Introduction

Studies on left ventricular wall motion are an essential part of the diagnosis and assessment of patients with heart disease. In particular quantitative measurement of regional left ventricular contraction provide valuable information in evaluating the effects of drug intervention or coronary artery revascularization.

Although two-dimensional echocardiograph is simple non-invasive technique to assess regional left ventricular contraction abnormalities, some limitations regarding the quantitation remain *(Schnitter, etal. 1995).*

The recent advent of tissue Doppler imaging technique has permitted two-dimensional measurement of tissue motion velocity in real time *(Miyatake, etal 1995).* Myocardial thickening is an important indicator of regional left ventricular contraction *(Guth, etal 1993).*

Doppler tissue imaging is a new noninvasive imaging modality that directly interrogates myocardial velocities throughout the cardiac cycle *(David, etal 1996).*

In measuring wall motion velocity by tissue Doppler imaging, it is important to consider the effect of the heart motion. From this point, velocity differences between endocardial and epicardial sites can represent pure wall motion velocity with little influence from heart motion *(Miyatake, etal 1995).*