Introduction

Although evaluation of the severity of MR is difficult, it is important in the decision making of both medical therapy and timing of surgery.

Doppler echocardiography has high sensitivity in detecting mitral regurgitation and Doppler color flow mapping is the most widespread method in clinical practice to assess the severity of MR.

The technique relies on the absolute or fractional left atrial area that is occupied by the systolic color Doppler regurgitant jet area when it is maximal ***(Spain, 1989).***

Although color flow imaging is sensitive, this technique is misleading with thin eccentric jets often underestimating severe MR and central jets often overestimating moderate MR ***(Chen, et al 1991).***

Therefore several other qualitative and quantitative echo Doppler methods are currently in use for assessment of MR: Methods defining width, size, and spread of the regurgitation jet in the left atrium in addition to methods related to continuous-wave Doppler jet signal density, pulmonary venous flow patterns, and dynamics of the left atrium are the most widely used qualitative methods for the evaluation of MR ***(Schiller,1993***).

These qualitative methods lead to high-degree interobserver and intraobserver variability. Quantitative methods (calculation of regurgitation volume (RV) and fraction (RF) and the measurement of orifice area) on the other hand are time

consuming and highly operator dependent ***(Enriquez-Sarano, et al 1993).*** There is an ongoing research to define a practical and reliable method that would be used to screen hemodynamically significant MR.

The severity of valvular regurgitation has an influence on the color M-mode Doppler flow propagation velocity directed to the chamber that regurgitant flow empties. Onbasili et. al. demonstrated the efficacy of color M-mode Doppler flow propagation of aortic regurgitation for quantitative evaluation ***(Onbaşılı, 2002).***