

Effects of Perindopril on Cardiac Events in Revascularized Coronary Artery Disease

Maarten L. Simoons, Michel E. Bertrand, Jaap W. Deckers, Roberto Ferrari, Kim M. Fox, Willem J. Remme, Erasmus MC, Rotterdam, the Netherlands, on behalf of the EUROPA investigators

Background: The EUROPA trial has demonstrated that the ACE inhibitor perindopril, 8 mg once daily, significantly decreased the risk of major cardiac events (cardio-vascular death, non fatal myocardial infarction (MI) and resuscitated cardiac arrest) by 20% in patients with stable coronary heart disease (CAD) without apparent heart failure. Similar benefits were observed with ramipril in the HOPE study. In contrast, treatment with trandolapril in PEACE did not reduce cardiac events during follow up. The PEACE investigators suggested that this was related to the intensive other therapy in their patients, including revascularization and lipid lowering drugs.

Aim: to assess the effect on cardiac events of perindopril in EUROPA patients, with previous revascularization, with and without previous MI and lipid lowering therapy.

Methods: Subgroup analysis of the EUROPA study according to revascularization and MI history and medication. Among the 12,218 EUROPA patients, 6709 (54.9%) patients had a previous PCI 3122 or CABG 3136. Of the revascularized patients 25% patients had no previous MI, and 63% received lipid-lowering drugs at baseline (see table).

Results

Out of the 6709 revascularized patients, 3340 were treated with perindopril, 3369 with placebo. Their baseline characteristics were similar to the whole EUROPA population in terms of demographics,

medical history, physical examination (heart rate, blood pressure), and medications at baseline. The mean patient age was 60 years and 85 % were men.

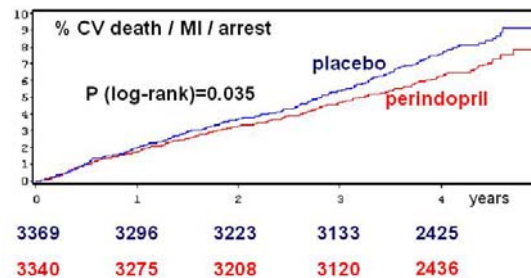


Figure 1

The relative risk reduction (RRR) with perindopril was 17.3%, [95% CI: 1.3%;30.8%] p = 0.036 for the composite primary endpoint of cardiovascular death, non fatal MI and resuscitated cardiac arrest (figure 1) and of 23%, [95% CI: 4.9%;37.6%] p = 0.015 for fatal and non fatal myocardial infarction.

Revascularization	CABG	PCI	None
N	3136	3122	5509
Previous MI (%)	53.3	56.2	77.2
Hypertension (%)	61.2	53.1	48.2
Diabetes (%)	13.5	10.9	12.5
Baseline			
Platelet inhibitors	93.0	95.8	90.0
Lipid lowering drugs	61.7	63.5	48.5
β-blockers	55.8	62.4	67.6

In the 3047 revascularized patients without an history of MI, perindopril was associated with a RRR of 31.7% for fatal and non fatal myocardial infarction, [95% CI: 4.4%;51.2%] p = 0.026.

The reduction in cardiac events was consistently observed in patients with or without hypertension, diabetes or lipid lowering drugs (figure 2).

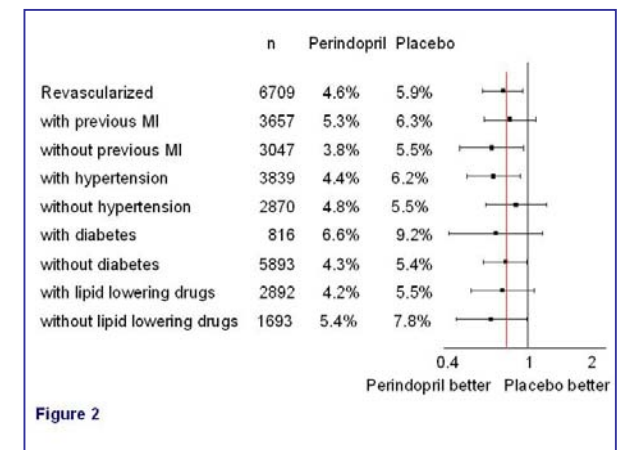


Figure 2

Conclusion

Perindopril 8 mg daily reduces cardiac events in patients with stable CAD without clinical evidence of heart failure including patients with previous revascularization (PCI or CABG), and patients receiving lipid lowering drugs. Thus, high rates of previous revascularization and lipid lowering drugs do not satisfactorily explain the outcome of PEACE.