A 59-year-old man was admitted for shortness of breath due to complete atrioventricular block. A transthoracic echocardiogram was performed to assess left ventricular ejection fraction before pacemaker implantation. Color Doppler recordings in the apical views revealed 2 small and central diastolic transmitral and transtricuspid reverse flows (Figure, A and online-only Data Supplement Movie I), concurrent with a mild aortic regurgitation (Figure, B and online-only Data Supplement Movie II). These reverse diastolic flows started after a nonconducted P wave and ended after the next P wave as demonstrated by color M-mode and pulsed-wave–Doppler recordings of both transmitral (Figure, D and F) and transtricuspid flows (Figure, C and E).

Atrioventricular (AV) diastolic regurgitation was first described as atrigenic diastolic reflux in patients with AV block by Rutishauser et al in 1966 with the use of


Images in Cardiovascular Medicine
thermodilution during cardiac catheterization. This study helped to understand the mechanisms of retrograde AV flow during diastole. When atrial contraction is not followed by synchronized ventricular contraction, the AV pressure gradient reverses during atrial relaxation, resulting in AV diastolic regurgitation in the presence of an incompletely closed AV valve. Effective ventricular contraction is indeed mandatory for complete AV closure. AV diastolic regurgitations are nowadays more easily recognized by echocardiography but they remain a puzzling finding.

Beside AV block of any degree, AV diastolic regurgitations can also occur in acute aortic regurgitation and severe heart failure in which high left ventricular filling pressures and a poorly compliant left ventricle are the etiopathogenic factors. Because of a low diastolic ventriculoatrial pressure gradient, AV diastolic regurgitations are generally mild and do not usually have therapeutic implications.

**Disclosures**

None.

**Reference**

Atriogenic Diastolic Reflux: 46 Years Later
Jawad Chaara, Wilhelm Rutishauser and Philippe Meyer

Circulation. 2013;127:e480-e481
doi: 10.1161/CIRCULATIONAHA.112.154617
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2013 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/127/10/e480

Data Supplement (unedited) at:
http://circ.ahajournals.org/content/suppl/2013/03/08/127.10.e480.DC1

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation is online at:
http://circ.ahajournals.org//subscriptions/