A 55-year-old woman presented with progressive heart failure symptoms and was diagnosed by endomyocardial biopsy with light chain amyloidosis. Magnetic resonance imaging (MRI) at baseline showed slightly increased wall thickness of the right and left ventricles and abnormal nulling of the myocardium with a dark blood pool (Figure A) on postgadolinium images, consistent with amyloidosis. Baseline N-terminal prohormone of brain natriuretic peptide (NT-Pro BNP) level was 1429 pg/mL (normal range 10–168 pg/mL). Three years after autologous peripheral blood stem cell transplant (SCT), she continued to have complete hematologic response and had improvement of the heart failure symptoms. NT-Pro BNP level improved to 277 pg/mL. Repeat MRI showed regression of the mildly increased ventricular wall thickness and normal nulling of the myocardium (Figure B), with faint residual areas of myocardial delayed enhancement.

Extent of cardiac involvement is the major determinant of outcome in light chain amyloidosis. Cardiac MRI with gadolinium administration can be used to detect the presence of amyloid deposition, which is seen as either global transmural or subendocardial delayed enhancement or suboptimal myocardial nulling, as was seen in this case. The improvement in the imaging findings after SCT in this case suggests regression of the amyloid infiltration of the myocardium and correlates with the improvement in the heart failure symptoms and the NT-Pro BNP levels.

Disclosures
None.

References

Figure. A, Baseline midventricular short axis magnetic resonance imaging (MRI) obtained 10 minutes after administration of intravenous gadolinium shows diffusely abnormal nulling of the myocardium with a characteristic dark blood pool, consistent with cardiac amyloidosis. B, Three years after stem cell transplant, postgadolinium midventricular short axis MRI image shows normal nulling of the myocardium with faint patchy areas of residual delayed enhancement. RV indicates right ventricle; LV, left ventricle.
Improvement in Myocardial Delayed Enhancement After Autologous Stem Cell Transplant in a Patient With Light Chain Amyloidosis
Crystal R. Bonnichsen, James F. Glockner and Martha Grogan

Circ Heart Fail. 2012;5:e55
doi: 10.1161/CIRCHEARTFAILURE.112.967935

Circulation: Heart Failure is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2012 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/5/3/e55

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/