

Ischemic or nonischemic
cardiomyopathy

49J ♂ admission due to recurrent VTs (>60 Episodes) and ICD shocks.

Admission 2007 with VT in Turkey.

CA: normal.

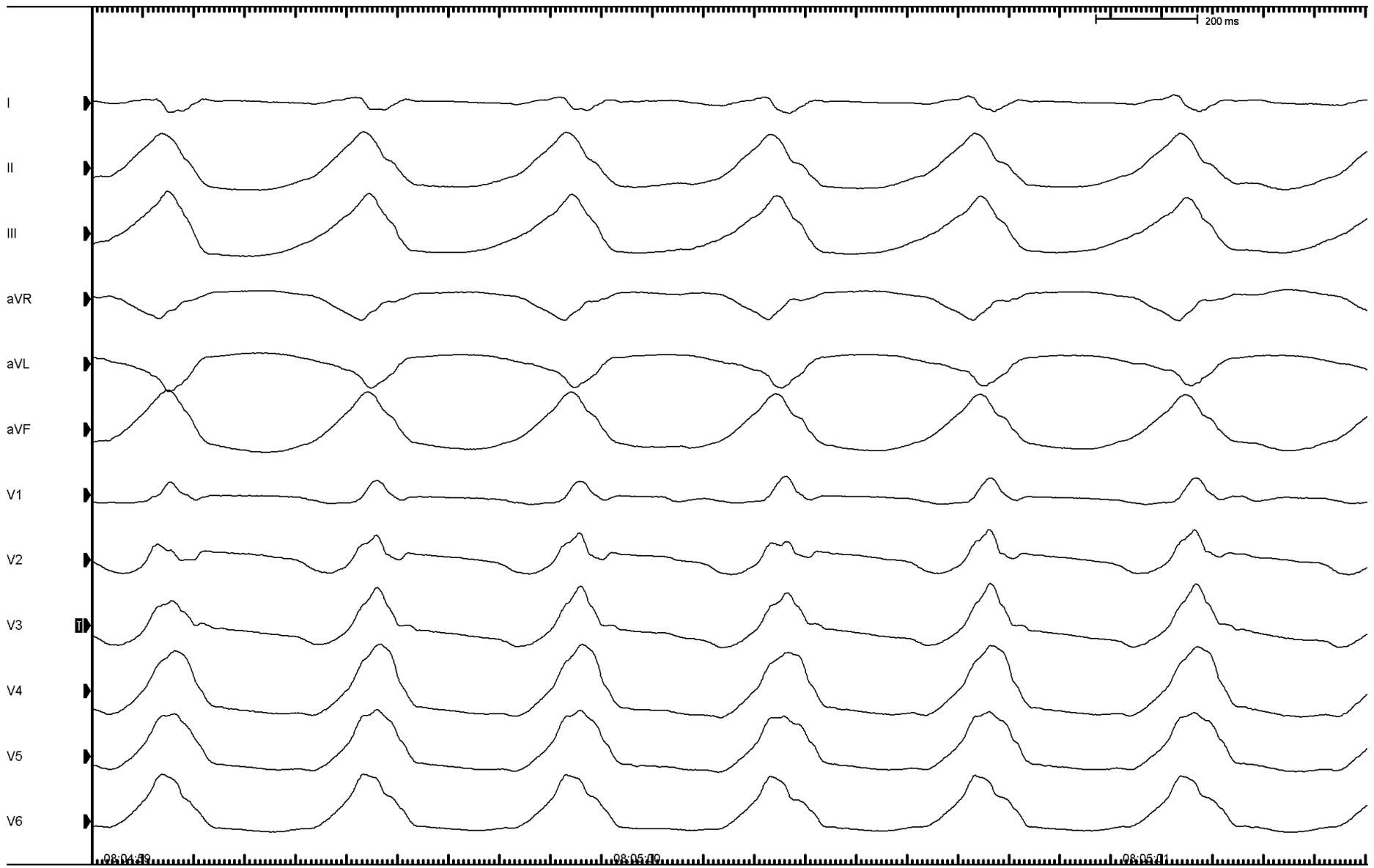
LVEF: 40%.

Diagnosis: non-ischemic CMP → ICD

Upgrade to CRT-D 2010.

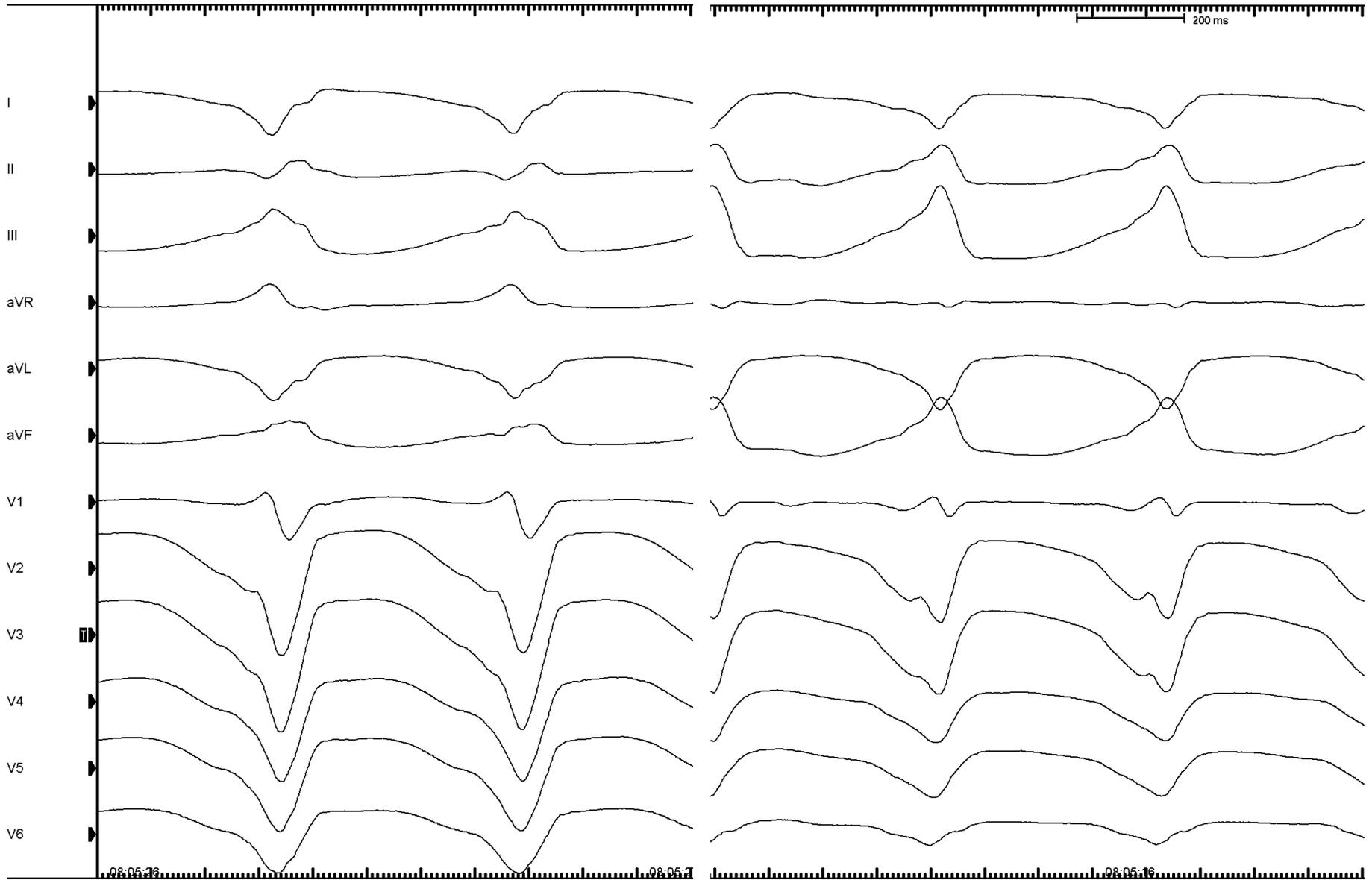
Medications: Amiodarone, BB, ACEI, Coumadin, Statin, Spironolactone.

VT1: clinical VT



VT2

VT3



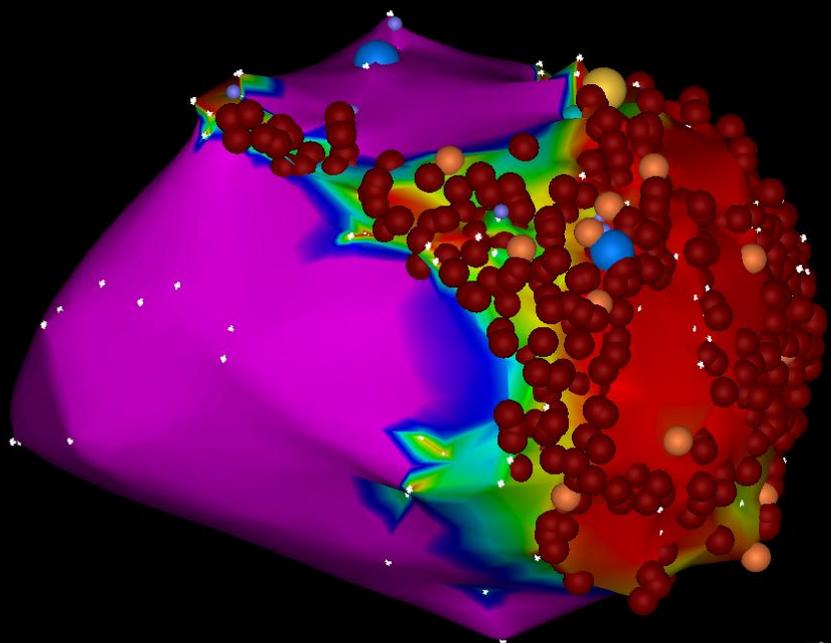


2-LV (495, 0)

0.50 mV Bi 1.50 mV

2-LV (495, 0)

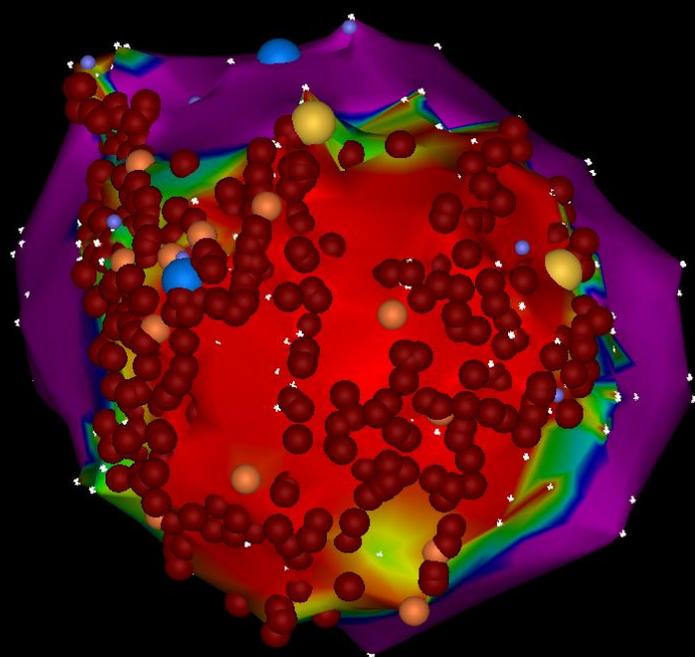
0.50 mV Bi 1.50 mV



RAO



AP PA LAO RAO LL RL INF SUP



LAO



AP PA LAO RAO LL RL INF SUP

None

MINOCA

Myocardial Infarction With Nonobstructive Coronary Arteries (MINOCA): It's Time to Face Reality!

Jacqueline E. Tamis-Holland, MD; Hani Jneid, MD

The prevalence of MINOCA was 6% [95% confidence interval, 5%–7%] with a median patient age of 55 years (95% confidence interval, 51–59 years) and 40% women. 1/3 present as STEMI.

Less likely to have hyperlipidemia, although other cardiovascular risk factors were similar. All-cause mortality at 12 months was lower in MINOCA (4.7%; 95% confidence interval, 2.6%–6.9%) compared with myocardial infarction associated with obstructive coronary artery disease (6.7%, 95% confidence interval, 4.3%–9.0%).

Pasupathy et al. *Circulation*. 2015;131:861-870.

J Am Heart Assoc. 2018;7:e009635

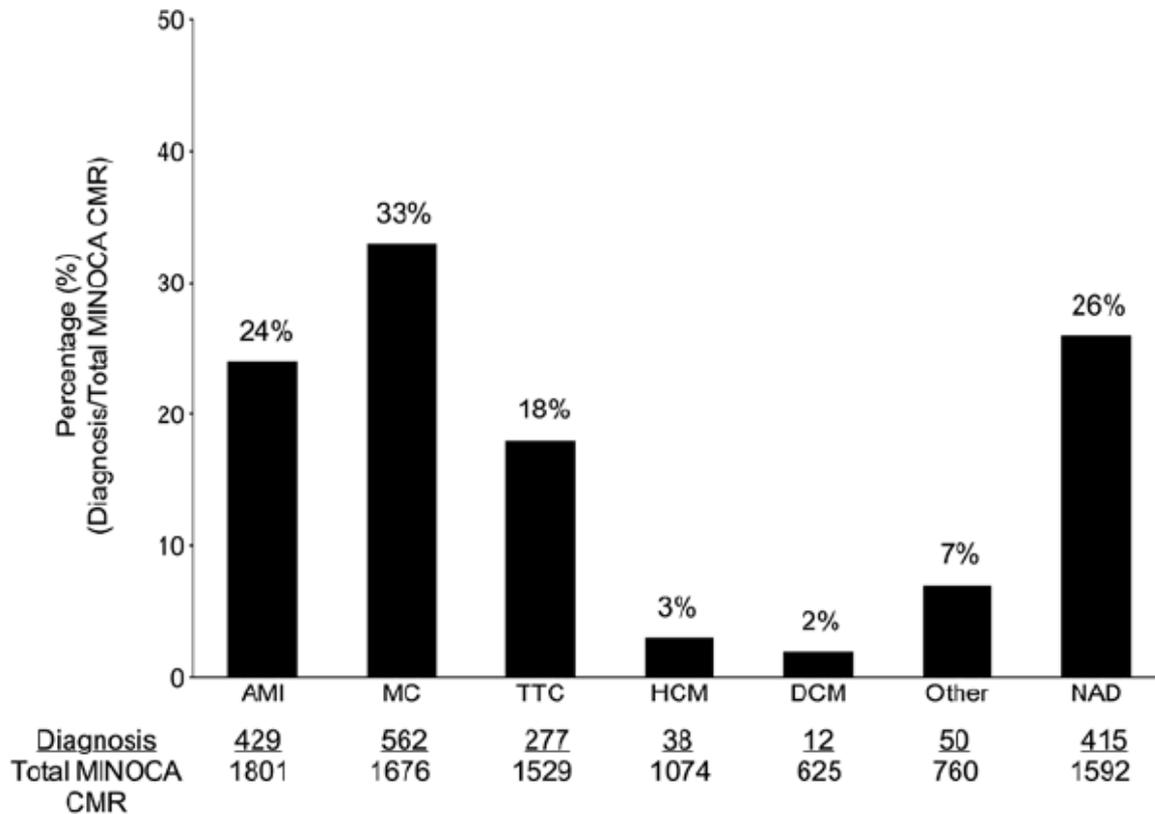


Figure 4. Cardiac magnetic resonance (CMR) imaging findings in patients with myocardial infarction with nonobstructive coronary arteries (MINOCA). Bar graph of published studies showing the diagnostic significance of CMR imaging in MINOCA patients. Data presented as percentage (%). AMI indicates acute myocardial infarction; MC, Myocarditis; TTC, Tako-tsubo cardiomyopathy; DCM, dilated cardiomyopathy; HCM, hypertrophic cardiomyopathy; and NAD, diagnosis not available.

Presence of a **typical MI** on cardiac MRI in only 24% of patients, with **myocarditis** occurring in 33% and **no significant abnormality** in 26%. **Coronary artery spasm** was inducible in 27% of patients.

Table 4. Thrombophilia Screening in Patients With MINOCA

Publications	No. of Patients in the Study	APCR/ Factor V Leiden	Protein C/S Deficiency	Factor XII Deficiency	Thrombotic Disorders, n (%)
Brecker, 1993	12	NE	0	NE	0/12 (0%)
DaCosta, 1998*	22	2	1	1	4/22 (18%)
Lande, 1998	26	3	2	NE	5/14 (36%)
Mansourati, 2000	107	13	NE	NE	13/107 (12%)
Van de Water, 2000	60	8	NE	NE	8/60 (13%)
DaCosta, 2001	91	7	1	1	9/73 (13%)
DaCosta, 2004	82	8	1	3	12/78 (15%)
Abid, 2012	21	2	1	0	4/12 (33%)
Overall		41/344 (12%)	5/189 (2.6%)	4/163 (2.5%)	51/356 (14%)

Data presented as n (%). APCR indicates activated protein C Resistance; MINOCA, myocardial infarction with nonobstructive coronary arteries; and NE, not examined.

*Dacosta et al (1998) was ignored from the calculations because the same patient cohort was again used in Dacosta et al (2004).

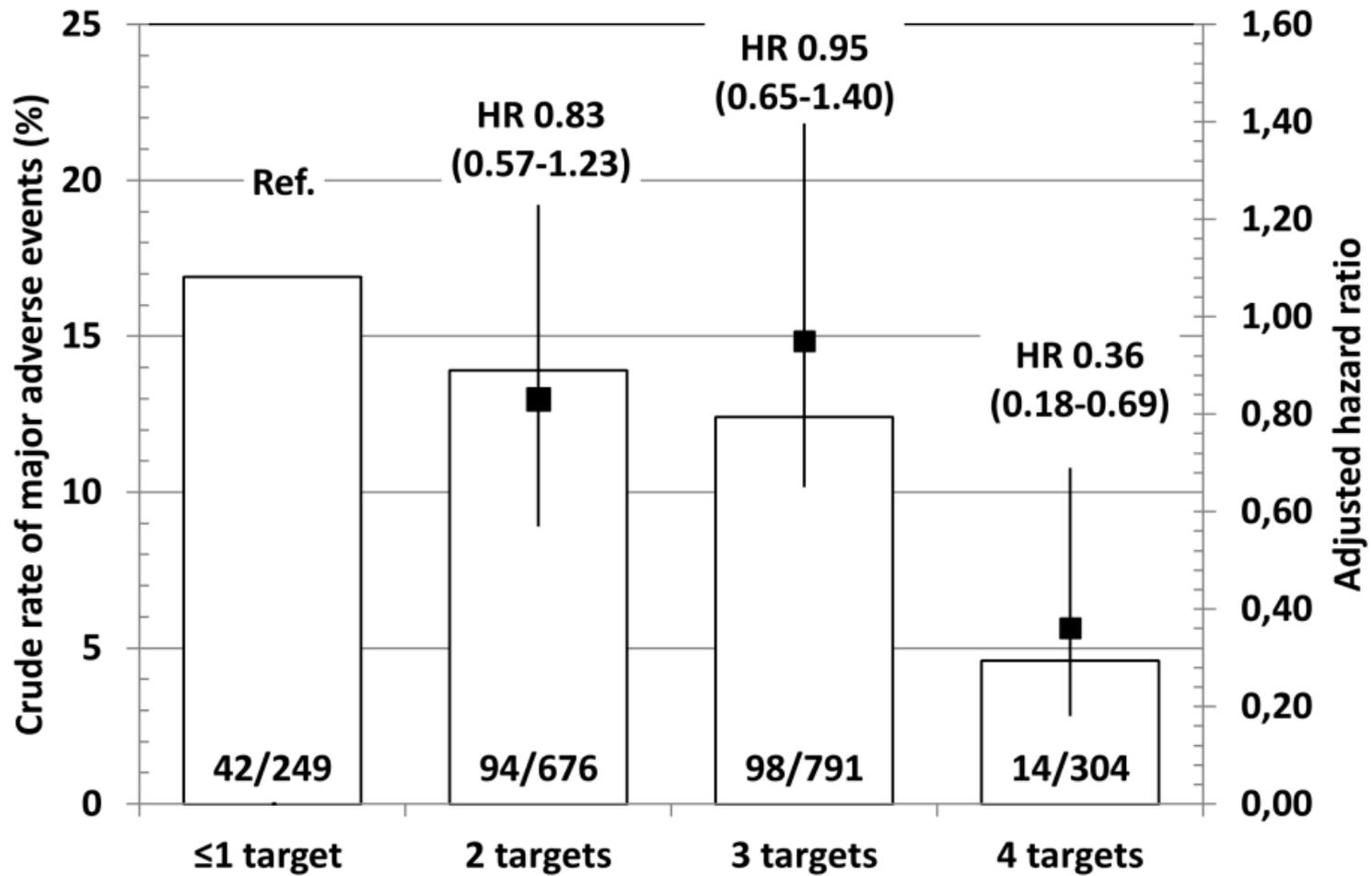
SWEDEHEART:

In the large Swedish Web System for Enhancement and Development of Evidence-Based Care in Heart Disease Evaluated According to Recommended Therapy (SWEDEHEART) registry, 24% of MINOCA patients experienced a major cardiovascular event (a composite of all-cause death, rehospitalization for AMI, ischemic stroke, or heart failure) during a mean follow-up of 4.5 years, including a 14% mortality rate. In the current study, mortality rates for MINOCA patients were numerically lower but not statistically different than their AMI-CAD counterparts.

Observational data from the SWEDEHEART registry reported favorable outcomes when MINOCA patients were treated with β -blockers, angiotensin-converting enzyme inhibitors and angiotensin receptor II blockers, and statins, but no significant benefits were observed with P2Y₁₂ inhibitors.

Int J Cardiol. 2018;261:18–23.

Circulation. 2017;135:1481–1489.



MINOCA-BAT Study:

The MINOCA BAT

(Randomized Evaluation of β -Blocker and Angiotensin-Converting Enzyme Inhibitor/Angiotensin Receptor Blocker Treatment in MINOCA Patients) **study** is expected to begin enrollment in Europe in 2018 (with plans to expand enrollment to the United States and Canada in the next year). This study aims to randomize > **5600 MINOCA** patients to treatment with oral angiotensin-converting enzyme inhibitors and angiotensin receptor II blockers and β -blockers versus matching placebo and will examine rates of death and other cardiovascular events at 1 year.