IRM cardiaque

le point de vue du cardiologue

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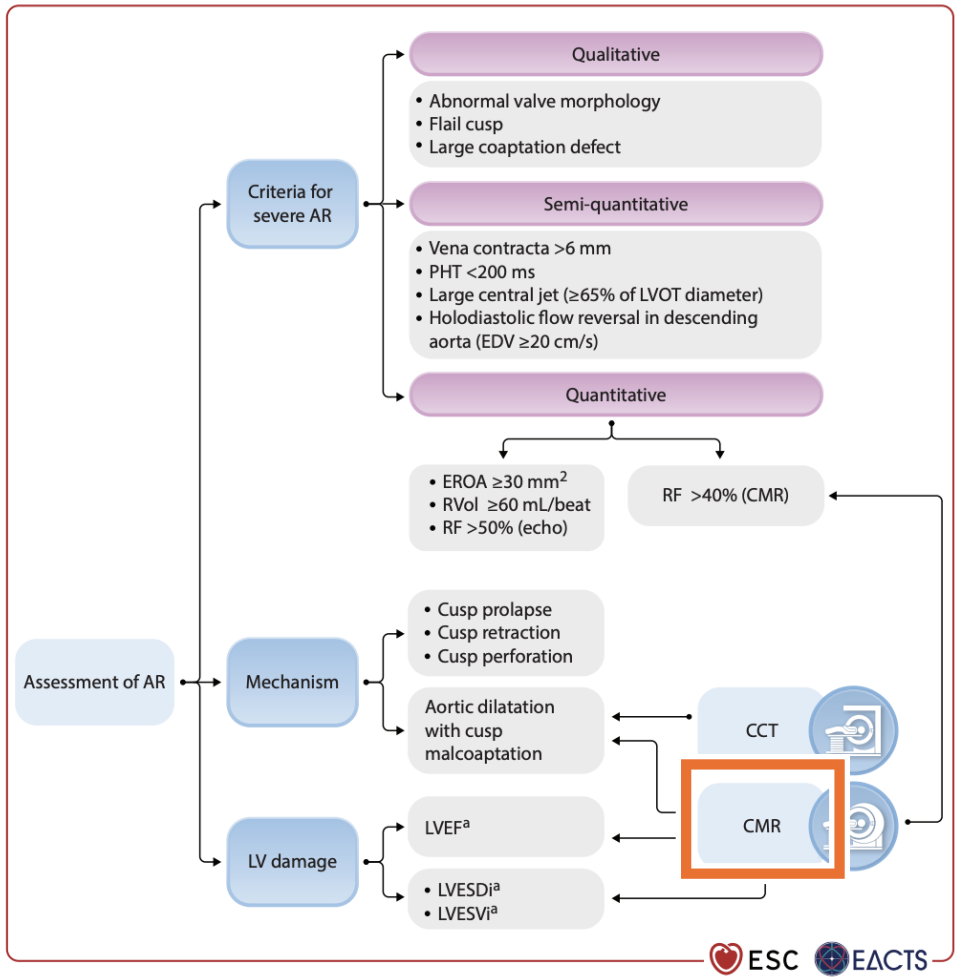
Fuite aortique



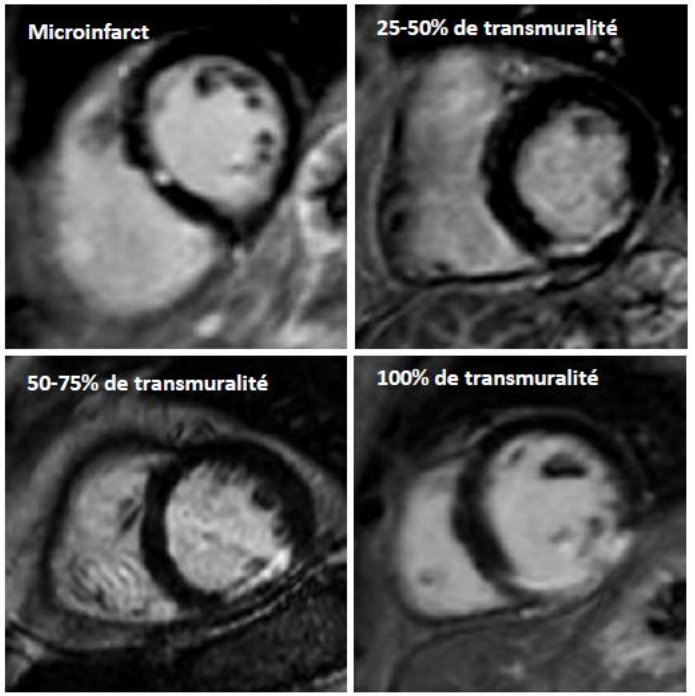
FR > 33% prédit la progression des symptômes et les indications d'une chirurgie correctrice.

- Volume de régurgitation (ml) ml): contraste de phase à travers le plan (ml).
- Volume de régurgitation (ml) alternatif = ciné VG VES ciné VD VES (valable uniquement en cas de valvulopathie simple)
- Fraction de régurgitation (%) = VR / Flux antérograde x 100

Cardiopathie ischémique

LV thrombus		
CMR imaging should be considered in patients with equivocal echocardiographic images or in cases of high clinical suspicion of LV thrombus.[577,578]	IIa	C

Ventricular arrythmias		
ICD therapy is recommended to reduce sudden cardiac death in patien[illegible]matic HF (NYHA Class II–III) an[illegible] LVEF ≤35% [illegible]espite optimal medical therapy for >3 months and at least 6 weeks after MI who are expected to survive for at least 1 year with good functional status.[434,609,610]	I	A



- Recherche de thrombus
- Recherche de viabilité avant revascularisation
- Evaluation précise de la FEVG (< 35%) pour indication du DAI en prévention primaire

Recherche d'ischémie : IRM de stress

In individuals with suspected CCS and moderate or high (>15%–85%) pre-test likelihood of obstructive CAD, stress CMR perfusion imaging is recommended to diagnose and quantify myocardial ischaemia and/or scar and estimate the risk of MACE.[148,273,276,278,294–297]	I	B

MINOCA

MINOCA signifie *myocardial infarction with non-obstructive coronary arteries*.
6% des infarctus
Représenté principalement par les myocardites, les infarctus d'origine embolique et les tako tsubo.

In patients with a working diagnosis of MINOCA, CMR imaging is recommended after invasive angiography if the final diagnosis is not clear.[544,545]	I	B

Myocardite

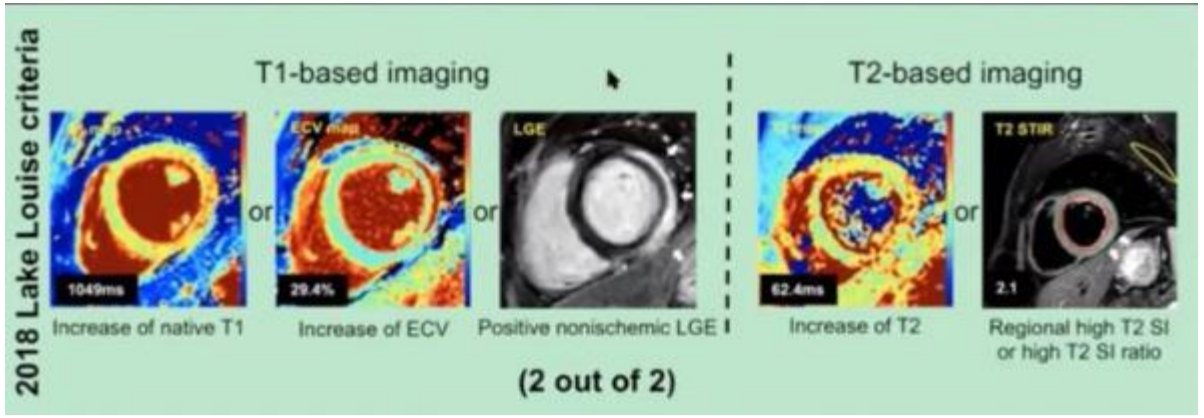


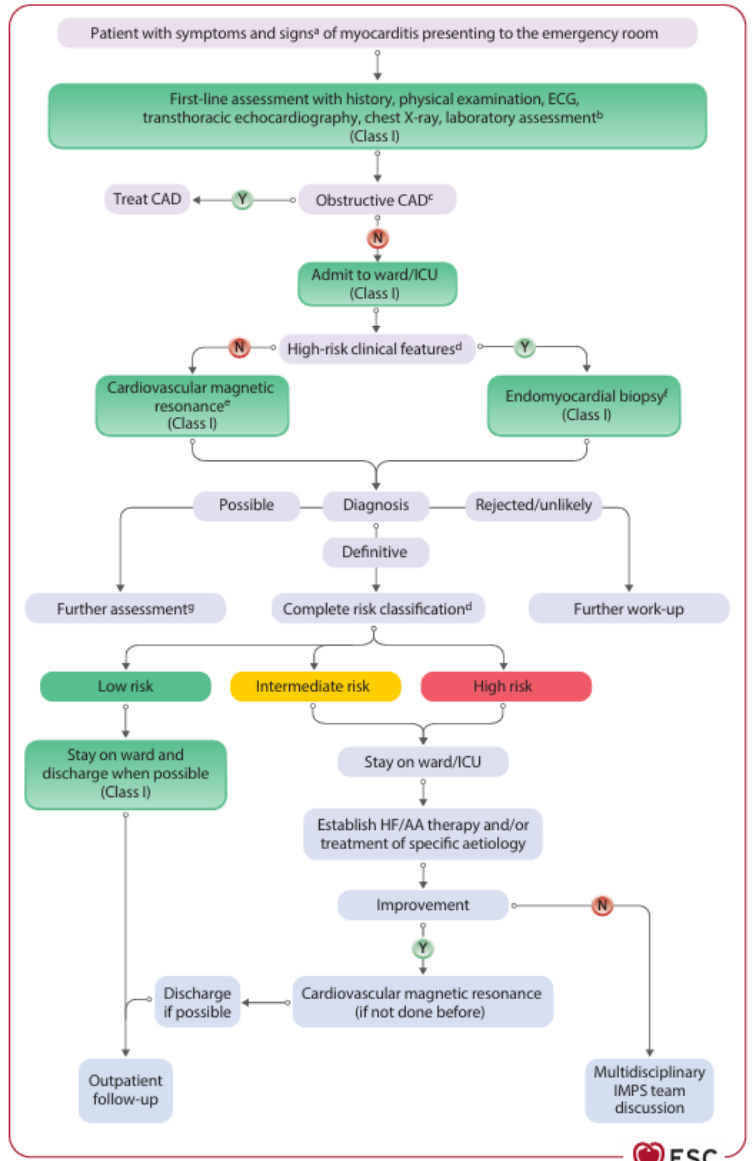
Table 4 **Diagnostic criteria and classification for inflammatory myopericardial syndrome**

IMPS		
If diagnostic criteria for myocarditis and/or pericarditis are fulfilled[a]		
	Myocarditis	**Pericarditis**
Definite	Clinical presentation[b] CMR- or EMB-proven	Clinical presentation[b] with >1 additional criterion
Possible	Clinical presentation[b] with at least 1 additional criterion CMR- or EMB-uncertain or not available	Clinical presentation[b] with 1 additional criterion
Unlikely/rejected	Only clinical presentation[b] without additional criteria	Only clinical presentation[b] without additional criteria
Additional criteria beyond clinical presentations[b]		
	Myocarditis	**Pericarditis**
Clinical[b]	Non-specific findings	Pericardial rubs
ECG[c]	ST-T changes	PR depression, widespread ST-segment elevation
Biomarkers	Troponin elevation	C-reactive protein elevation
Imaging[d]	Abnormal strain, wall motion, reduced EF Myocardial oedema and/or LGE (CMR findings)	New or worsening pericardial effusion Pericardial oedema and/or LGE (CMR findings)

Recommendations	Class[a]	Level[b]
Myocarditis		
CMR is recommended in patients with suspected myocarditis to reach a clinical diagnosis and to determine the cause of acute myocardial injury, including assessment of oedema, ischaemia, and necrosis/fibrosis/scarring.[115,164,169–183]	I	B
CMR is recommended for follow-up at least within the first 6 months in patients with myocarditis to identify a healed or ongoing process, for risk stratification and personalized therapy, and to enable a return to exercise.[10,62,184–186]	I	C
Pericarditis		
CMR is recommended in patients with suspected pericarditis when a diagnosis cannot be made using clinical criteria to assess evidence of pericardial thickening, oedema, LGE, and to assess the persistence of disease during follow-up in selected cases.	I	B

Table 7 Clinical risk stratification to guide work-up in inflammatory myopericardial syndrome

Risk	High risk	Intermediate risk	Low risk
Myocarditis	• Acute HF/cardiogenic shock • Dyspnoea NYHA III–IV refractory to medical therapy • Cardiac arrest/syncope[a] • Ventricular fibrillation/sustained ventricular tachycardia[a] • High-level AV block[a]	• New/progressive dyspnoea • Non-sustained ventricular arrhythmias • Persistent release or relapsing troponin	Stable symptoms or oligosymptomatic
	Imaging criteria:	**Imaging criteria:**	**Imaging criteria:**
	• Newly reduced LVEF (<40%)[a] Extensive LGE on CMR[i]	• Newly mildly reduced LVEF (41%–49%) and/or WMA • Preserved LVEF (≥50%) and LGE ≥2 segments on CMR	• Preserved LVEF (≥50%) without LGE or limited LGE (<2 segments) on CMR
Pericarditis	• Signs and symptoms of cardiac tamponade • Fever (temperature >38°C) • Effusive–constrictive pericarditis • Failure of NSAID therapy • Incessant pericarditis	• Signs and symptoms of right HF	• Response to adequate therapy within 1–2 weeks
	Imaging criteria:	**Imaging criteria:**	**Imaging criteria:**
	• Large PEff (>20 mm end-diastole) • Cardiac tamponade • Extensive pericardial LGE on CMR	• Moderate–large PEff (10–20 mm end-diastole) • Constrictive physiology regardless of the size of the effusion	• Absence or mild PEff • Absence of pericardial LGE on CMR

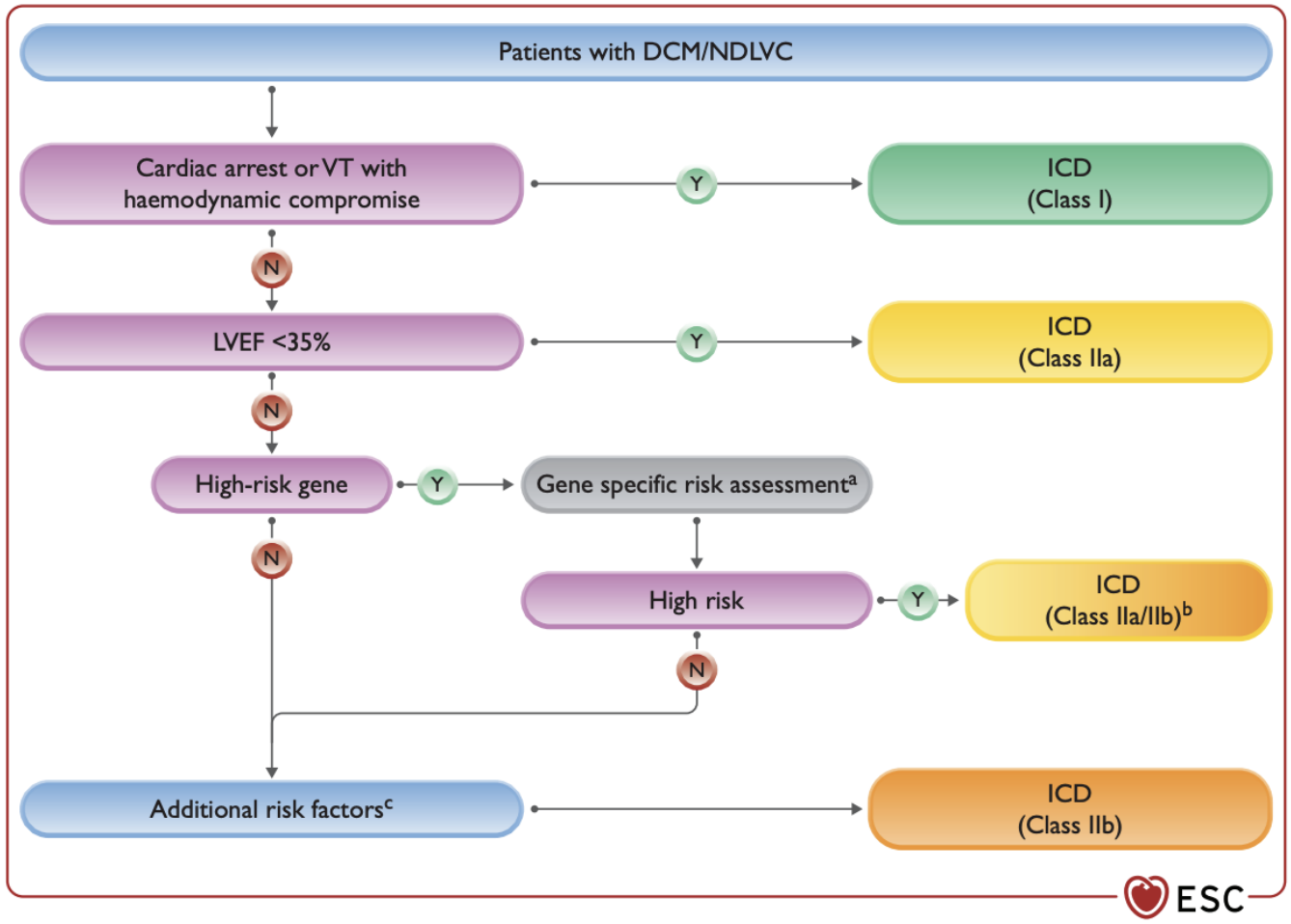


Cardiopathie dilatée et/ou hypokinétique

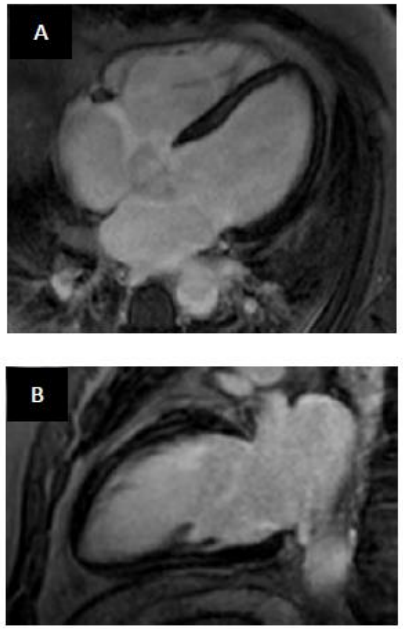
Recommendations	Class[a]	Level[b]
Contrast-enhanced CMR is recommended in patients with cardiomyopathy at initial evaluation.[10,90,116,119–143]	I	B
Contrast-enhanced CMR should be considered in patients with cardiomyopathy during follow-up to monitor disease progression and aid risk stratification and management.[89,90,120–122,127,129,136–147]	IIa	C
Contrast-enhanced CMR should be considered for the serial follow-up and assessment of therapeutic response in patients with cardiac amyloidosis, Anderson–Fabry disease, sarcoidosis, inflammatory cardiomyopathies, and haemochromatosis with cardiac involvement.[148–152]	IIa	C
In families with cardiomyopathy in which a disease-causing variant has been identified, contrast-enhanced CMR should be considered in genotype-positive/phenotype-negative family members to aid diagnosis and detect early disease.[10,122,126,128,129,135–143,145,153–159]	IIa	B
In cases of familial cardiomyopathy without a genetic diagnosis, contrast-enhanced CMR may be considered in phenotype-negative family members to aid diagnosis and detect early disease.[10,128]	IIb	C

- Bilan initial et étiologique
- Stratification du risque rythmique
- Suivi sous traitement dans certaines pathologies (sarcoïdose, hémochromatose…)
- Bilan des patients génotype + / phénotype -

Cardiopathie dilatée et/ou hypokinétique



ICD implantation should be considered in DCM/HNDCM patients with an LVEF <50% and ≥2 risk factors (syncope, LGE on CMR, inducible SMVT at PES, pathogenic mutations in LMNA, *PLN*, *FLNC*, and *RBM20* genes).	**IIa**
CMR with LGE should be considered in DCM/HNDCM patients for assessing the aetiology and the risk of VA/SCD.	**IIa**



Réhaussement tardif 4CH (A) et 2CH (B) : Fibrose typique en position centro-myocardique du VG. Absent chez la plupart des patients avec CMD.

Arythmies ventriculaires

In patients with PVCs/VT and a presentation not typical for an idiopathic origin,[c] CMR should be considered, despite a normal echocardiogram.	**IIa**
In patients with suspected PVC-induced cardiomyopathy, CMR should be considered.	**IIa**

DAVD

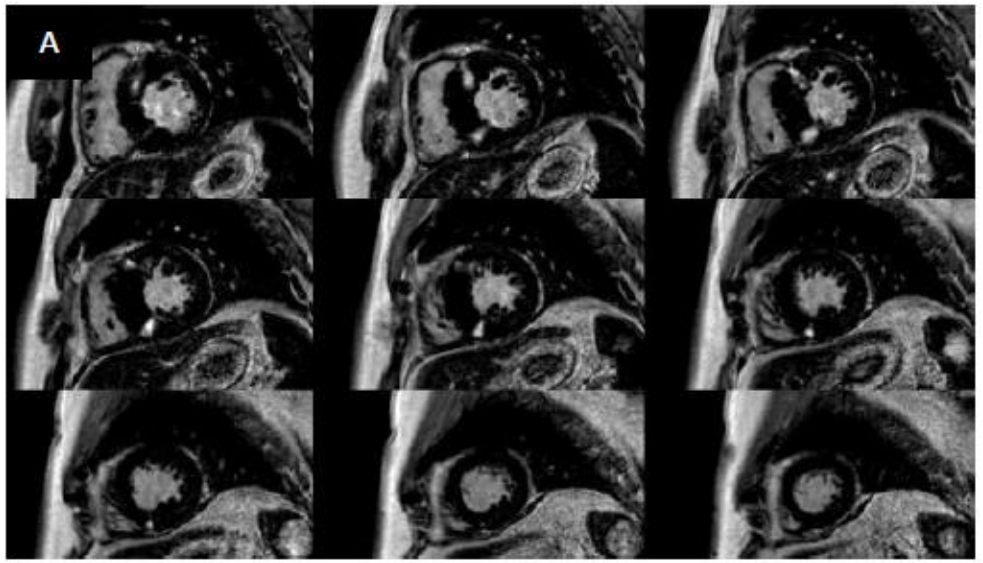
In patients with suspected ARVC, CMR is recommended.	I

1.	Dysfonctionnement global ou régional et altérations structurelles
Majeur	• Akinésie ou dyskinésie VD régionale ou contraction VD dyssynchrone et 1 des éléments suivants : - Volume télédiastolique du VD normalisée par SC : ≥110 ml/m² (homme) ou ≥ 100 ml/m² (femme) - ou fraction d'éjection du VD ≤ 40%
Mineur	• Akinésie ou dyskinésie VD régionale ou contraction VD dyssynchrone et 1 des éléments suivants : - Volume télédiastolique du VD normalisée par SC : ≥ 100 et < 110 ml/m² (homme) ou ≥ 90 à < 100ml/m² (femme) - ou fraction d'éjection du VD > 40% et ≤ 45%

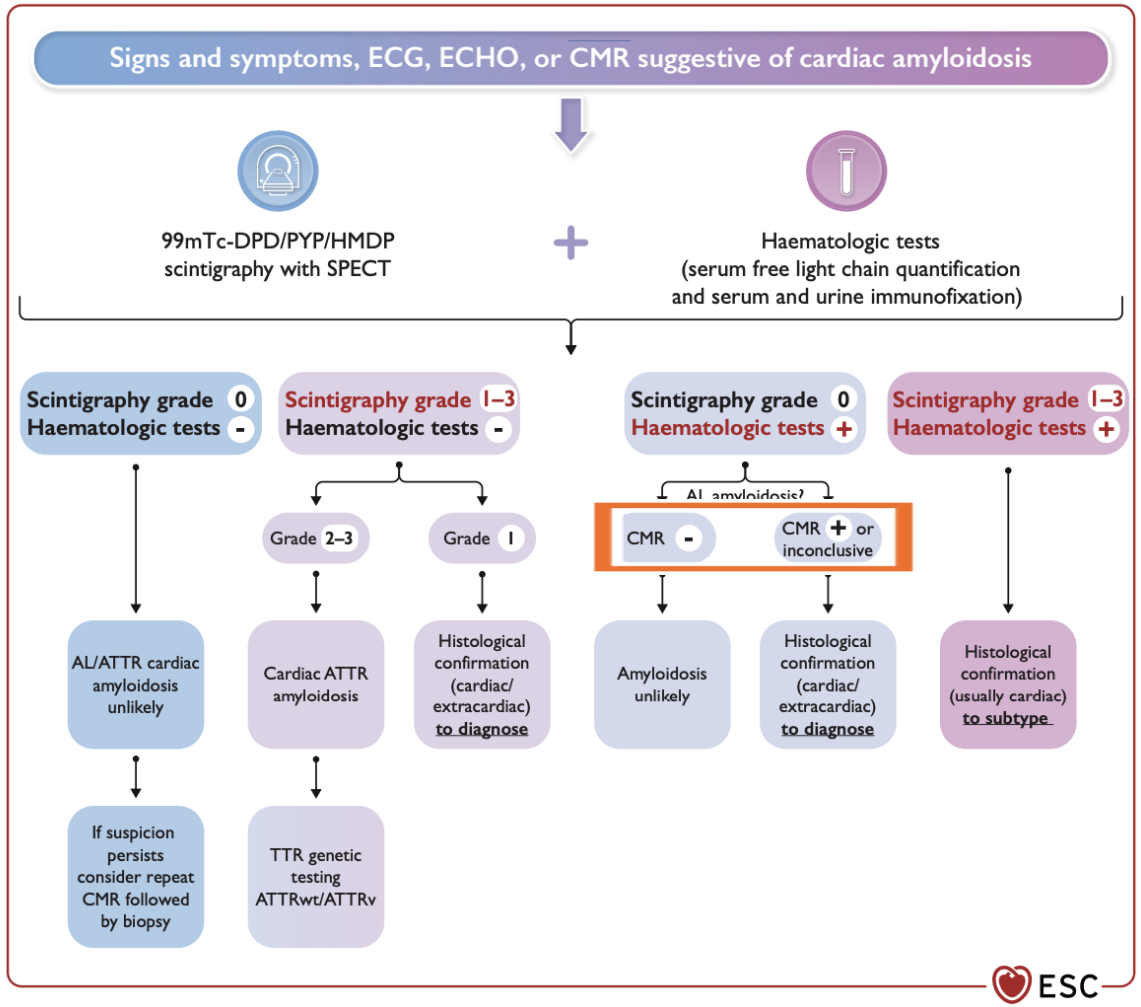
Risk stratification and primary prevention of SCD		
ICD implantation should be considered in patients with definite ARVC and an arrhythmic syncope.[696,701,711–713]	IIa	B
ICD implantation should be considered in patients with definite ARVC and severe RV or LV systolic dysfunction.[675,691]	IIa	C
ICD implantation should be considered in symptomatic[d] patients with definite ARVC, moderate right or left ventricular dysfunction, and	IIa	C
either NSVT or inducibility of SMVT at PES.[695,696,701,703,705]		

CMH

CMR with LGE is recommended in HCM patients for diagnostic work-up.	I
ICD implantation should be considered in HCM patients aged 16 years or more with an intermediate 5-year risk of SCD (≥4 to <6%)[f], and wi significant LGE at CMR (usually ≥15% c LV mass); or (b) LVEF <50%; or (c) abnormal blood pressure response during exercise test[g]; or (d) LV apical aneurysm; or (e) presence of sarcomeric pathogenic mutation.	IIa



Amylose



	Amylose AL	Amylose TTR
Masse VG	• Moyennement augmenté <100 g/m^2	• Très augmenté > 100 g/m^2
Epaisseur du septum	Septum AL < Septum TTR	
Réhaussement tardif	• Réhaussement tardif moins étendu • Atteinte souvent sous-endocardique globale • QALE score <13	• Réhaussement tardif plus étendu • Atteinte souvent diffuse ou transmurale • QALE score ≥13
T1 natif	>1050 - 1150 ms (1,5T) $T1_{AL}$ natif > $T1_{ATTR}$ natif	
ECV	>0,40 ECV_{AL} < ECV_{ATTR}	
Thérapie	• Chimiothérapie	• Tafamidis
Pronostic	• Moins bon (malgré un réhaussement tardif moins étendu)	• Meilleur (malgré un réhaussement tardif plus étendu)

Sources

- 2024 ESC Guidelines for the management of chronic coronary syndromes
- 2025 ESC/EACTS Guidelines for the management of valvular heart disease
- 2023 ESC Guidelines for the management of cardiomyopathies
- 2023 ESC Guidelines for the management of acute coronary syndromes
- 2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death
- 2025 ESC Guidelines for the management of myocarditis and pericarditis
- Imagerie par résonance magnétique cardiovasculaire, EACVI Pocket Guide