Defining Diastolic Heart Failure

The diagnosis of diastolic heart failure suggested by Vasan and Levy\(^1\) and Grossman,\(^2\) as definite, probable, or possible, presently hinges on the demonstration of diastolic left ventricular (LV) dysfunction at cardiac catheterization or echocardiography. It is likely that a far simpler measure, which is based on an analysis of the arterial pulse measured noninvasively, can be used. The studies of Brutsaert et al\(^3\) and others\(^4\) have confirmed that diastolic dysfunction with slowed relaxation in diastole is associated with a prolongation of systole as well. This can be gauged from the ejection duration, as measured in the carotid or radial pressure pulse by applanation tonometry or other techniques.\(^4\) The value in diagnosing diastolic dysfunction is enhanced by the fact that in LV systolic dysfunction, ejection duration at any heart rate is usually shortened.\(^4,5\)

It would be fascinating to know if such information on ejection duration is available in any of the formal invasive clinical studies on diastolic LV dysfunction to which Vasan and Levy\(^1\) and Grossman\(^2\) referred. If such a correlation (which is fundamental to the mechanism of diastolic LV dysfunction) was confirmed, the study of this important but elusive condition could be pursued far more easily, with better distinction between possible, probable, and definite diastolic LV failure.

Michael F. O’Rourke, MD, DSc
Medical Professorial Unit
St Vincent’s Hospital
Darlinghurst NSW 2010
Australia
M.Oourke@unsw.edu.au

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Michael F. O'Rourke

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