

J Am Soc Echocardiogr. 2011 Dec;24(12):1383-91. Epub 2011 Oct 5.

**Prognostic impact of left ventricular mass severity according to the classification proposed by the American Society of Echocardiography/European Association of Echocardiography.**

Barbieri A, Bursi F, Mantovani F, Valenti C, Quaglia M, Berti E, Marino M, Modena MG.

**Source**

Department of Cardiology, Policlinico Hospital, Modena and Reggio Emilia University, Modena, Italy.

**Abstract**

**BACKGROUND:**

The American Society of Echocardiography (ASE) and European Association of Echocardiography (EAE) recommend the use of quantitative estimation of left ventricular (LV) mass and defined partition values for mild, moderate, and severe hypertrophy. However, the prognostic implications associated with this categorization are unknown.

**METHODS:**

In this observational cohort study of unselected adults undergoing echocardiography for any indication, LV hypertrophy was assessed using the ASE/EAE-recommended formula and measurement convention from LV linear dimensions indexed to body surface area. Mortality and incident hospitalizations for cardiovascular disease were the outcomes of this study.

**RESULTS:**

Of 2,545 subjects (mean age,  $61.9 \pm 15.8$  years; 56.3% women), 52.9% had normal LV mass, and 15.4% had mild, 12.1% moderate, and 19.6% severe LV hypertrophy. During a mean follow-up period of  $2.5 \pm 1.2$  years, 121 deaths and 292 incident hospitalizations for cardiovascular disease occurred. In multivariate models including age, gender, LV ejection fraction, wall motion score index, significant valvular disease, and atrial fibrillation, the adjusted hazard ratios for death were 1.81 (95% confidence interval [CI], 1.03-3.20;  $P = .041$ ) for mild, 2.31 (95% CI, 1.33-4.01;  $P = .003$ ) for moderate, and 2.30 (95% CI, 1.39-3.79,  $P = .001$ ) for severe LV hypertrophy. The adjusted hazard ratios for incident cardiovascular hospitalizations were 1.24 (95% CI, 0.84-1.82;  $P = .277$ ) for mild, 2.02 (95% CI, 1.42-2.88;  $P = .0001$ ) for moderate, and 2.38 (95% CI, 1.75-3.22,  $P < .0001$ ) for severe LV hypertrophy. After adjustment for known risk predictors, there was a 1.3-fold risk for death and cardiovascular disease events per category of LV mass ( $P = .001$ ).

**CONCLUSIONS:**

In a cohort study of unselected adult outpatients, the categorization of LV mass according to the ASE/EAE recommendations offered prognostic information independently of age, gender, and other known predictors.