

Multimodality Imaging in the Diagnosis of ATTR-CM

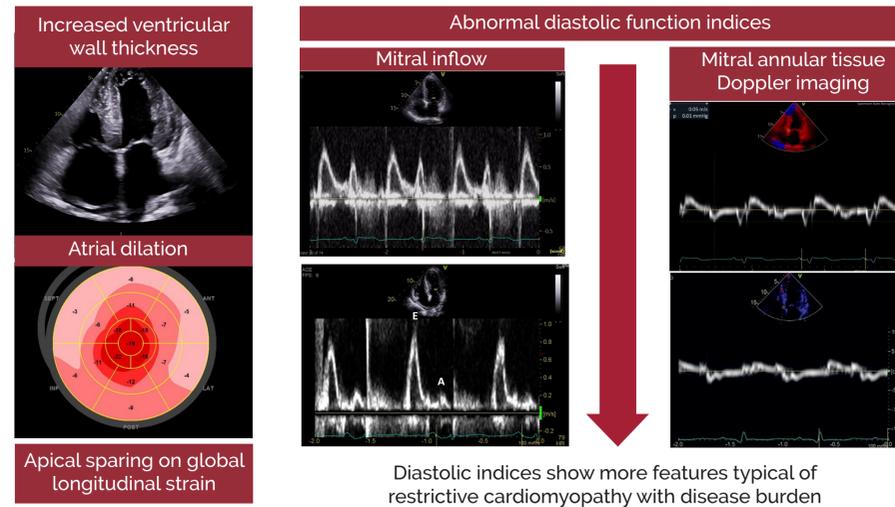
Modality

Imaging Findings

Limitations

Echocardiography

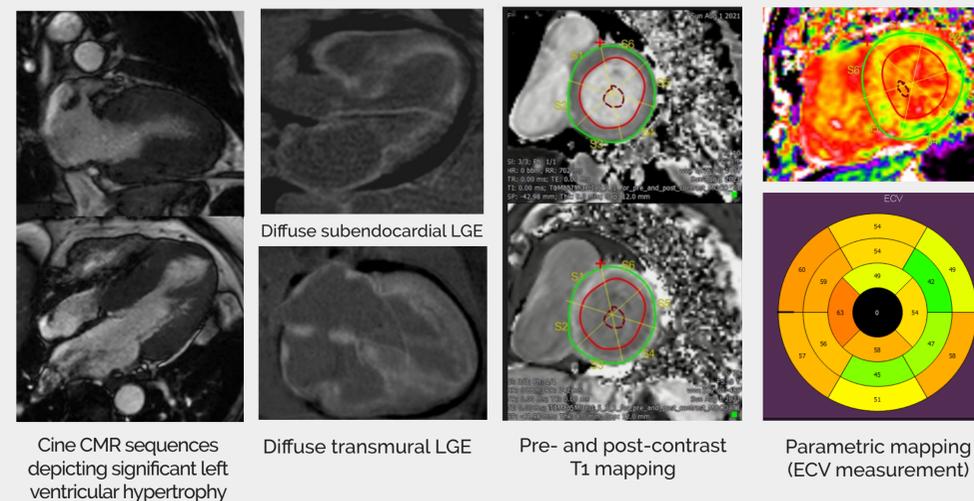
- Usually, first test after “red flags” and clinical features raise suspicion
- Characterizes wall thickness and mass
- Identifies valvular heart disease and features of diastolic dysfunction
- Apical sparing strain pattern may further enhance clinical suspicion
- Widely available



- Thickened heart walls and diastolic dysfunction not specific to cardiac amyloidosis.
- Findings can be seen in hypertrophic and hypertensive cardiomyopathies
- Cannot directly assess myocardial tissue characteristics
- Other tests are needed to confirm ATTR-CM diagnosis

Cardiac Magnetic Resonance

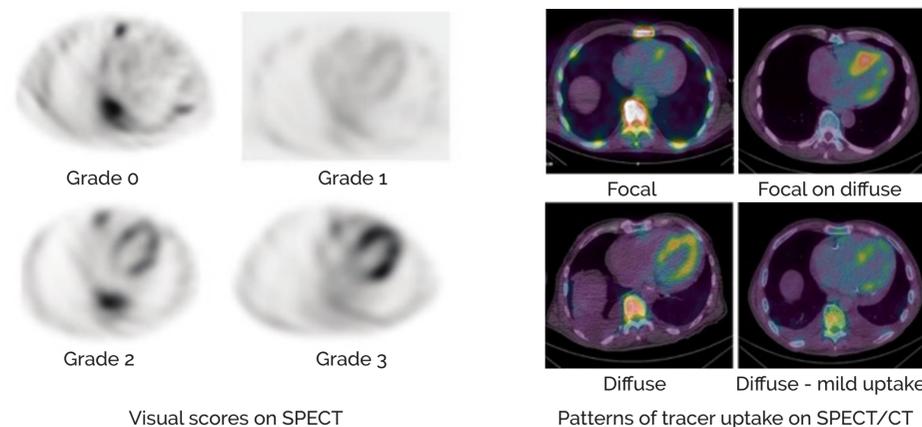
- High accuracy for confirmation of amyloid
- Integrates function and tissue characteristics
- Identifies characteristic patterns of myocardial tissue abnormalities by late gadolinium enhanced (LGE) imaging
- Measurement of extracellular volume (ECV) identifies extent of amyloid infiltration (normal ECV <30%)



- Not definitive for diagnosis of ATTR-CM
- Cannot distinguish ATTR-CM from light-chain amyloidosis
- LGE patterns can overlap with other comorbidities
- Non-classic LGE patterns can be seen, especially in early disease
- ECV is not diagnostic of ATTR-CM
- Limited role in patients with cardiac devices and chronic kidney disease

Cardiac Amyloid Radionuclide Scintigraphy

- High sensitivity and specificity for diagnosis of ATTR-CM once light chain amyloidosis has been ruled out
- High negative predictive value for ATTR-CM
- Similar diagnostic accuracy for ^{99m}Tc-DPD/HDP/PYP
- Visual scores in ATTR-CM can vary from 0-3
- Non-diffuse tracer distribution can be seen in many cases



- False positive or negative findings when SPECT or SPECT/CT is not employed
- Study may be negative with some genetic variants or in early disease
- ^{99m}Tc-HDP has a faster washout from the heart than ^{99m}Tc-PYP, thus imaging timing may need to be adjusted accordingly

Get More
ATTR-CM Resources



Hover over image with your camera

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