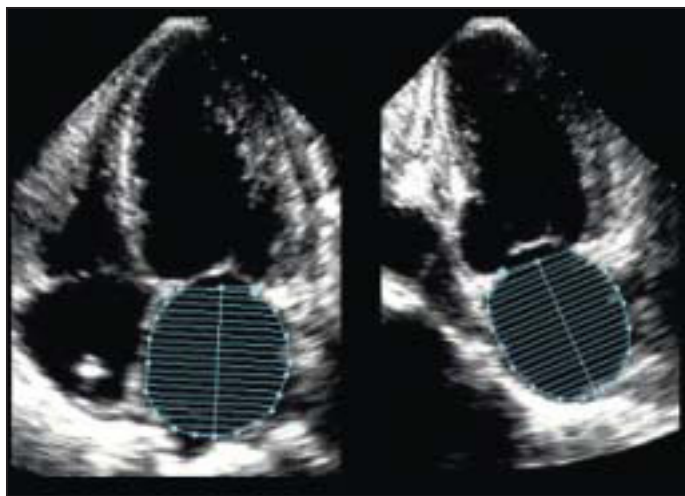


In elderly patients with preserved systolic heart function, left-atrial volume, shown in four-chamber (left) and two-chamber apical (right) views, predicted death. Abnormal left-ventricular geometry was also found to be a predictor.



BRAUNWALD'S HEART DISEASE, A TEXTBOOK OF CARDIOVASCULAR MEDICINE, 8TH ED., CHAPTER 14, ©ELSEVIER (2008)

Left Heart Shape and Size Are Risk Indicators in Elderly

BY MITCHEL L. ZOLER
Philadelphia Bureau

TORONTO — Increased left-atrial volume and abnormal left-ventricular geometry were each independent predictors of death in elderly patients with preserved systolic heart function in a large study.

The findings suggest a potential role for left-atrial volume index and assessment of

left-ventricular geometry when evaluating elderly patients, Dr. Dharmendrakumar A. Patel said at the 14th World Congress on Heart Disease. Both parameters are measured by echocardiography.

A high left-atrial volume index may be an indicator of diastolic dysfunction, said Dr. Patel, a researcher at the Ochsner Clinic in New Orleans. But as of today, no interventions have proved to reduce left-atrial volume and thereby improve prognosis.

His study used echo results from 11,039 patients older than 70 years (average age 78 years) who were referred for an echocardiographic examination at the Ochsner Clinic in 2004-2006. All patients had a left-ventricular ejection fraction of at least 50%, and their average ejection frac-

ADVERTISEMENT

Early intervention to maintain sinus rhythm enhances patient care⁷

To address the complex challenges presented by atrial fibrillation, early and aggressive intervention to restore and maintain sinus rhythm is essential not only to control disease progression⁷ and the consequences of that progression, but to reduce potential acceleration of cardiovascular comorbidities.^{1,3,4}

Understanding AFib. Heart by heart. Patient by patient.

To learn more about atrial fibrillation, visit AFMD.net.

References: 1. Fuster V, Rydén LE, Cannom DS, et al. ACC/AHA/ESC 2006 Guidelines for the Management of Patients With Atrial Fibrillation: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Revise the 2001 Guidelines for the Management of Patients With Atrial Fibrillation); developed in collaboration with the European Heart Rhythm Association and the Heart Rhythm Society. *Circulation*. 2006;114:257-354. 2. Benjamin EJ, Wolf PA, D'Agostino RB, Silbershatz H, Kannel WB, Levy D. Impact of atrial fibrillation on the risk of death: the Framingham Heart Study. *Circulation*. 1998;98:946-952. 3. Crenshaw BS, Ward SR, Granger CB, Stebbins AL, Topol EJ, Califf RM, for the GUSTO-I Trial Investigators. Atrial fibrillation in the setting of acute myocardial infarction: the GUSTO-I experience. *J Am Coll Cardiol*. 1997;30:406-413. 4. Maggioni AP, Latini R, Carson PE, et al. Valsartan reduces the incidence of atrial fibrillation in patients with heart failure: results from the Valsartan Heart Failure Trial (Val-HeFT). *Am Heart J*. 2005;149:548-557. 5. Swedberg K, Olsson LG, Charlesworth A, et al. Prognostic relevance of atrial fibrillation in patients with chronic heart failure on long-term treatment with beta-blockers: results from COMET. *Eur Heart J*. 2005;26:1303-1308. 6. Dries DL, Exner DV, Gersh BJ, Domanski MJ, Wacławski MA, Stevenson LW. Atrial fibrillation is associated with an increased risk for mortality and heart failure progression in patients with asymptomatic and symptomatic left ventricular systolic dysfunction: a retrospective analysis of the SOLVD trials. *J Am Coll Cardiol*. 1998;32:695-703. 7. Van Gelder IC, Hemels MEW. The progressive nature of atrial fibrillation: a rationale for early restoration and maintenance of sinus rhythm. *Europace*. 2006;8:943-949. 8. Hagens VE, Rancho AV, Van Sonderen E, et al, for the RACE Study Group. Effect of rate or rhythm control on quality of life in persistent atrial fibrillation: results from the Rate Control versus Electrical Cardioversion (RACE) study. *J Am Coll Cardiol*. 2004;43:241-247. 9. Dorian P, Jung W, Newman D, et al. The impairment of health-related quality of life in patients with intermittent atrial fibrillation: implications for the assessment of investigational therapy. *J Am Coll Cardiol*. 2000;36:1303-1309.



A high left-atrial volume index may be an indicator of diastolic dysfunction. But there is no current treatment for it.

DR. PATEL

tion was about 60%. In an average follow-up of 1.6 years, 1,531 patients (14%) died.

Analysis of mortality by left-atrial volume index showed that the patients in the quartile with the largest left atria had a 19% mortality rate, significantly higher than the 11% death rate in the patients in the quartile with the smallest left atria. The average left-atrial volume index was 32.5 mL/m² in the patients who survived during follow-up, and 35.7 mL/m² in the patients who died, a significant difference, Dr. Patel said at the congress, sponsored by the International Academy of Cardiology.

Patients with abnormal left-ventricular geometry also had worse survival, compared with those with normal geometry. The mortality rate during follow-up was 12% in those with normal left-ventricular geometry at baseline (about 50% of all participants), compared with 19% mortality in the 5% of patients with concentric, left-ventricular hypertrophy at baseline, the geometry that carried the highest mortality risk. Patients with concentric remodeling and those with eccentric hypertrophy also had significantly increased death rates, about 15%-16%, during follow-up.

Multivariate analysis showed that left-atrial volume index and abnormal left-ventricular geometry were significant, independent factors contributing to mortality. Other significant determinants were age, sex, BMI, and LVEF.

An additional analysis showed that of the quartile of patients with the highest left-atrial volume index, those who also had a left ventricle with a concentric, hypertrophic shape had a strikingly high 50% mortality rate during follow-up.

A limitation of this study was that it included only people who had been referred for cardiac echocardiography. Dr. Patel also did not have information on causes of death or the prevalence of comorbidities. ■

sanofi aventis