

measurements were compared between CA and non-CA group.

Results: Patients with CA had the highest LV posterior wall (PW) thickness and lowest LV GLS, myocardial E' velocity, LA reservoir and conduit strain ($p < 0.00001$) among all groups. LA reservoir strain is more sensitive and specific than LV GLS in differentiating CA from non-CA (HCM+Fabry+HTN) group (LA strain 14.0 ± 9.0 vs 33.4 ± 10.8 , sensitivity 90.3%, specificity 76.7%, AUC 0.906; LV GLS 10.6 ± 3.3 vs 15.1 ± 4.1 , sensitivity 84.4%, specificity 68.2%, AUC 0.822).

Conclusion: LA strain is more sensitive and specific than LV strain in discriminating CA from other pathological causes of increased LV wall thickness. Future studies involving larger cohorts are required to validate these findings.

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Left Ventricular Ejection Fraction in the Preserved or Mid-Range and Survival Following Myocardial Infarction



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Background: There is conflicting data on the prognostic value of left ventricular ejection fraction (LVEF) in patients with mid-range (41–49%) or preserved (>50%) LVEF.

Aims: To define the prognostic value of LVEF in patients with mid-range and preserved LVEF following myocardial infarction (MI).

Methods: A retrospective single centre study involving 3,464 consecutive patients with MI was performed. Echocardiography was performed early post-admission, with LVEF calculated using Simpson's Biplane method. Clinical and echocardiographic data were obtained from prospectively maintained institutional databases. Outcomes data were obtained from the state-wide registry. All-cause and cardiac mortality were the study outcome measures.

Results: The mean age of patients was 62.8 ± 12.3 years, 70.0% were males, and 14.3% had 3-vessel disease. The mean LVEF was $55.8 \pm 7.2\%$, and 2728 patients (78.7%) had LVEF >40%. At a median follow up of 4.5 years, there were 353 deaths in patients with preserved or mid-range LVEF (64.2% of all deaths in the whole cohort). On Cox proportional hazards multivariable analyses incorporating significant clinical, angiographic, and echocardiographic variables in patients with preserved or mid-range LVEF, LVEF was not an independent predictor of either all-cause (HR 0.98, $p = 0.097$) or cardiac (HR 1.00, $p = 0.898$) mortality. When LVEF 41–49% was entered into multivariable Cox-models as a categorical variable, the results were unchanged.

Conclusions: LVEF is not an independent predictor of all-cause or cardiac mortality following MI in patients with preserved or mid-range LVEF following MI. The prognostic utility of other imaging or non-imaging biomarkers needs

further study in this subgroup where the LVEF is relatively indeterminate for survival.

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Lifelong Severe Left Ventricular Dysfunction After Lightning Strike to the Chest: A Case Report



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Case presentation: A unique case of lifelong severe segmental left ventricular dysfunction following a lightning strike to the chest of a 16-year-old boy. Despite normal coronary arteries and heart failure pharmacotherapy many years later, the appearance on ventriculography mimicked a Takotsubo-variant pathology.

The patient, now 49-years-old, was playing soccer when he was struck by lightning in the central anterior chest 32 years ago, resulting in cardiogenic shock, cerebral hypoperfusion, hypoxic-induced brain injury and paraplegia, which left him wheelchair-bound. At age 46, he presented with fluid overload and was diagnosed with atrial flutter with rapid ventricular rates, along with severe apical impairment of left ventricular systolic function. Despite pharmacological management, including a heart failure-specific betablocker, diuretic therapy, therapeutic anticoagulation, and angiotensin / neprilysin inhibition, there was no improvement in his left ventricular systolic function over the subsequent years. Diagnostic coronary angiography revealed normal coronary arteries and a left ventriculogram showing apical dyskinesis, mimicking a Takotsubo-variant pathology. Spontaneous echocardiographic contrast was seen in the dyskinetic apex so anticoagulation was continued despite being in normal sinus rhythm.

Discussion: This case report highlights the potential lifelong consequences of lightning strikes to the chest, resulting in severe and persistent left ventricular dysfunction. The case also emphasises the importance of follow-up echocardiograms and anticoagulation therapy in patients with dyskinetic apex. As the origin and duration of the patient's cardiomyopathy depends on careful history taking, it is likely that the lightning strike caused permanent left ventricular dysfunction, masked for some years by the patient's immobility being wheelchair-bound.

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