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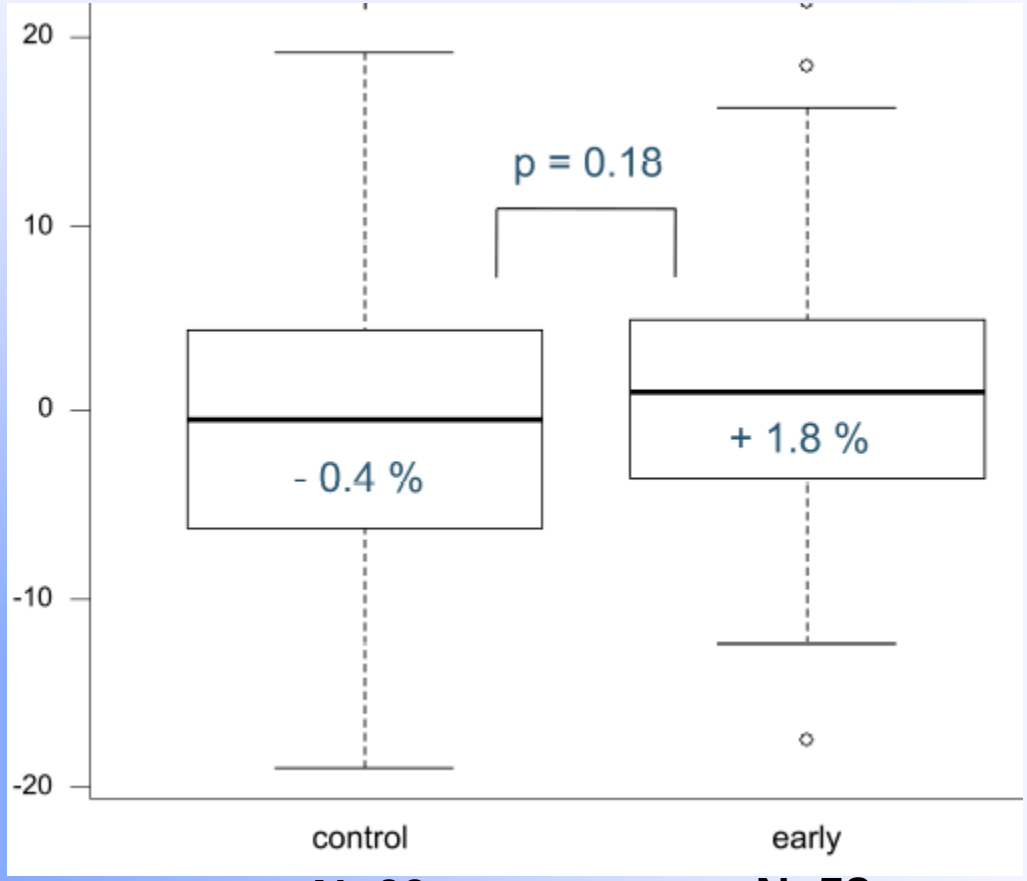
SWISS AMI Study: what can we achieve with cell therapy ? Commentary

Cardiology Update 2013, Davos, 02/2013

Disclosure information: t2cure (co-founder, advisor)

Swiss AMI : Change in LVEF

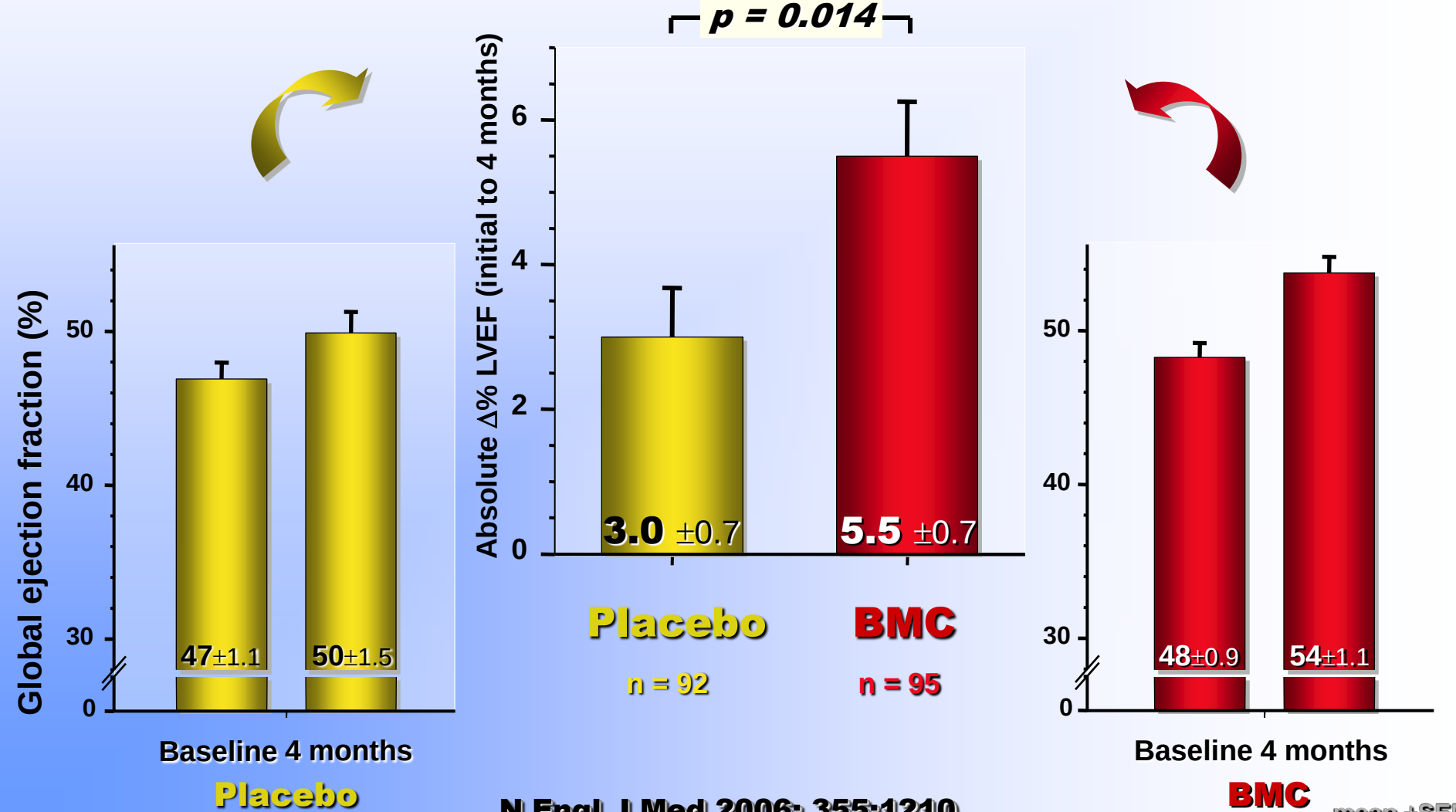
Placebo-corrected change: + 2.2%



N=60 **N=58**

REPAIR-AMI trial

Placebo-corrected change: + 2.5%

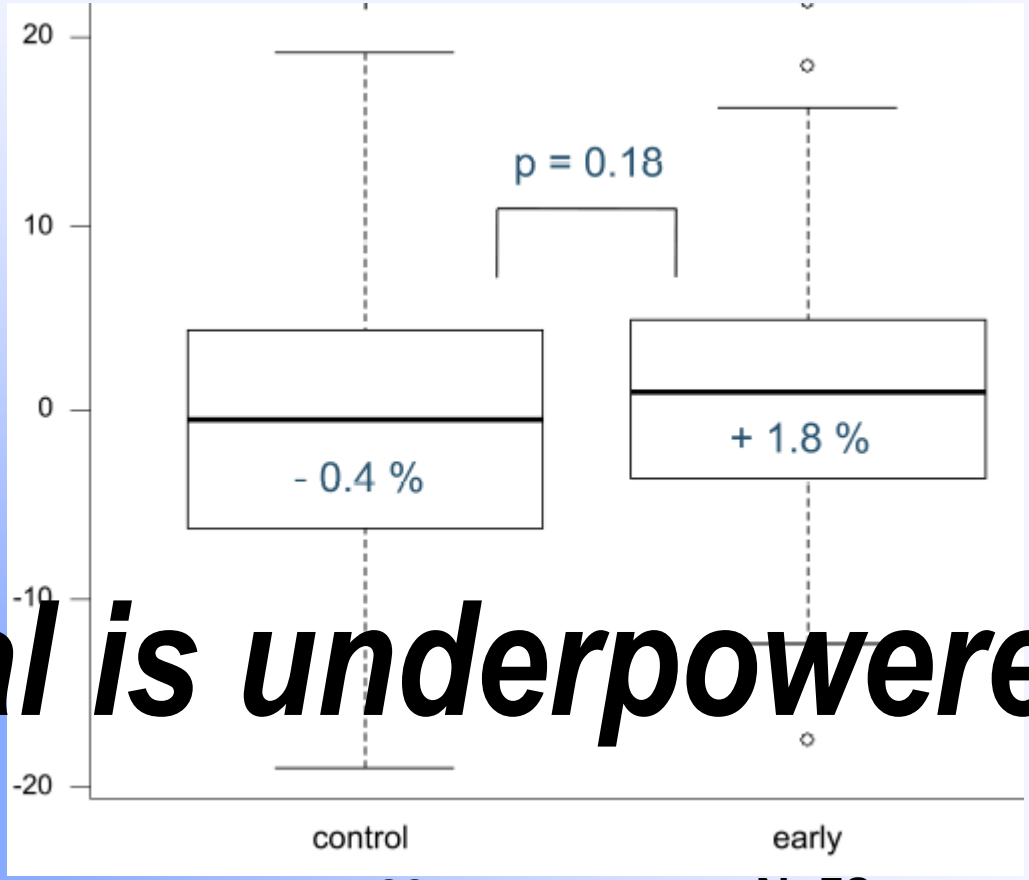


N Engl J Med 2006; 355:1210

mean ±SEM

Swiss AMI : Change in LVEF

Placebo-corrected change: + 2.2%

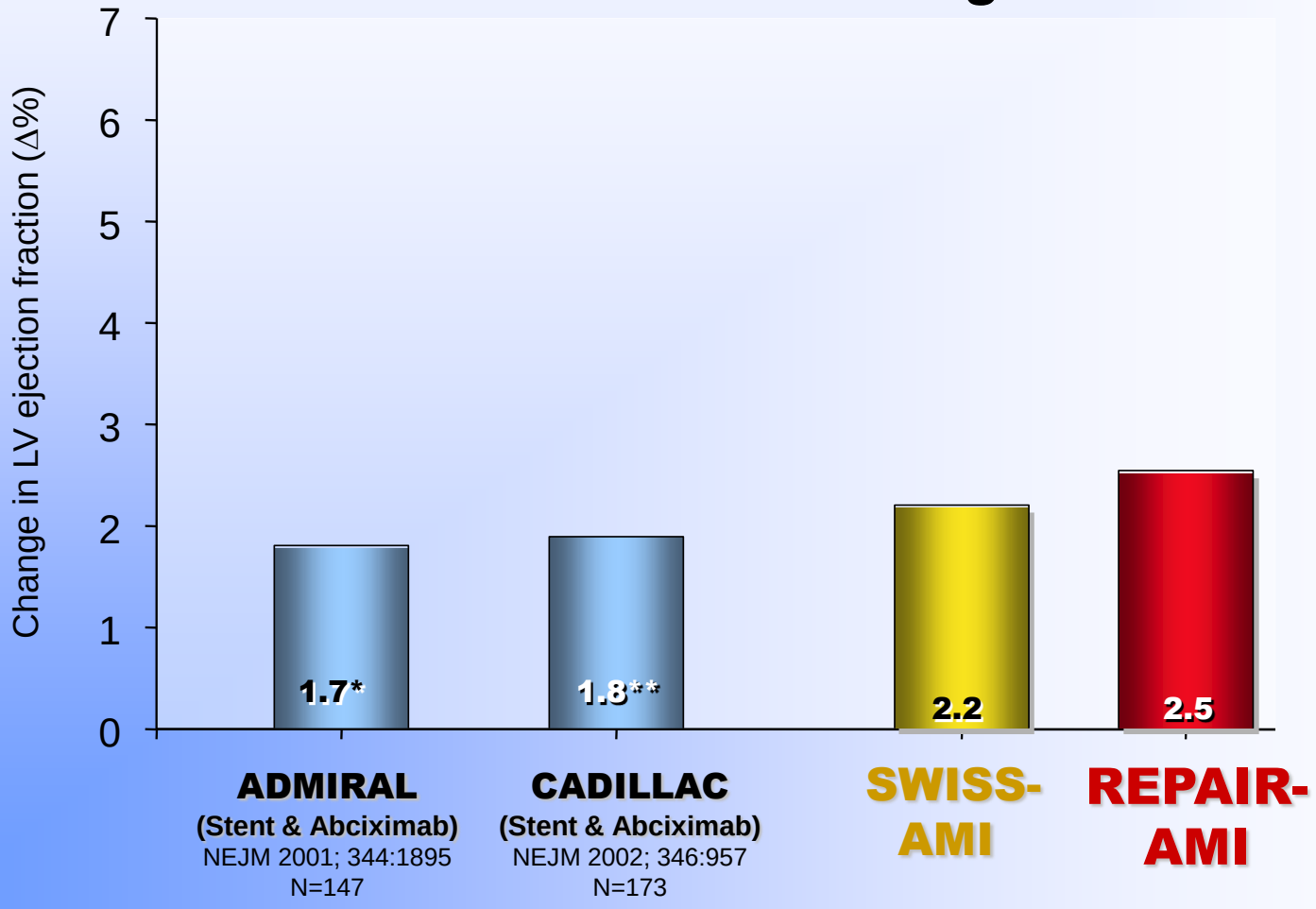


N=60 N=58

Trial is underpowered !

Recovery of LV function: what can we expect from 'state-of-the-art' reperfusion therapy ?

Placebo-corrected change in LVEF



Effects on LV remodeling and prognosis in chronic heart failure

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QUARTERLY FOCUS ISSUE: HEART FAILURE

Quantitative Evaluation of Drug or Device Effects on Ventricular Remodeling as Predictors of Therapeutic Effects on Mortality in Patients With Heart Failure and Reduced Ejection Fraction

A Meta-Analytic Approach

Daniel G. Kramer, MD,* Thomas A. Trikalinos, MD, PHD,† David M. Kent, MD, MS,†
George V. Antonopoulos, MD,* Marvin A. Konstam, MD,* James E. Udelson, MD*
Boston, Massachusetts

Objectives The purpose of this study was to quantitatively assess the relationship between therapy-induced changes in left ventricular (LV) remodeling and longer-term outcomes in patients with left ventricular dysfunction (LVD).

Background Whether therapy-induced changes in left ventricular ejection fraction (LVEF), end-diastolic volume (EDV), and end-systolic volume (ESV) are predictors of mortality in patients with LVD is not established.

Methods Searches for randomized controlled trials (RCTs) were conducted to identify drug or device therapies for which an effect on mortality in patients with LVD was studied in at least 1 RCT of ≥500 patients (mortality trials). Then, all RCTs involving those therapies were identified in patients with LVD that described changes in LVEF and/or volumes over time (remodeling trials). We examined whether the magnitude of remodeling effects is associated with the odds ratios for death across all therapies or associated with whether the odds ratio for mortality was favorable, neutral, or adverse (i.e., statistically significantly decreased, nonsignificant, or statistically sig-

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Intervention (Ref. #)	No. of Studies (n [Range])	ΔEF (95% CI)†	Mean Follow-Up Weeks [Range]
Amiodarone (17,68,69)	3 (942 [30–674])	3.8 (−1.7 to 9.2)	60.7 [26–104]
Amlodipine (70)	1 (362)	1.9 (1.8 to 2.0)	12
Bisoprolol (41)	1 (28)	12.0 (4.4 to 19.6)	52
Bucindolol (19,71–73)	4 (2,915 [19–2,708])	4.2 (3.7 to 4.7)	22 [12–52]
CRT (74–77)	4 (1,052)	2.7 (1.9 to 3.5)	21 [6–26]
Candesartan (78)	1 (305)	4.0 (0.5 to 7.5)	26
Captopril (79–84)	6 (543 [40–204])	3.3 (0.3 to 6.4)	36.7 [12–52]
Carvedilol (23,24,49,85–104)	22 (2,780 [15–415])	6.9 (5.8 to 8.0)	30 [13–52]
Digoxin (84,105–109)	6 (624 [13–196])	2.7 (1.2 to 4.1)	48.3 [12–208]
Enalapril (20,42,110–113)	6 (431 [12–301])	3.7 (1.5 to 5.9)	24 [4–52]
Enalapril-Prev (21)*	1 (108)	2.0 (−0.8 to 4.8)	52
Enoximone (114–119)	6 (203 [12–114])	3.4 (0.5 to 6.3)	8.7 [4–16]
Etanercept (120)	1 (47)	4.4 (3.7 to 5.1)	13
Felodipine (43,121,122)	3 (532 [20–260])	4.0 (1.2 to 6.7)	30 [12–52]
Flosequinan (123,124)	2 (210 [17–193])	−3.0 (−3.6 to −2.4)	10 [8–12]
Hydralazine-ISDN (16,22)	2 (1,137 [459–678])	2.9 (0.8 to 5.0)	39 [26–52]
Ibopamine (125)	1 (18)	0.0 (−4.9 to 4.9)	5
Metoprolol CR (39,40,126,127)	4 (587 [41–426])	4.5 (1.8 to 7.1)	25.5 [24–26]
Mibefradil (44)	1 (117)	0.5 (−2.8 to 3.8)	26
Milrinone (109)	1 (108)	2.2 (1.5 to 2.9)	53
Moxonidine (128)	1 (85)	4.0 (−0.5 to 8.5)	19
Prazosin (16,129–131)	4 (523 [22–456])	2.5 (0.6 to 4.4)	28.3 [9–52]
Spironolactone (132–134)	3 (185 [37–106])	3.0 (1.9 to 4.1)	25.7 [8–52]
Tolvaptan (45)	1 (240)	0.8 (−0.2 to 1.9)	54
Valsartan (38)	1 (5,010)	1.3 (0.7 to 1.9)	78

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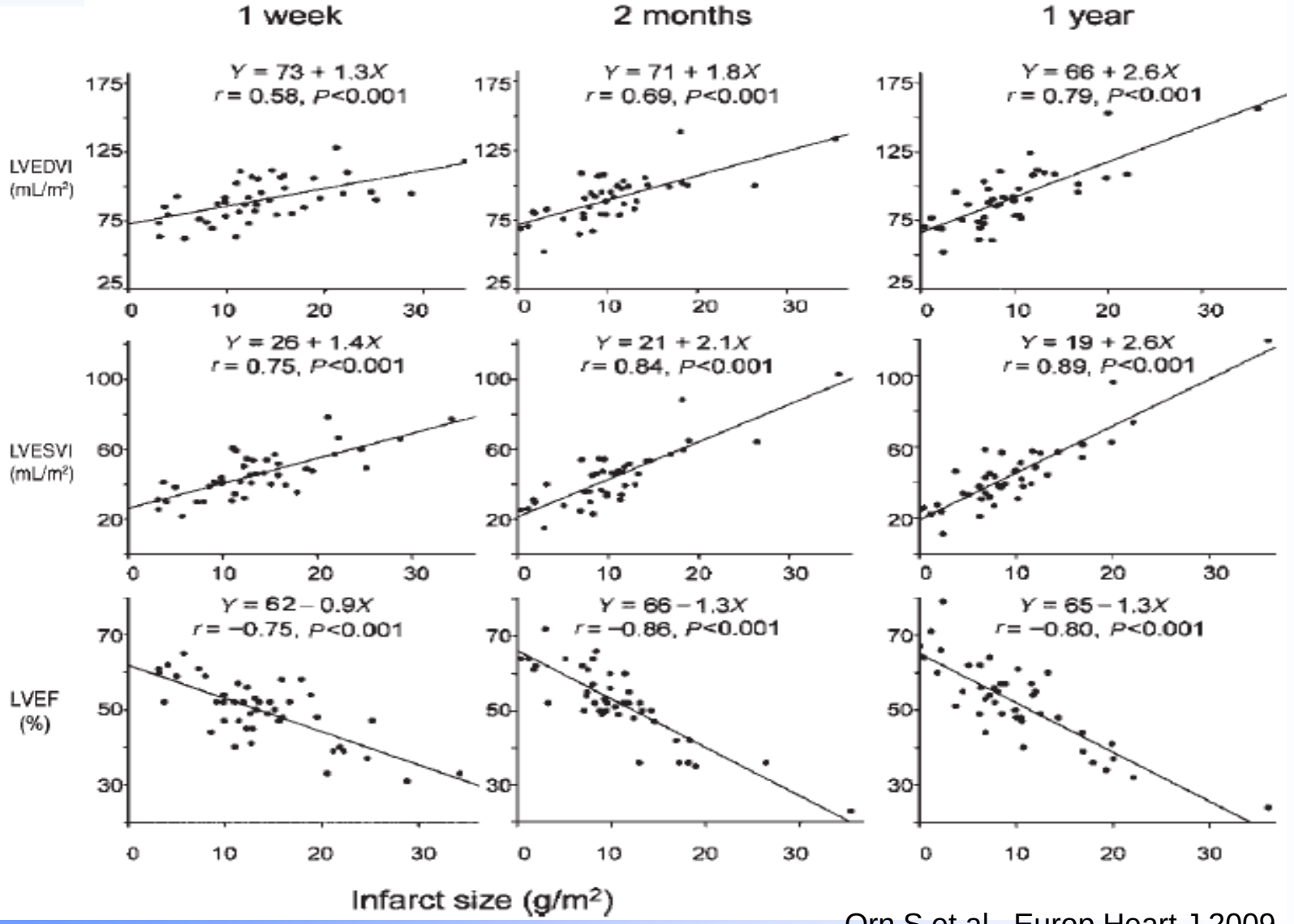
Valsartan (38)	1 (5,010)	1.3 (0.7 to 1.9)	[illegible]52]

Time-dependent relationship between infarct size and indices of LV remodeling



Orn S et al., Europ Heart J 2009