Introduction. Coronary artery disease is the most common cause of death in developed and developing countries like Iran. There are many different ways to diagnose this disease in our patients. Echocardiography and detection of Regional Wall Motion Abnormality (RWMA) is considered to be a very valuable method in these patients. In this study we compare RWMA with End Diastolic Wall Thickness (EDWT) in coronary artery disease patients.

Methods. In this study 23 patients with positive coronary angiograms were randomly selected. All of them were examined with Echocardiogram. 61 segments of the left ventricle were examined for RWMA and EDWT. The information's were analyzed in SPSS software with t student, chi-square and logistic regression tests.

Results. Mean and SD of ages were 45±11 year, 94 % of patients had a history of MI with anterior MI being the most common (74%). 11 % of patients had left main coronary artery stenosis, 7% stenosis in left anterior descending artery (LAD), 1% stenosis in left circumflex artery (LCX) and 7.8% stenosis in right coronary artery. 21 segments were examined in echocardiography. 6.4% of segments had no RWMA. 7.1% of segments showed hypokinesia. 9.2% akinesia and 4.0% dyskinesia. Relation of RWAT anl EDWT with coronary artery stenosis, presence or absence of MI, Sex, age and cardiac risk factors were analyzed. RWMA was related to stenosis of LAD, Lex and RCA only in the presence of prior MI. EDWT was related to stenosis of Lex in the presence of MI (P<0.001).

Discussion. Although RWMA is used very often for evaluation of patients, it's sensitivity is low especially in those with no history of MI. RWMA has high specificity for detection of MI in each segment. EDWT is related to Lcx stenosis only in the presence of MI. This variable has low sensitivity and high specificity for presence of coronary artery disease and myocardial infarction.