

Shin D, et al. Functional angiography-derived index of microcirculatory resistance validated with microvascular obstruction in cardiac magnetic resonance after

STEMI. *Rev Esp Cardiol.* 2022

## SUPPLEMENTARY DATA

**Table 1 of the supplementary data.** Independent predictors for microvascular obstruction determined by cardiac magnetic resonance imaging

Variable	Multivariable analysis*	
	OR (95%CI)	P
Angio IMR, per 1 U increase	1.102 (1.068-1.137)	<.001
Female	1.944 (0.902-4.192)	.090
Door-to-balloon time, per 1 min increase	0.997 (0.993-1.000)	.078
Peak CK-MB, per 1 ng/mL increase	1.003 (1.001-1.006)	.021
Peak troponin I, per 1 ng/mL increase	1.006 (1.001-1.010)	.008
Initial TIMI flow of 0	1.257 (0.621-2.542)	.525

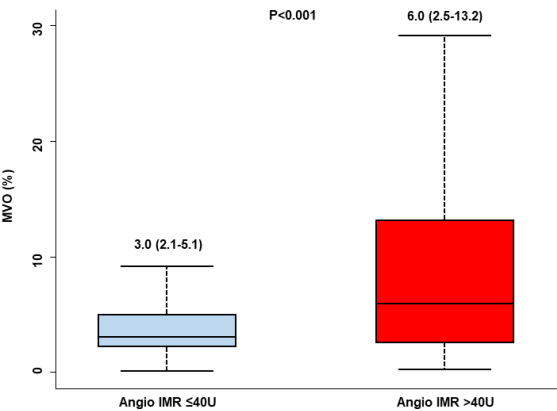
95%CI, 95% confidence interval; CK-MB, creatine kinase-MB; CMR, cardiac magnetic resonance imaging; IMR, index of microcirculatory resistance; MVO, microvascular obstruction; OR, odds ratio; TIMI, thrombolysis in myocardial infarction.

\*C-statistics of the model: 0.864 (95%CI, 0.817-0.911).

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**Figure 1 of the supplementary data.** Extent of MVO among patients with evidence of MVO in CMR according to angio-IMR.

Supplementary Figure 1. Extent of MVO among patient with evidence of MVO in CMR according to Angio-IMR



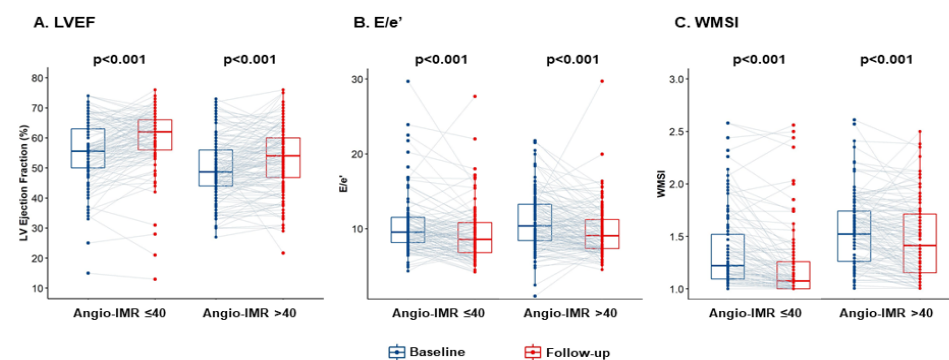
Values are medians and interquartile ranges. In box-and-whisker plots, the horizontal line indicates median value, box indicates the interquartile range, and whiskers indicate the minimum and maximum values excluding outliers. Angio-IMR, functional angiography-derived IMR; CMR, cardiac magnetic resonance; IMR, index of microcirculatory resistance; MVO, microvascular obstruction.

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**Figure 2 of the supplementary data.** Comparison of baseline and follow-up echo parameters according to angio-IMR.

Supplementary Figure 2. Comparison of Baseline and Follow-up Echo Parameters According to Angio-IMR



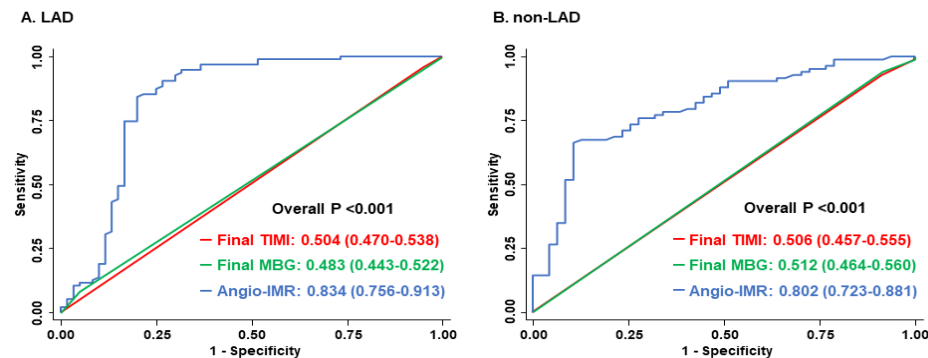
Changes between baseline and follow-up echocardiographic parameters are presented according to angio-IMR after primary PCI for STEMI. Values are means  $\pm$  standard deviations. Angio-IMR, functional angiography-derived IMR; CMR, cardiac magnetic resonance; E/e', ratio of mitral peak velocity of early filling (E) to early diastolic mitral annular velocity (E'); IMR, index of microcirculatory resistance; LVEF, left ventricular ejection fraction; PCI, percutaneous coronary intervention; STEMI, ST-segment elevation myocardial infarction; WMSI, wall motion score index.

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**Figure 3 of the supplementary data.** Comparison of discriminatory ability to predict CMR-defined MVO according to the culprit vessel.

Supplementary Figure 3. Comparison of Discriminant Ability to Predict CMR-defined MVO According to Culprit Vessel



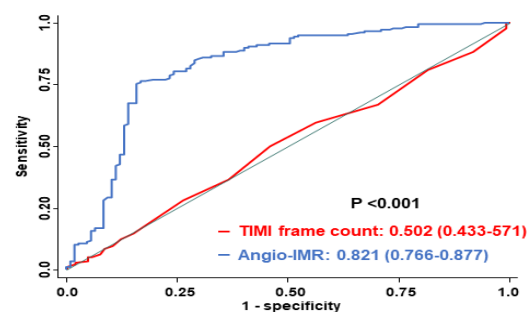
The receiver operating characteristic curves of post-PCI angio-IMR (in blue), final TIMI flow grade (in red), and final MBG (in green) to predict CMR-defined MVO are compared according to the culprit vessel (LAD or non-LAD). Values are area under the curve and 95% confidence intervals. Angio-IMR, functional angiography-derived IMR; CMR, cardiac magnetic resonance; IMR, index of microcirculatory resistance; LAD, left anterior descending artery; MBG, myocardial blush grade; MVO, microvascular obstruction; TIMI, thrombolysis in myocardial infarction.

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**Figure 4 of the supplementary data.** Discriminatory ability of TIMI frame count to predict CMR-defined MVO.

Supplementary Figure 4. Discriminant Ability of TIMI frame count to Predict CMR-defined MVO



The receiver operating characteristic curves of post-PCI angio-IMR (in blue) and TIMI frame count (in red). Values are area under the curve and 95% confidence intervals. Angio-IMR, functional angiography-derived IMR; CMR, cardiac magnetic resonance; IMR, index of microcirculatory resistance; MVO, microvascular obstruction; TIMI, thrombolysis in myocardial infarction.