INTRODUCTION

Acute myocardial infarct (AMI) is a condition characterized by ischemic injury and necrosis of the cardiac muscle which occurs when the blood supply is insufficient to meet the tissue demand for metabolism **(*Vibhuti, 2008).***

The left coronary artery system covers more territory than does the right system; therefore, an AMI in this system is most likely to produce extensive injury, with impairment of function ***(Celik et al, 2008).***

Immediately after the onset of AMI, the ability of ischemic myocardium to relax declines. Relaxation is an active process that uses ATP. Impaired relaxation increases LV end-diastolic pressure (LVEDP), the increased LVEDP results in ventricular dilation, increased pulmonary venous pressure, decreased pulmonary compliance, interstitial and alveolar pulmonary edema. These effects lead to increased hypoxemia, which may worsen ischemic injury to the myocardium ***(Kaikkonen et al, 2008).***

The focus on the morphologic and functional changes of the left ventricle after AMI due to their great prognostic significance for the patient ***(Mark et al, 2009).***

Left ventricular (LV) volumes, ejection fraction (EF) and mass are important prognostic factors in patients with cardiac diseases and are therefore frequently requested for serial testing. Because of its widespread availability, two-dimensional echocardiography is usually the first choice non-invasive imaging method for obtaining these measurements in daily clinical practice ***(Pouleur et al, 2008).***

M-mode echocardiography is widely used in studies to measure LV wall thicknesses and chamber dimension for estimating quantitative measures of LV mass ***(Donnat et al, 2003).***

However, left ventricular mass (LVM) by M-mode overestimated LVM by a mean of 15±24% with overestimation in controls and the different patient groups in a study on 56 patients with normal LV shape and 30 control case ***(Kühl et al*, *2003)***

M-mode echo is limited in its accuracy for measuring LV mass since all methods assume a uniform thickness of the LV, which is not the case in areas of myocardial infarction or with geometric deformity of the LV cavity,vbut Two-dimensional, area-length-based estimates of LVM have been shown to be more accurate than M-mode-based estimates ***(Keith et al, 2001)***

There are limited data on the association of LVM and geometry to prognosis in high risk individuals following myocardial infarction **(Anil , 2005).**

Also the prognostic impact of left ventricular (LV) geometry and mass on cardiovascular risk for patients with a first, uncomplicated acute myocardial infarction (AMI), and echocardiographic ejection fraction ≥50% has not been well described ***(Erberto et al, 2000).***