Rare Visualization of Entrapped Left Ventricular Thrombi in Noncompacted Myocardium

Damien Millischer, MD; Damien Logeart, MD, PhD; Alain Cohen-Solal, MD, PhD; François Tournoux, MD, PhD

A 64-year-old man with no significant medical history presented to the emergency department with severe acute heart failure. Initial management was based on oxygen therapy, diuretics, and nitroglycerin. Twenty-four hours after admission, the patient developed aphasia and left arm weakness. Brain MRI showed multiple strokes (Figure A) compatible with cardiac emboli. Echocardiography showed dilated cardiomyopathy with severe left ventricular (LV) dysfunction (ejection fraction, 15%). The presence of large trabeculations at the apex and posterolateral wall (Figure B, online-only Data Supplement Videos 1 and 2) more clearly visualized with contrast imaging (online-only Data Supplement Video 3) suggested the diagnosis of LV noncompaction. A zoomed-in view of the LV apex revealed a thrombus entrapped within these trabeculations (Figure C, online-only Data Supplement Video 4). Cardiac MRI confirmed the diagnosis of LV noncompaction and the presence of 2 thrombi (Figure D).

LV noncompaction is considered to be associated with a higher risk of peripheral emboli than of other cardiomyopathies. In addition to LV dysfunction, blood flow is extremely sluggish within the noncompacted myocardium, increasing the risk of intracardiac thrombi. In a series of 34 patients with LV noncompaction followed for 44 months, thromboembolic events occurred in 24%.1 However, to our knowledge, this case is only the second report2 of direct visualization of a thrombus entrapped within noncompacted myocardium.

Disclosures

None.

References


Key Words: echocardiography ■ embolism ■ stroke ■ thrombus ■ isolated noncompaction of the ventricular myocardium

Figure. A, MRI showing multiple cerebral strokes (arrows) in various vascular territories compatible with a cardiac source of embolism. B, Echocardiographic 4- and 3-chamber views of the left ventricle (LV) showing large trabeculations of the apex, lateral, and posterolateral walls. C, Entrapped thrombus (arrow) of the LV within the noncompacted myocardium. D, MRI 4-chamber view of the LV with presence of large trabeculations (yellow arrows) compatible with the diagnosis of LV noncompacted with entrapped thrombi (green arrows).
Rare Visualization of Entrapped Left Ventricular Thrombi in Noncompacted Myocardium
Damien Millischer, Damien Logeart, Alain Cohen-Solal and François Tournoux

Circ Heart Fail. 2011;4:e9
doi: 10.1161/CIRCHEARTFAILURE.111.961342

Circulation: Heart Failure is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2011 American Heart Association, Inc. All rights reserved.
Print ISSN: 1941-3289. Online ISSN: 1941-3297

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circheartfailure.ahajournals.org/content/4/3/e9

Data Supplement (unedited) at:
http://circheartfailure.ahajournals.org/content/suppl/2011/05/19/4.3.e9.DC1

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation: Heart Failure 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: Heart Failure is online at:
http://circheartfailure.ahajournals.org//subscriptions/
SUPPLEMENTAL MATERIAL

Videos
Videos 1 and 2: Echo apical 4- and 3-chamber views showing large trabeculations at the apex and lateral and postero-lateral walls of the LV.
Video 3: Perfusion imaging was performed with contrast injection (Sonovue Bracco Imaging) and a high mechanical index (1.4) so that the trabeculations and sluggish flow are well-visualized.
Video 4: Echo view of the entrapped thrombus within the noncompacted myocardium at the LV apex.