Correction to: ASNC/AHA/ASE/EANM/HFSA/ISA/SCMR/SNMMI Expert consensus recommendations for multimodality imaging in cardiac amyloidosis: Part 2 of 2—Diagnostic criteria and appropriate utilization

Sharmila Dorbala, MD, MPH, FASNC (Chair),[a] Yukio Ando, MD, PhD,[b] Sabahat Bokhari, MD,[c] Angela Dispenzieri, MD,[d] Rodney H. Falk, MD,[a] Victor A. Ferrari, MD,[e] Marianna Fontana, PhD,[f] Olivier Gheysens, MD, PhD,[g] Julian D. Gillmore, MD, PhD,[f] Andor W. J. M. Glaudemans, MD, PhD,[h] Mazen A. Hanna, MD,[i] Bouke P. C. Hazenberg, MD, PhD,[j] Arnt V. Kristen, MD,[k] Raymond Y. Kwong, MD, MPH,[a] Mathew S. Maurer, MD,[c] Giampaolo Merlini, MD,[l,m] Edward J. Miller, MD, PhD,[n] James C. Moon, MD,[f] Venkatesh L. Murthy, MD, PhD,[o] C. Cristina Quarta, MD, PhD,[f] Claudio Rapezzi, MD,[p] Frederick L. Ruberg, MD,[q] Sanjiv J. Shah, MD,[r] Riemer H. J. A. Slart, MD,[h] Hein J. Verberne, MD, PhD,[s] and Jamieson M. Bourque, MD, MHS, FASNC (Co-Chair)[t]

[a] Cardiac Amyloidosis Program, Cardiovascular Imaging Program, Departments of Radiology and Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA
[b] Department of Neurology, Graduate School of Medical Sciences, Kumamoto University, Kumamoto, Japan
[c] Columbia University Medical Center, Columbia University Medical Center/New York Presbyterian Hospital, Columbia University, New York, NY
[d] Divisions of Hematology and Cardiovascular Diseases, Department of Radiology, Division of Nuclear Medicine, Department of Medicine, Mayo Clinic, Rochester, MN
[e] Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA
[f] Division of Medicine, National Amyloidosis Centre, University College London, London, United Kingdom
[g] Nuclear Medicine and Molecular Imaging, University Hospitals Leuven, Leuven, Belgium
[h] Medical Imaging Center, Department of Nuclear Medicine and Molecular Imaging, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands
[i] Department of Cardiovascular Medicine, Cleveland Clinic, Cleveland, OH
[j] Department of Rheumatology & Clinical Immunology, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands
[k] Department of Cardiology, University of Heidelberg, Heidelberg, Germany
[l] Amyloidosis Research and Treatment Center, Foundation Istituto di Ricovero e Cura a Carattere Scientifico Policlinico San Matteo, Pavia, Italy
[m] Department of Molecular Medicine, University of Pavia, Pavia, Italy
[n] Cardiovascular Medicine, Yale University School of Medicine, New Haven, CT
[o] Frankel Cardiovascular Center, Michigan Medicine, Ann Arbor, MI

The original article can be found online at https://doi.org/10.1007/s12350-019-01761-5.

Reprint requests: Sharmila Dorbala, MD, MPH, FASNC (Chair), Cardiac Amyloidosis Program, Cardiovascular Imaging Program, Departments of Radiology and Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA ; *sdorbala@bwh.harvard.edu*

J Nucl Cardiol 2021;28:1763–7.
1071-3581/$34.00

[p] Cardiology Unit, Department of Experimental, Diagnostic and Specialty Medicine, Alma Mater-University of Bologna, Bologna, Italy
[q] Amyloidosis Center and Section of Cardiovascular Medicine, Department of Medicine, Boston University School of Medicine, Boston Medical Center, Boston, MA
[r] Feinberg School of Medicine, Northwestern University, Chicago, IL
[s] Department of Radiology and Nuclear Medicine, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands
[t] Cardiovascular Imaging Center, Departments of Medicine and Radiology, University of Virginia, Charlottesville, VA

doi:10.1007/s12350-021-02712-9

Correction to: Journal of Nuclear Cardiology
https://doi.org/10.1007/s12350-019-01761-5

- In the **Introduction** SCMR was listed incorrectly. SCMR is the Society for Cardiovascular Magnetic Resonance.
- **Table 1.** Criteria for Diagnosis, 'Clinical Diagnosis of ATTR…,' number should begin with ''1.''
- **Table 2.** Erroneously printed without Clinical scenario 7. 'Prior testing suggestive of cardiac amyloidosis.' Please see revised Table 2.

Table 2. Appropriate utilization rating of multimodality imaging for the assessment of cardiac amyloidosis

Clinical scenarios	Echo -AUC Category (median score)	CMR -AUC Category (median score)	^{99m}Tc-PYP/DPD/HMDP -AUC Category (median score)
1. Identifying cardiac involvement: No cardiac symptoms			
1.1 Asymptomatic *TTR* gene carrier, initial evaluation	A (7)	M (6)	A (8)
1.2 Asymptomatic *TTR* gene carrier, recurrent testing	A (7)	M (6)	A (7.5)
1.3 Biopsy-proven systemic AL amyloidosis: NT-proBNP age-adjusted abnormal or troponin abnormal	A (9)	A (7)	R (1)
1.4 MGUS with abnormal FLC levels: NT-proBNP age-adjusted abnormal or troponin abnormal	A (8)	A (7)	R (2)
2. Screening for cardiac amyloidosis: New symptomatic heart failure			
2.1 Individuals of any age with elevated FLC levels	A (9)	A (8)	R (2.5)
2.2 African-Americans age >60 years with unexplained heart failure	A (9)	A (8)	A (8)
2.3 African-Americans age >60 years with unexplained increased LV wall thickness	A (9)	A (8)	A (9)
2.4 Non-African-Americans age >60 years with unexplained heart failure and increased LV wall thickness	A (9)	A (8)	A (8)
2.5 Individuals >60 years with low-flow low-gradient aortic stenosis**	NA	A (8)	A (7)
2.6 Individuals with heart failure and unexplained peripheral sensorimotor neuropathy	A (8)	A (8)	A (8)
2.7 Individuals with known or suspected familial amyloidosis	A (8)	A (8)	A (8)
2.8 Individuals with monoclonal gammopathy, including multiple myeloma	A (8)	A (8)	R (2)
3. Evaluation of biopsy-proven AL cardiac amyloidosis			
3.1 Quantify cardiac amyloid burden	A (7)	A (9)	R (1)
3.2 Assess cardiac response to therapy/disease progression in AL cardiac amyloidosis every 6 months*	M (5) †	R (3)	R (1)
3.3 Assess cardiac response to therapy/disease progression in AL cardiac amyloidosis every 12 months*	M (5)	M (6)	R (1)

Table 2. continued

3.4 Assess cardiac response to therapy/disease progression in AL cardiac amyloidosis every 24 months*	A (7)	A (8)	R (1)
3.5 Guide eligibility for stem cell transplant in systemic AL amyloidosis	A (8)	M (5)	R (1)
4. Evaluation of biopsy-proven ATTR cardiac amyloidosis			
4.1 Quantify amyloid burden	A (8)	A (9)	R (2)
4.2 Assess cardiac response to therapy/disease progression in ATTR cardiac amyloidosis every 6 months*	M (4) †	R (2)	R (2)
4.3 Assess cardiac response to therapy/disease progression in ATTR cardiac amyloidosis every 12 months*	A (7)	M (5)	R (2.5)
4.4 Assess cardiac response to therapy/disease progression in ATTR cardiac amyloidosis every 24 months*	A (8)	A (8)	R (3)
4.5 Contraindication to CMR (intracardiac devices or renal insufficiency)	A (8)	NA	R (3)
5. Follow-up testing: New or worsening cardiac symptoms			
5.1 *TTR* gene carrier	A (8)	A (7)	A (8)
5.2 AL amyloidosis	A (8)	A (7)	R (1)
5.3 ATTR amyloidosis	A (8)	A (7)	A (7.5)
6. Other clinical conditions associated with amyloidosis			
6.1 Individuals >60 years with unexplained bilateral carpal tunnel syndrome	A (7)	M (5) †	M (6.5) †
6.2 Individuals with unexplained bilateral carpal tunnel syndrome and elevated FLC levels	A (7)	M (5)	M (5.5)
6.3 Individuals >60 years with heart failure and unexplained biceps tendon rupture	A (7)	M (5)	M (6)
6.4 Adults, especially elderly men, with unexplained neuropathy, other arrhythmias in the absence of usual risk factors and no signs/symptoms of heart failure	A (7)	M (5)	M (6)

Table 2. continued

7. Prior testing suggestive of cardiac amyloidosis			
7.1 Suggestive echo	NA	A (7)	M (6)
7.2 Suggestive CMR	A (8)	NA	M (6)
7.3 Suggestive bone scintigraphy	A (8)	A (7.5)	NA

A, appropriate; *AL*, amyloidogenic light chain; *ATTR*, amyloidogenic transthyretin; *bone scintigraphy*, ^{99m}Tc pyrophosphate (PYP), ^{99m}Tc-3,3-diphosphono-1,2-propanodicarboxylic acid (DPD), ^{99m}Tc-hydroxymethylene diphosphonate (HMDP); *CMR*, cardiac magnetic resonance; *Echo*, echocardiography; *LV*, left ventricular; *MGUS*, Monoclonal gammopathy of uncertain significance; *M*, maybe appropriate; *NA*, not assessed; *NT-pro BNP*, N-terminal pro-brain natriuretic peptide; *R*, rarely appropriate.
*Time interval may vary based on the clinical status of the patient and local clinical practice.
**Although most patients with cardiac amyloidosis will have preserved LV ejection fraction or "paradoxical" low-flow, low-gradient AS, LV ejection fraction may be reduced or mid-range in some cases.
†Indicates lack of consensus for rating among experts.

- **Acknowledgments** erroneously printed without reviewers Richard Cheng, MD and Roy John, MD.
- **Reference 8.** This article is now published. The citation is:
  Knight DS, Zumbo G, Barcella W, Steeden JA, Muthurangu V, Martinez-Naharro A, et al. Cardiac structural and functional consequences of amyloid deposition by cardiac magnetic resonance and echocardiography and their prognostic roles. *JACC Cardiovasc Imaging* 2019;12(5):823-33.
- **Reference 22.** updated:
  Rowczenio D, Wechalekar. A Mutations in Hereditary Amyloidosis. 2015. Available at http://amyloidosismutations.com/mut-attr.php