

# Infarto miocardico e arteriopatia periferica: confronto tra trattamento e prognosi a lungo termine

RISULTATI DI UN REGISTRO NAZIONALE SVEDESE

# Background



Peripheral arterial disease (PAD) is estimated to affect 20% of individuals aged 60 years and over



While the incidence of myocardial infarction (MI) has decreased globally, PAD has increased by 23% in one decade



Data from western countries show a declined trend in mortality from coronary artery disease



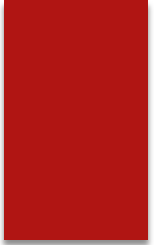
The risk of PAD and CAD are considered to be equivalent and similar preventive measures are recommended in international guidelines



Mortality rates for patients with PAD are largely unchanged in the last three decades



There is a substantial gap between endorsement and clinical practice regarding the care of PAD patients



# **Myocardial infarction and peripheral arterial disease: Treatment patterns and long-term outcome in men and women results from a Swedish nationwide study**

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# Methods

- ▶ Observational, population-based study; data from mandatory Swedish national registries.
- ▶ All patients admitted to hospital as inpatients or outpatients and alive at discharge
  - ▶ primary diagnosis of acute **MI** between 11 January 2006 and 2 December 2012
  - ▶ primary or secondary diagnosis of **PAD** (atherosclerosis of aorta, atherosclerosis of arteries of extremities or intermittent claudication) between 1 January 2006 and 2 December 2013
- ▶ The risks of MI and death were assessed by Kaplan–Meier analysis.
- ▶ Secondary preventive drug use was characterized.
- ▶ Cox proportional risk hazard modelling was used to determine the risk of specific events.

# Aims

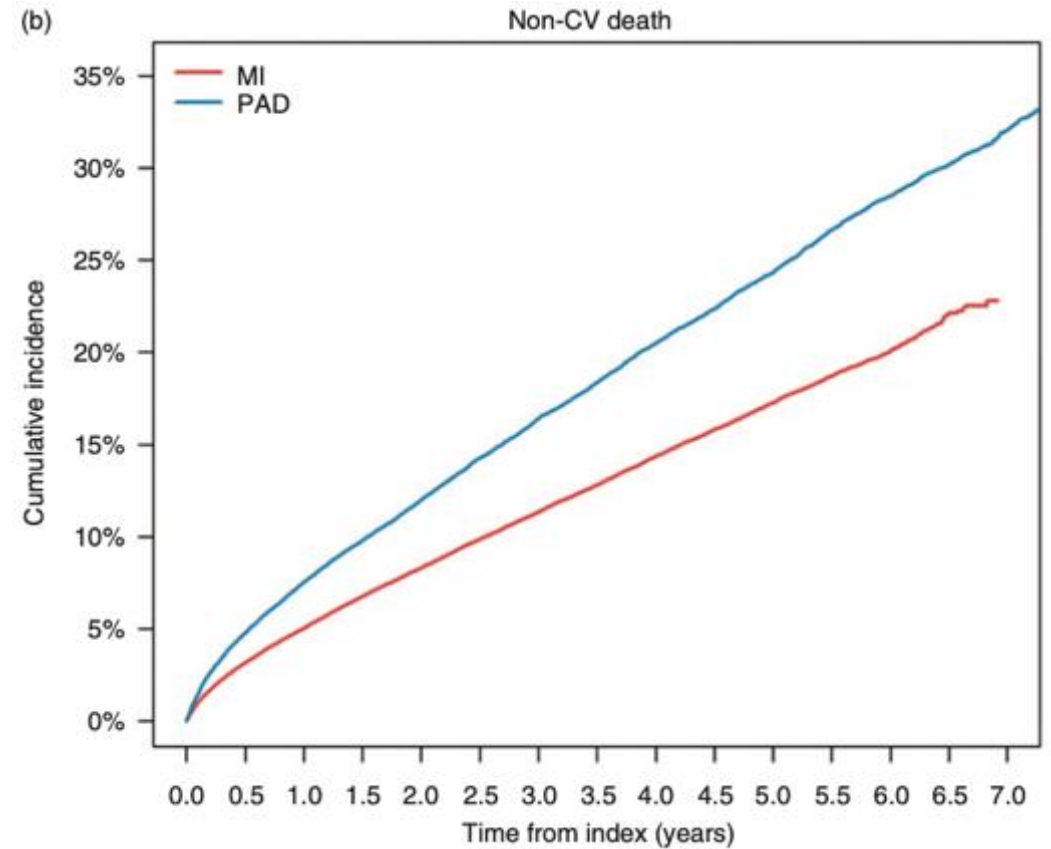
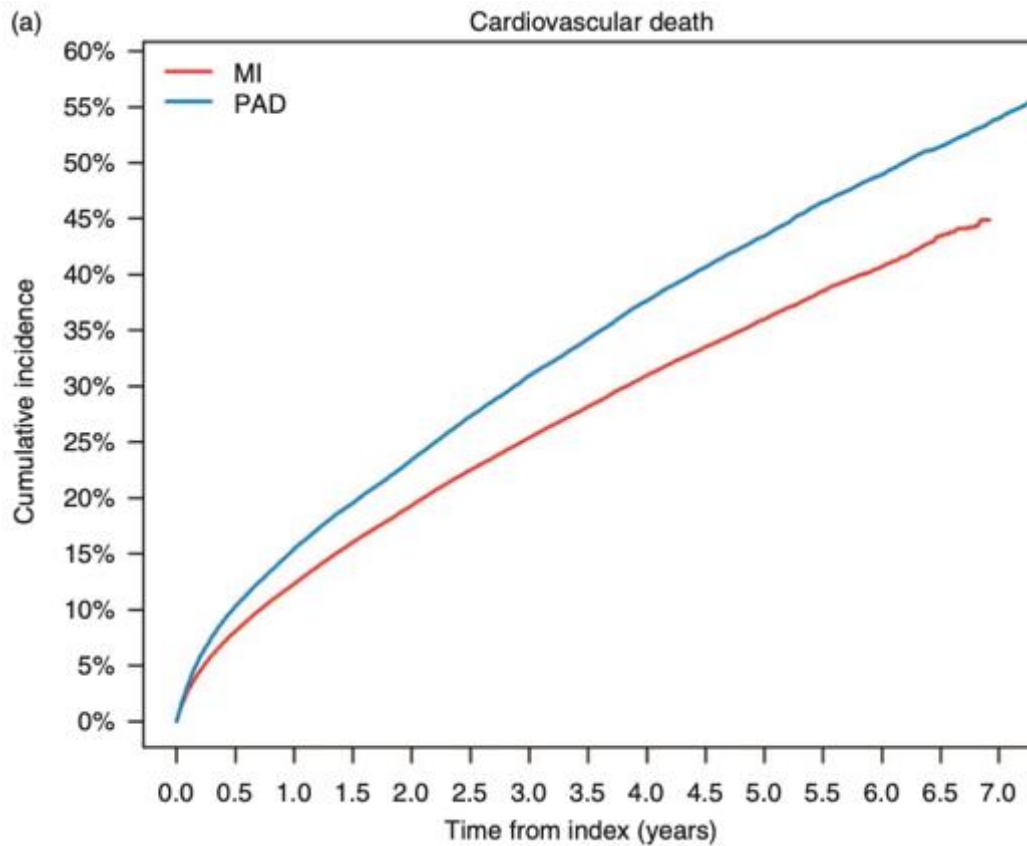
The aim of this study was to compare comorbidity, treatment patterns, CV outcome, and mortality in MI and PAD patients, focusing on sex differences.

# Baseline characteristics

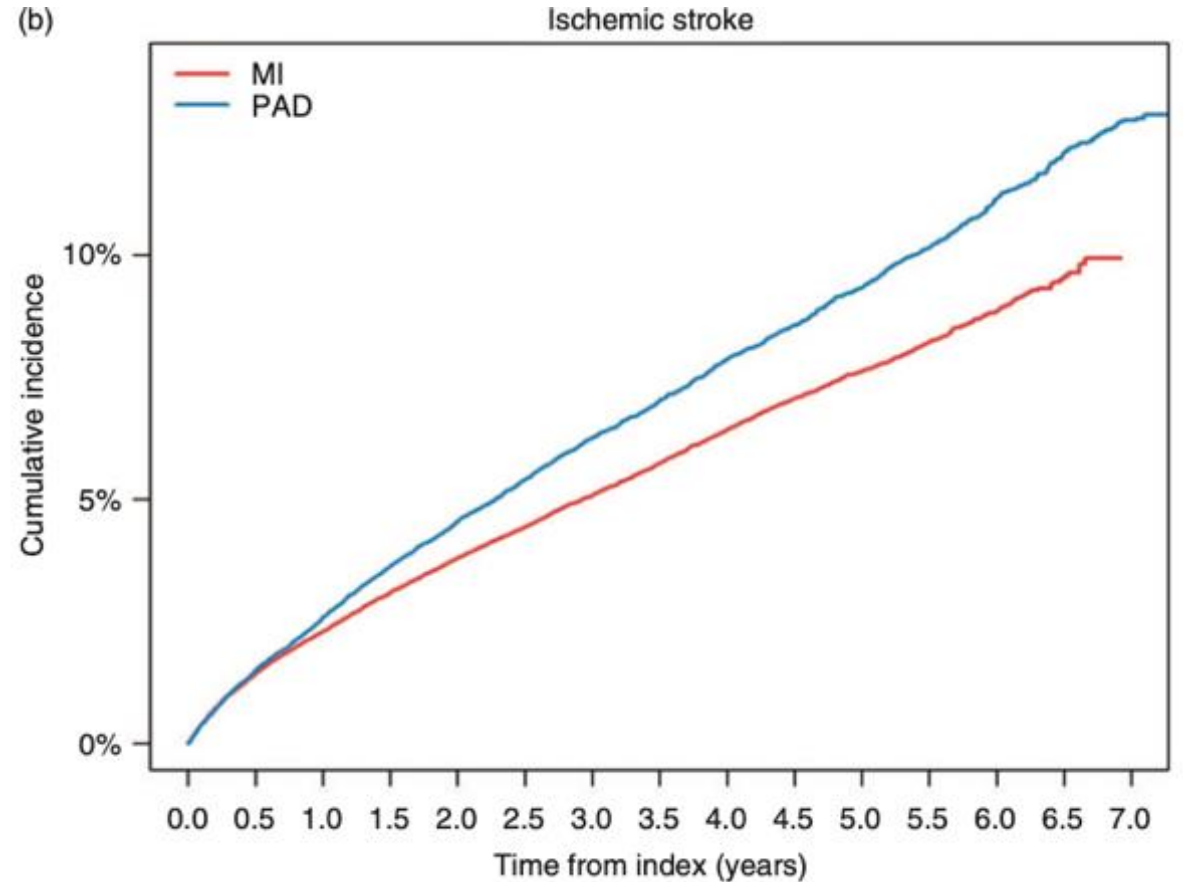
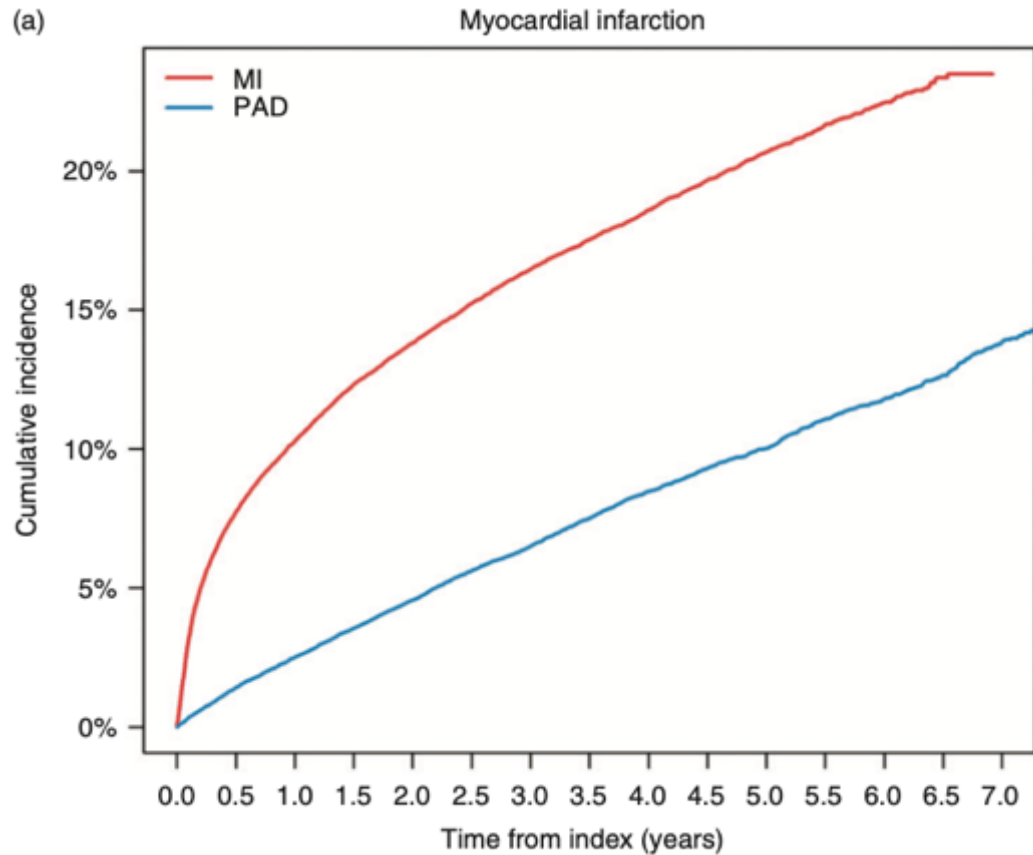
	MI men n = 54,682	MI women n = 37,126	p-value	PAD men n = 26,637	PAD women n = 25,771	p-value
Age	71.1 (11.0)	77.4 (10.8)	<0.001	73.3 (10.0)	76.6 (10.4)	<0.001
Diabetes	11,271 (20.6%)	7,718 (20.8%)	0.517	8,897 (33.4%)	6,153 (23.9%)	<0.001
Prior hypertension	31,644 (57.9%)	25,313 (68.2%)	<0.001	19,355 (72.7%)	19,143 (74.3%)	<0.001
Previous stroke	4,934 (9.0%)	4,368 (11.8%)	<0.001	3,635 (13.6%)	2,970 (11.5%)	<0.001
Previous heart failure	10,100 (18.5%)	9,315 (25.1%)	<0.001	4,625 (17.4%)	4,002 (15.5%)	<0.001
Previous angina pectoris	10,937 (20.0%)	7,723 (20.8%)	0.003	4,828 (18.1%)	3,395 (13.2%)	<0.001
Previous atrial fibrillation	8,769 (16.0%)	7,592 (20.4%)	<0.001	5,819 (21.8%)	4,712 (18.3%)	<0.001
Medication at discharge						
ASA	49,546 (90.6%)	32,197 (86.7%)	<0.001	17,496 (65.7%)	16,385 (63.6%)	<0.001
Clopidogrel	37,302 (68.2%)	20,943 (56.4%)	<0.001	2,028 (7.6%)	1,736 (6.7%)	<0.001
Statins	44,053 (80.6%)	23,749 (64.0%)	<0.001	15,284 (57.4%)	12,590 (48.9%)	<0.001
ARB/ACEi	39,779 (72.7%)	24,543 (66.1%)	<0.001	14,497 (54.4%)	12,503 (48.5%)	<0.001
Revascularized within six months	29,995 (54.8%)	12,405 (33.4%)	<0.001	5,556 (20.9%)	5,490 (21.3%)	0.214

ASA: antiplatelet therapy; ACEi: angiotensin converting enzyme inhibitor; ARB: angiotensin receptor blocker.

# Risk of cardiovascular and non-CV death



# Risk of myocardial infarction and ischemic stroke





# Event rates and hazard ratios

	Events n (%)	Crude hazard ratio (95% CI)	p-value	Age-adjusted hazard ratio (95% CI)	p-value	Adjusted for age and comorbidity <sup>b</sup> (95% CI)	p-value
<b>All-cause mortality</b>							
Men MI	14.136 (25.9)	1		1	<0.001	1	<0.001
Women MI	13.615 (36.7)	1.52 (1.49–1.56)	<0.001	0.89 (0.87–0.92)		0.88 (0.86–0.91)	
Men PAD	9526 (35.8)	1		1	<0.001	1	<0.001
Women PAD	9319 (36.2)	1.02 (0.99–1.05)	0.127	0.78 (0.76–0.80)		0.85 (0.83–0.88)	
<b>Cardiovascular mortality</b>							
Men MI	7.926 (14.5)	1		1	<0.001	1	<0.001
Women MI	8.241 (22.2)	1.64 (1.59–1.69)	<0.001	0.90 (0.87–0.93)		0.89 (0.86–0.91)	
Men PAD	4.719 (17.7)	1		1		1	
Women PAD	4.950 (19.2)	1.10 (1.05–1.14)	<0.001	0.78 (0.75–0.82)	<0.001	0.87 (0.83–0.90)	<0.001
<b>Cardiovascular events<sup>a</sup></b>							
Men MI	11.376 (30.2)	1		1	<0.001	1	<0.001
Women MI	10.168 (37.2)	1.31 (1.28–1.35)	<0.001	0.92 (0.89–0.94)		0.92 (0.89–0.94)	
Men PAD	6.739 (25.5)	1		1		1	
Women PAD	6.657 (26.1)	1.03 (0.99–1.06)	<0.144	0.81 (0.79–0.84)	<0.001	0.89 (0.86–0.93)	<0.001

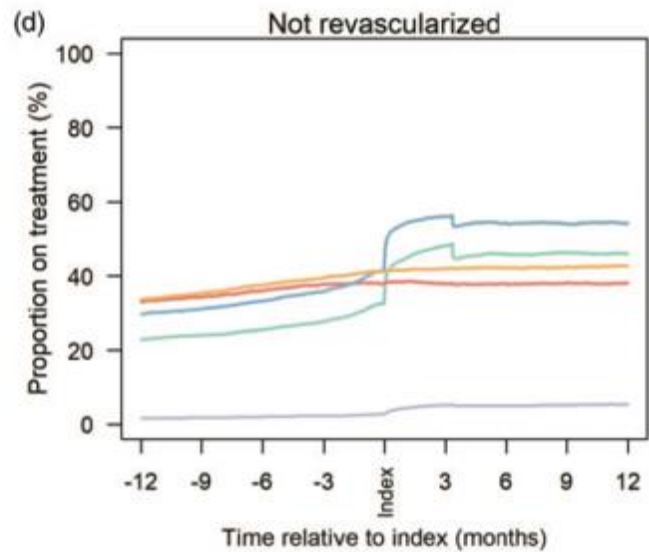
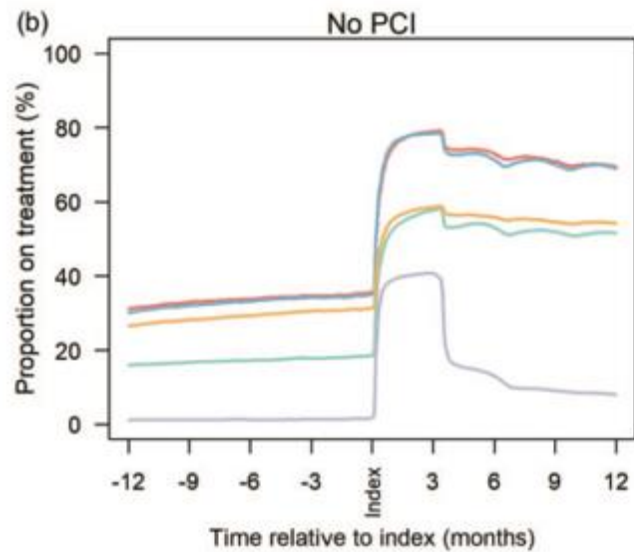
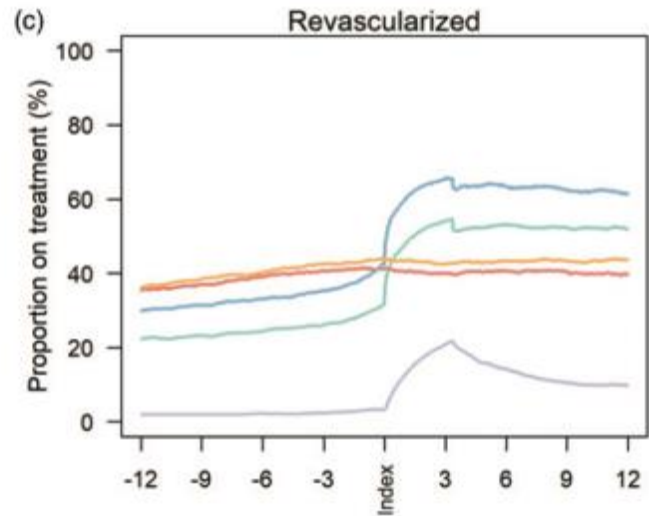
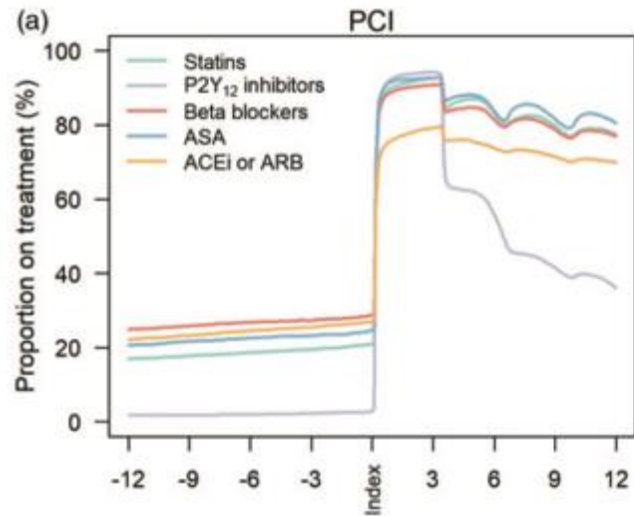
<sup>a</sup>Cardiovascular events are MI, ischemic stroke, or death due to cardiovascular cause.

<sup>b</sup>Comorbidity: diabetes mellitus, hypertension, prior stroke, angina pectoris, atrial fibrillation, and renal insufficiency.

CI: confidence interval.

MI

PAD



Adherence to secondary preventive medication over time

# Limitations

- ▶ Lifestyle factors such as smoking and physical activity were not available, as were other important data including blood pressure, body mass index, and serum lipid levels.
- ▶ Inaccurate coding cannot be excluded in a registry-based study such as this, but the registries used have been repeatedly validated and found to have a high degree of accuracy (>98% of all entries).

# Conclusions



This study revealed higher all-cause and CV-related mortality in PAD patients than in MI patients.



Overall, PAD patients were less well treated with secondary preventive medication.



Women with MI had a more pronounced comorbidity status than male MI patients. Although women with PAD were generally older, they were less likely to present with previous atherosclerotic manifestations in other vascular beds.



Lower-limb vasculature may be the index vascular bed for atherosclerosis in women, which should be recognized and targeted when designing and planning risk factor control programmes