pulmonary hypertension with nitroprusside is useful in defining a high risk group. *J Am Coll Cardiol*. 1992;19:48-54.
3. Bolling SF, Deeb GM, Brunsting LA, Bach DS. Early outcome of mitral valve reconstruction in patients with end-stage cardiomyopathy. *J Thorac Cardiovasc Surg*. 1995;109:676-83.
4. Crabtree TD, Bailey MS, Moon MR, Munfakh N, Pasque MK, Lawton JS, et al. Recurrent mitral regurgitation and risk factors for early and late mortality after mitral valve repair for functional ischemic mitral regurgitation. *Ann Thorac Surg*. 2008;85:1537-42.
5. Szalay ZA, Civelek A, Hohe S, Brunner-LaRocca HP, Klövekorn WP, Knez I, et al. Mitral annuloplasty in patients with ischemic versus dilated cardiomyopathy. *Eur J Cardiothorac Surg*. 2003;23:567-72.
6. Bax J, Braun J, Somer ST, Klautz R, Holman ED, Versteegh MIM, et al. Restrictive annuloplasty and coronary revascularization in ischemic mitral regurgitation results in reverse left ventricular remodeling. *Circulation*. 2004;110(Suppl II): II-103-8.
7. De Bonis M, Lapenna E, Verzini A, La Canna G, Grimaldi A, Torracca L, et al. Recurrence of mitral regurgitation parallels the absence of left ventricular reverse remodeling after mitral repair in advanced dilated cardiomyopathy. *Ann Thorac Surg*. 2008;85:932-9.
8. Braun J, van de Veire NR, Klautz RJM, Versteegh MIM, Holman ER, Westenberg JJM, et al. Restrictive mitral annuloplasty cures ischemic mitral regurgitation and heart failure. *Ann Thorac Surg*. 2008;85:430-7.
9. Nagueh SF, Kopelen HA, Zoghbi WA. Relation of mean right atrial pressure to echocardiographic and Doppler parameters of right atrial and right ventricular function. *Circulation*. 1996;93:1160-9.
10. Pepi M, Tamborini G, Galli C, Barbier P, Doria E, Berti M, et al. A new formula for echo-Doppler estimation of right ventricular systolic pressure. *J Am Soc Echocardiogr*. 1994;7:20-6.
11. Kircher BJ, Himelman RB, Schiller NB. Noninvasive estimation of right atrial pressure from the inspiratory collapse of the inferior vena cava. *Am J Cardiol*. 1990;66:493-6.
12. Taniguchi K, Nakano S, Kawashima Y, Sakai K, Kawamoto T, Sakaki S, et al. Left ventricular ejection performance, wall stress, and contractile state in aortic regurgitation before and after aortic valve replacement. *Circulation*. 1990;82: 798-807.
13. Bland JM, Altman DG. Statistical methods for assessing agreement between two methods of clinical measurement. *Lancet*. 1986;1:307-10.
14. Tei C, Ling LH, Hodge DO, Bailey KR, Oh JK, Rodeheffer RJ, et al. New index of combined systolic and diastolic myocardial performance: a simple and reproducible measure of cardiac function—a study in normals and dilated cardiomyopathy. *J Cardiol*. 1995;26:357-66.
15. Gelsomino S, Lorusso R, Capecchi I, Rostagno C, Romagnoli S, Billè G, et al. Left ventricular reverse remodeling after undersized mitral ring annuloplasty in patients with ischemic regurgitation. *Ann Thorac Surg*. 2008;85:1319-30.
16. Gelsomino S, Lorusso R, Billè G, Rostagno C, De Cicco G, Romagnoli S, et al. Left ventricular diastolic function after restrictive mitral ring annuloplasty in chronic ischemic mitral regurgitation and its predictive value on outcome and recurrence of regurgitation. *Int J Cardiol*. 2009;132:419-28.
17. Delgado JF, Conde E, Sánchez V, López-Ríos F, Gómez-Sánchez MA, Escribano P, et al. Pulmonary vascular remodeling in pulmonary hypertension due to chronic heart failure. *Eur J Heart Fail*. 2005;7:1011-6.
18. Enriquez-Sarano M, Rossi A, Seward JB, Bailey KR, Tajik AJ. Determinants of pulmonary hypertension in left ventricular dysfunction. *J Am Coll Cardiol*. 1997; 29:153-9.
19. Cody RJ, Haas GJ, Binkley PF, Capers Q, Kelley R. Plasma endothelin correlates with the extent of pulmonary hypertension in patients with chronic congestive heart failure. *Circulation*. 1992;85:504-9.
20. Moraes DL, Colucci WS, Givertz MM. Secondary pulmonary hypertension in chronic heart failure: the role of the endothelium in pathophysiology and management. *Circulation*. 2000;102:1718-23.
21. Gelsomino S, Lorusso R, Rostagno C, Caciolli S, Billè G, De Cicco G, et al. Prognostic value of Doppler-derived mitral deceleration time on left ventricular reverse remodelling after undersized mitral annuloplasty. *Eur J Echocardiogr*. 2008;9:631-40.
22. de Groote P, Millaire A, Foucher-Hossein C, Nugue O, Marchandise X, Ducloux G, et al. Right ventricular ejection fraction is an independent predictor of survival in patients with moderate heart failure. *J Am Coll Cardiol*. 1998;32: 948-54.
23. Wu AH, Aaronson KD, Bolling SE, Pagani FD, Welch K, Koelling TM. Impact of mitral valve annuloplasty on mortality risk in patients with mitral regurgitation and left ventricular systolic dysfunction. *J Am Coll Cardiol*. 2005;45:381-7.
24. Fattouch K, Guccione F, Sampognaro R, Panzarella G, Corrado E, Navarra E, et al. POINT: efficacy of adding mitral valve restrictive annuloplasty to coronary artery bypass grafting in patients with moderate ischemic mitral valve regurgitation: a randomized trial. *J Thorac Cardiovasc Surg*. 2009;138:278-85.
25. Trento A, Goland S, De Robertis MA, Czer LS. COUNTERPOINT: efficacy of adding mitral valve restrictive annuloplasty to coronary artery bypass grafting in patients with moderate ischemic mitral valve regurgitation. *J Thorac Cardiovasc Surg*. 2009;138:286-8.

ACD

APPENDIX

The following variables were tested: age, gender, body surface area, NYHA functional class, ischemic etiology, hypertension, diabetes, hyperlipidemia, chronic obstructive pulmonary disease, chronic renal failure, peripheral vascular disease, cerebral vascular disease, atrial fibrillation, history of ventricular arrhythmia, duration of heart failure (in months), multivessel coronary artery disease, previous coronary artery bypass grafting, previous percutaneous coronary intervention, β-blockers, angiotensin-converting enzyme inhibitors, angiotensin-II receptor blocker, diuretics, LVEDD (continuous), LVEDD (>65 mm), left ventricular end-systolic dimension (continuous), left ventricular end-systolic dimension (> 50 mm), left atrial dimension, LVEF, tenting height, coaptation length, MR grade, TR grade, systolic PAP (continuous), and severe PH (systolic PAP > 60 mm Hg).

000 **Pulmonary hypertension predicts adverse cardiac events after restrictive mitral annuloplasty for severe functional mitral regurgitation**

Satoshi Kainuma, MD, Kazuhiro Taniguchi, MD, PhD, Koichi Toda, MD, PhD, Toshihiro Funatsu, MD, PhD, Haruhiko Kondoh, MD, PhD, Masami Nishino, MD, PhD, Takashi Daimon, PhD, and Yoshiki Sawa, MD, PhD, Osaka and Hyogo, Japan

We investigated the prognostic role of pulmonary hypertension in patients undergoing restrictive mitral annuloplasty for severe functional mitral regurgitation and found that pulmonary hypertension is an excellent prognostic tool for such patients. In particular, severe pulmonary hypertension (systolic pulmonary artery pressure > 60 mm Hg) was shown to be a predictor of adverse cardiac events and cardiac remodeling.