



# JACC

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#### ORIGINAL RESEARCH

#### 1185 Clinical Outcome of Isolated Tricuspid Regurgitation

Yan Topilsky, Vuyisile T. Nkomo, Ori Vatury, Hector I. Michelena, Thierry Letourneau, Rakesh M. Suri, Sorin Pislaru, Soon Park, Douglas W. Mahoney, Simon Biner, Maurice Enriquez-Sarano

**VINI:** The long-term clinic outcomes of isolated tricuspid regurgitation (TR) (without significant co-morbidities, structural valve disease, significant pulmonary artery systolic pressure elevation by Doppler or overt cardiac cause) are not well defined.

**VIDI:** In this study of 353 patients with isolated TR (age 70 years, male 33%, ejection-fraction 63%, all with right-ventricular-systolic-pressure <50 mm Hg), isolated severe TR (effective regurgitant orifice [ERO]  $\geq 40$  mm<sup>2</sup>) independently predicted higher 10-year mortality and cardiac events. No adverse consequence could be detected with moderate isolated TR (ERO <40 mm<sup>2</sup>). Only 16% of patients underwent cardiac surgery for TR 5 years after diagnosis.

**VICI:** The adverse outcomes with ERO  $\geq 40$  mm<sup>2</sup> compared to EROA <40 mm<sup>2</sup>, support the use of quantitative TR grading as a standard in echocardiographic laboratories. Clinically, the implications of the study suggest that earlier surgical intervention might be beneficial for severe isolated TR. A prospective clinical trial should be considered to confirm the impact of tricuspid surgery on outcomes before such a practice is widely adopted.

#### 1195 ■ EDITORIAL COMMENT Severe Tricuspid Valve Regurgitation Is Not an Innocent Finding to Be Ignored!

Gösta B. Pettersson, L. Leonardo Rodriguez, Eugene H. Blackstone

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**1198 Childhood Obesity: Impact on Cardiac Geometry and Function**

Norman Mangner, Kathrin Scheuermann, Ephraim Winzer, Isabel Wagner, Robert Hoellriegel, Marcus Sandri, Marion Zimmer, Meinhard Mende, Axel Linke, Wieland Kiess, Gerhard Schuler, Antje Körner, Sandra Erbs

**VINI:** Obesity in children and adolescents has increased over the past decades and is considered a strong risk factor for future cardiovascular morbidity and mortality. It is associated with myocardial structural alterations that may influence cardiac mechanics.

**VIDI:** Using a cross-sectional prospective design, 61 obese and 40 nonobese children underwent a standardized 2-dimensional echocardiography and 2-dimensional speckle-tracking. Compared to non-obese children, obese children were characterized by enlarged left sided cardiac chambers, elevated left ventricular mass, and reduced left ventricular longitudinal and circumferential strain. Diastolic function was also impaired in obese compared to nonobese subjects. Both longitudinal and circumferential strains were independently associated with obesity.

**VICI:** As the first study to characterize the subtle differences in left ventricular geometry and function in obese children compared with their nonobese counterparts, this study begs the question of whether these changes are reversible and what their association is with long-term outcomes. Future studies will most likely monitor such parameters over time to determine whether therapeutic interventions can normalize these differences.

**1206 ■ EDITORIAL COMMENT Linking Pediatric Obesity to Subclinical Alterations in Cardiac Structure and Function**

Justin P. Zachariah, Charlotte B. Ingul, Gerald R. Marx

**1209 LGE Patterns in Pulmonary Hypertension Do Not Impact Overall Mortality**

Andrew J. Swift, Smitha Rajaram, Dave Capener, Charlie Elliot, Robin Condliffe, Jim M. Wild, David G. Kiely

**VINI:** The diagnostic and prognostic significance of myocardial late gadolinium enhanced (LGE) cardiac magnetic resonance (CMR) in pulmonary hypertension remains uncertain.

**VIDI:** This was a retrospective observational analysis of 162 patients with pulmonary hypertension referred to a pulmonary hypertension referral center and evaluated with CMR with LGE. Although the presence of LGE at the right ventricular insertion points was of diagnostic value and the presence of LGE at the interventricular septum was associated with more right ventricular dilation, only male sex independently predicted mortality in a multivariable analysis.

**VICI:** Because CMR-LGE in pulmonary hypertension can provide diagnostic information but does not predict adverse outcomes, it may not simply represent underlying myocardial fibrosis. In future studies, methods such as native T1 mapping, extra cellular volume imaging, and T2 mapping may allow for improved quantitation of cellular changes in pulmonary hypertension, with better characterization of the extent of myocardial edema, fibrosis and disarray.

**1218 ■ EDITORIAL COMMENT Prediction of Prognosis in Pulmonary Hypertension Using CMR: What Happens Where the Right and Left Ventricles Meet?**

Amit R. Patel, Karima Addetia

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