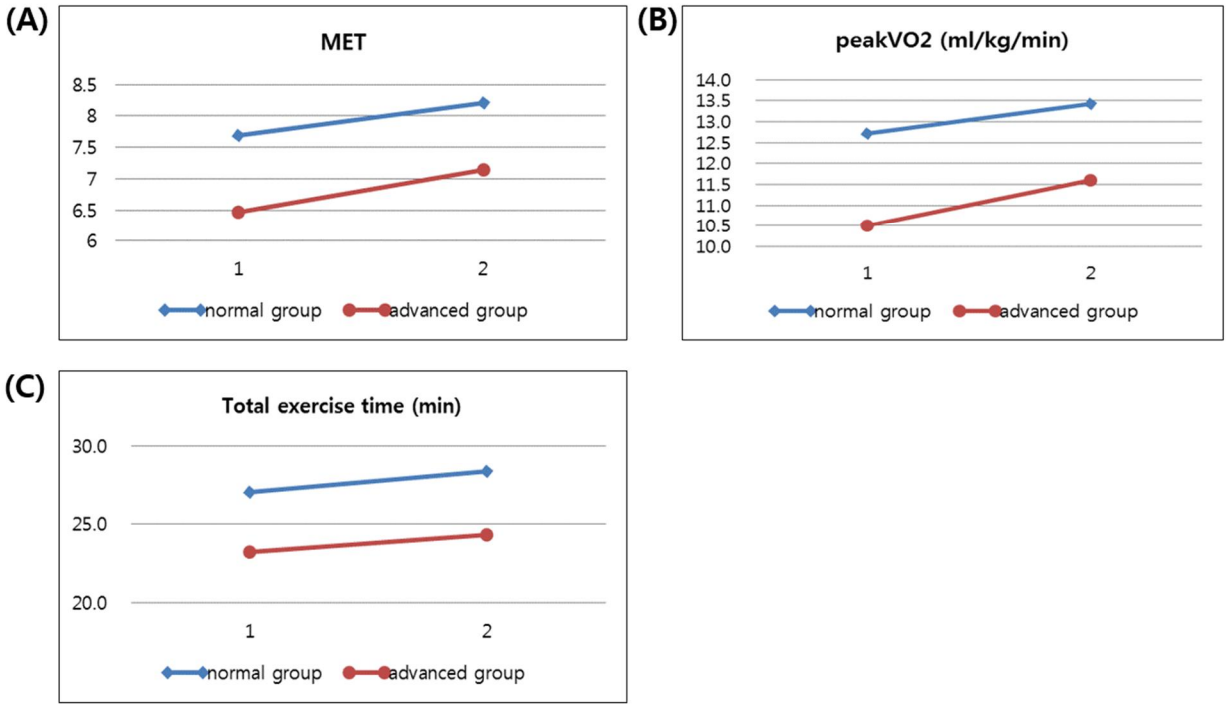

fig.2 Change of exercise capacity according to diastolic dysfunction group