**Supplementary material**

_____

# Prognostic Value of Myocardial Ischemia and Necrosis in Depressed Left Ventricular Function: A Multicenter Stress Cardiac Magnetic Resonance Registry

Oliver Husser, [a,b] José V. Monmeneu, [c] Clara Bonanad, [a] María P. López-Lereu, [c] Julio Núñez, [a] María J. Bosch, [d] Carlos García, [e] Juan Sanchis, [a] Francisco J. Chorro, [a] and Vicente Bodí [a,]*

[a]*Servicio de Cardiología, Hospital Clínico Universitario de Valencia, Universitat de València, Valencia, Spain*
[b]*Klinik für Herz- und Kreislauferkrankungen, Deutsches Herzzentrum München, Múnich, Germany*
[c]*ERESA, Valencia, Spain*
[d]*Servicio de Cardiología, Hospital La Plana, Vila-real, Castellón, Spain*
[e]*Servicio de Cardiología, Hospital General de Castellón, Castellón, Spain*

_____

## SUPPLEMENTARY MATERIAL

## Table 1

Baseline Characteristics According to the Presence or Absence of Perfusion Defect and Late Gadolinium Enhancement

|  | LGE– PD- n = 124 | LGE+ PD- n = 43 | LGE+ PD+ n = 195 | LGE- PD+ n = 29 | *P* trend |
|---|---|---|---|---|---|
| Age, mean (SD), y | 64 (12) | 61 (10) | 67 (11)* | 70 (9)* | .001 |
| Male sex | 78 (63) | 37 (86)§ | 157 (81)§† | 18 (62)* | .001 |
| Diabetes | 18 (15) | 9 (21) | 47 (24)§ | 11 (38)§ | .03 |
| Hypertension | 69 (56) | 26 (61) | 135 (69)§ | 19 (66) | .1 |
| Hypercholesterolemia | 55 (44) | 26 (61) | 127 (65)§† | 13 (45) | .002 |
| Current smoker | 26 (21) | 11 (26) | 50 (26) | 5 (17) | .6 |
| Previous CAD | 10 (8) | 25 (58)§ | 163 (84)§*† | 8 (28)§* | <.0001 |
| Previous angioplasty | 4(3) | 13 (30)§ | 68 (35)§† | 2 (7)* | <.0001 |
| Previous coronary surgery | 1 (1) | 2 (5) | 44 (23)§*† | 1 (3) | <.0001 |
| Previous infarction | 6 (5) | 25 (58)§ | 136 (50)§† | 4 (14)* | <.0001 |

CAD, coronary artery disease; LGE, late gadolinium enhancement, PD, perfusion deficit; SD, standard deviation; +, index present in • 2 segments, -, index present in 0-1 segments.

\* *P*<.05 vs LGE+ PD-

†*P*<.05 vs LGE- PD+

‡*P*<.05 vs LGE+ PD+

§*P*<.05 vs LGE-PD-

**Table 2**

Cardiovascular Magnetic Resonance Characteristics According to the Presence or Absence of Perfusion Defect and Late Gadolinium Enhancement

|  | LGE– PD- n=124 | LGE+ PD- n=43 | LGE+ PD+ n=195 | LGE- PD+ n=29 | *P* trend |
|---|---|---|---|---|---|
| **LV Ejection fraction, mean (SD), %** | 39 (9) | 39 (9) | 39 (9) | 42 (7) | .2 |
| **LV End-diastolic volume, mean (SD), mL/m²** | 102 (33) | 96 (34) | 102 (32) | 95 (24) | .5 |
| **LV End-systolic volume, mean (SD), mL/m²** | 64 (26) | 61 (28) | 64 (28) | 55 (19) | .4 |
| **Rest-WMA (Nr. of segments)** | 0 [0-15] | 6 [4-14] | 6 [4-11] | 6 [5-10]§ | <.001 |
| **Viability (Nr. of segments)** | 0 [0-0] | 2 [0-9] | 2 [0-5] | 6 [4-11]§*+ | <.001 |
| **PD (Nr. of segments)** | 0 [0-0] | 0 [0-0]+ | 7 [5-9]§ | 5 [3-8]§*+ | <.001 |
| **LGE (Nr. of segments)** | 0 [0-0]* | 5 [3-6]+ | 6 [4-8]§ | 0 [0-0]*+ | <.001 |

CMR, cardiac magnetic resonance, LGE, late gadolinium enhancement, PD, perfusion deficit; SD, standard deviation; +, index present in • 2 segments, -, index present in 0-1 segments.

* *P*<.05 vs LGE+ PD-

†*P*<.05 vs LGE- PD+

+*P*<.05 vs LGE+ PD+

§*P*<.05 vs LGE-PD-

## Text 1

The interobserver variability for the determination of the extent (number of segments) of wall motion abnormalities at rest, perfusion deficit, inducible wall motion abnormalities and late enhancement was analyzed as follows. These 4 CMR indexes were quantified at different times by 2 operators in 100 patients, not included in the study group, evaluated for ischemic chest pain using dipyridamole stress perfusion cardiac magnetic resonance.

The absolute (mean ± standard deviation difference, in segments, between the 2 measurements) and relative difference (mean ± standard deviation difference, in % change, from the first to the second measurement) are depicted below.

|  | Absolute difference (segments) | Relative difference (%) |
| --- | --- | --- |
| **Wall motion abnormalities at rest** | 0 ± 0 | 1 ± 1% |
| **Perfusion deficit** | 0 ± 1 | 2 ± 1% |
| **Late enhancement** | 0 ± 0 | 0 ± 1% |

The absolute and relative difference for the 3 other CMR indexes used in this study (left ventricular ejection fraction, end-diastolic and end-systolic volume indexes) are depicted below.

|  | Absolute difference (segments) | Relative difference (%) |
| --- | --- | --- |
| **Ejection fraction** | 2 ± 1% | 4 ± 2% |
| **End-diastolic volume index** | 4 ± 2 mL/m$^2$ | 3 ± 1% |
| **End-systolic volume index** | 3 ± 2 mL/m$^2$ | 4 ± 1% |

## Text 2

**Prevalence of perfusion defect and late gadolinium enhancement in patients without known coronary artery disease and depressed left ventricular function**

Of the study population of 391 patients, 185 subjects (47%) presented with a depressed LV function of unclear origin. In these patients CMR was performed in order to assess an ischemic origin (ischemia or pre-existent myocardial infarction). PD and LGE were found in these patients in 29% (53/185) and 27% (50/185), respectively. Overall, according to the CMR categorization, 62% (114/185) had a normal CMR study (PD-, LGE-), 10% (18/185) only LGE+, 11% (21/185) only PD+ and 17% (32/185) both PD+ and LGE+.