# Treatments in AMI

## Angiotensin converting enzyme inhibitors

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### Summary

One systematic review in people treated within 14 days of acute myocardial infarction found that angiotensin converting enzyme inhibitors reduce mortality after 6 weeks compared with placebo. However, a non-systematic review found that angiotensin converting enzyme inhibitors increase persistent hypotension and renal dysfunction at 6 weeks compared with placebo.

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### Benefits

We found one systematic review (search date 1997, 15 RCTs with ≥ 6 weeks' follow up, 15 104 people), which compared angiotensin converting enzyme (ACE) inhibitors started within 14 days of acute myocardial infarction (AMI) versus placebo. [42] It found that ACE inhibitors decreased overall mortality and sudden cardiac death compared with placebo after 2–42 months (overall mortality: 1105/7658 [14.4%] with ACE inhibitors *v* 1251/7446 [16.8%] with placebo; OR 0.83, 95% CI 0.71 to 0.97; sudden cardiac death: OR 0.80, 95% CI 0.70 to 0.92). [42]

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### Harms

One non-systematic review of RCTs (search date not reported, 4 RCTs, 98 496 people within 36 hours of AMI) found that ACE inhibitors significantly increased persistent hypotension and renal dysfunction at 6 weeks compared with placebo (hypotension: AR 17.6% with ACE inhibitor *v* 9.3% with control; CI for difference not reported; $P < 0.01$; renal dysfunction: AR 1.3% *v* 0.6%; $P < 0.01$). [43] The relative and absolute risks of these adverse effects were uniformly distributed across both the high and lower cardiovascular risk groups. The systematic review did not report on harms. [42]

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### Comment

ACE inhibitors in people with AMI work best when treatment is started within 24 hours. The evidence does not answer the question of which people with an AMI should be offered ACE inhibitors, nor for how long after AMI it remains beneficial to start treatment. We found one systematic review (search date not reported; based on individual data from about 100 000 people in RCTs of ACE inhibitors), which found that people receiving both aspirin and ACE inhibitors had the same relative risk reduction as those receiving ACE inhibitors alone. [44] Of the 12 RCTs in the systematic review that reported on left ventricular function among participants, all reported a mean left ventricular ejection fraction of 54% or less. Six of these RCTs reported a mean left ventricular ejection fraction of 40% or less. However, there is debate over whether the benefits of ACE inhibitors also benefit people with normal left ventricular function after AMI.

**References**


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