**PREVALENCE AND THE DETERMINANTS OF A-WAVE DOMINANT PATTERN IN PATIENTS WITH SEVERE MITRAL REGURGITATION**

K.R. Kolla, **N. Qureshi**, H.P. Chaliki

Cardiology, Mayo Clinic, Scottsdale, AZ, USA

**Objective:** To estimate the prevalence of A-wave dominant mitral inflow pattern in patients with severe mitral regurgitation (MR) and identify factors responsible for this pattern.

**Background:**American Society of Echocardiography (ASE) guidelines indicates that A-wave dominant mitral inflow pattern virtually excludes severe MR. However, it is not clear whether some patients have severe MR with A wave dominant pattern in real clinical setting. It is also not clear the factors associated with E vs. A wave dominant pattern.

**Methods:** We retrospectively reviewed the echocardiographic reports of patients with severe MR at our institution since last 14 years. We then compared 228 patients with severe MR who had E-wave dominant pattern (E group), with 44 patients with A-wave dominant pattern (A group). Exclusion criteria: Moderate or greater aortic stenosis, aortic regurgitation (AR) or tricuspid regurgitation (TR).

**Results:** Prevalence of A-wave dominant pattern in patients with severe MR was 16% (95% CI: 12% to 21%). Mean age (73.8±15.3 years Vs.75.6±15.2 years; p=0.47) and ejection fraction (EF) (52.4±18.8 Vs.54.5±18; p=0.5) were not different between E and A groups. Right ventricular systolic pressure and left ventricle (LV) end diastolic diameter were significantly associated with E wave dominance (p values: 0.0021; 0.0094 respectively), while left atrial (LA) volume and MR regurgitation volume were not (p values: 0.95 and 0.91 respectively).

**Conclusions:**1) Although majority of patients with severe MR have E-wave dominant pattern, 16% exhibit A-wave dominance underscoring the need for full MR quantitation even in patient with A wave dominant pattern. 2) LV size and right ventricular (RV) systolic pressure were associated with E-wave dominant pattern likely indicating that, patients with this pattern are likely to have higher left ventricular filling pressure and larger LV size due to progressive MR. Further studies are needed to verify our findings.