

Late Iodine Enhancement and Extracellular Volume Fraction in Cardiac Amyloidosis by Computed Tomography

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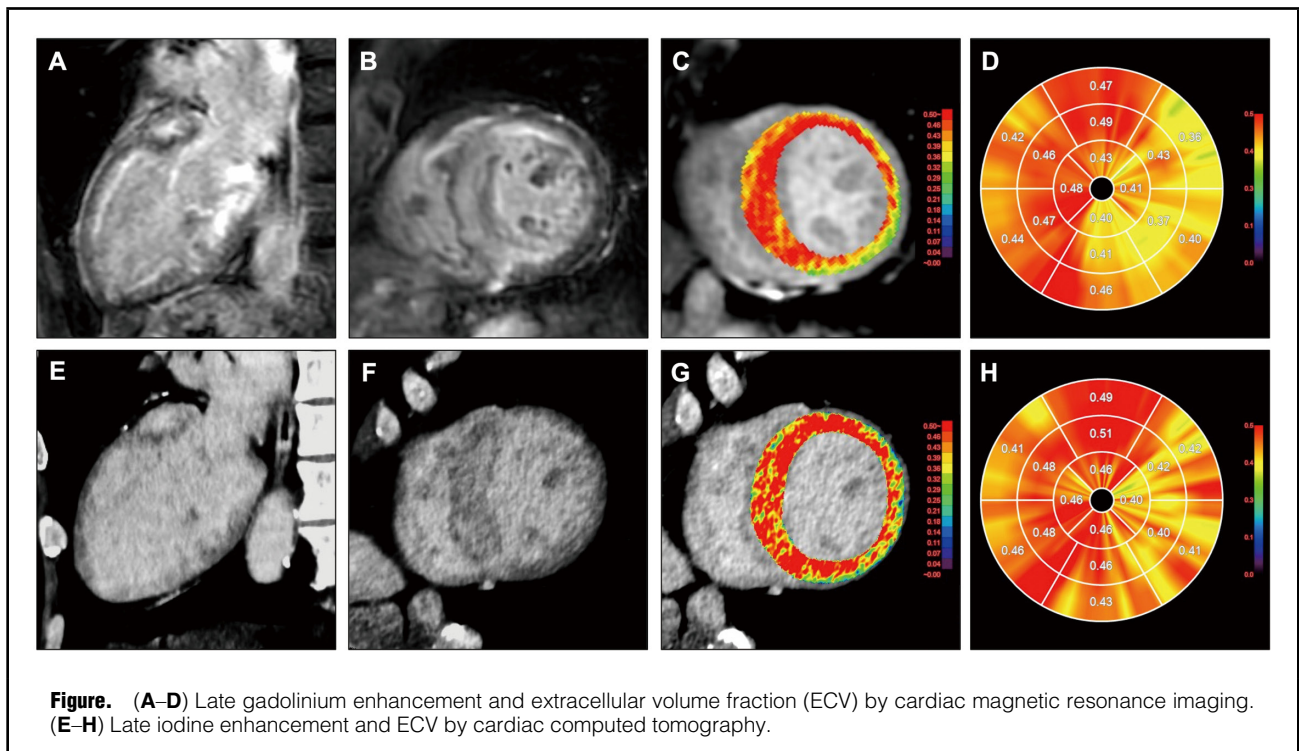


Figure. (A–D) Late gadolinium enhancement and extracellular volume fraction (ECV) by cardiac magnetic resonance imaging. (E–H) Late iodine enhancement and ECV by cardiac computed tomography.

A 72-year-old man was referred to hospital because of abnormal ECG, showing poor R wave progression in the precordial leads. Transthoracic echocardiography demonstrated concentric left ventricular hypertrophy, and speckle tracking showed an apical-sparing pattern. Cardiac magnetic resonance imaging (CMR) revealed late gadolinium enhancement (LGE) in the entire subendocardium, which was transmurally exhibited in the hypertrophic septum (**Figure A,B**). The extracellular volume fraction (ECV) by T1 mapping was remarkably ele-

vated at 43% (**Figure C,D**). Cardiac computed tomography (CT) was performed using a 256-detector row scanner. Equilibrium phase imaging was acquired 5 min after injection of 100 mL of iodine contrast agent (370 mgI/mL). The ECV was measured with the subtraction method using the precontrast and equilibrium phase images. Cardiac CT showed no coronary artery stenosis. Equilibrium phase imaging showed late iodine enhancement co-located with LGE (**Figure E,F**). The ECV by CT was 44%, as high as on CMR (**Figure G,H**). Per histopathology, the patient had

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wild-type transthyretin cardiac amyloidosis.

CMR is widely used for assessing cardiac amyloidosis.¹ Recently, ECV, as measured by CT, was described to have good concordance with ECV as measured by CMR.² Cardiac CT may be useful in detecting cardiac amyloidosis because it is performed more frequently than CMR and is not contraindicated among patients undergoing dialysis or following treatment with implantable cardiac electronic devices.

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