Heart failure

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Drug and invasive treatments

Angiotensin II receptor blockers

In this section:

Summary

Mortality

Compared with placebo Angiotensin II receptor blockers are more effective at reducing all-cause mortality at 4 weeks to 2.7 years (moderate-quality evidence).

Compared with ACE inhibitors Angiotensin II receptor blockers and ACE inhibitors seem equally effective at reducing all-cause mortality at 4 weeks to 2.7 years (moderate-quality evidence).

Angiotensin II receptor blockers plus ACE inhibitors compared with ACE inhibitors Angiotensin II receptor blockers plus ACE inhibitors may be no more effective at reducing mortality (low-quality evidence).

Hospitalisation

Compared with placebo Angiotensin II receptor blockers are more effective at reducing hospitalisations for heart failure (moderate-quality evidence).

Compared with ACE inhibitors Angiotensin II receptor blockers and ACE inhibitors seem equally effective at 4 weeks to 2.7 years at reducing hospitalisations for heart failure (moderate-quality evidence).

Angiotensin II receptor blockers plus ACE inhibitors compared with ACE inhibitors
Angiotensin II receptor blockers plus ACE inhibitors are more effective at reducing hospitalisations for heart failure (moderate-quality evidence).

For GRADE evaluation of interventions for heart failure, see table.

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Benefits

Angiotensin II receptor blockers versus placebo:

We found one systematic review (search date 2003, 24 RCTs, 38,080 people with New York Heart Association functional class II–IV, follow-up 4 weeks to 2.7 years). [25] It found that angiotensin II receptor blockers significantly reduced all-cause mortality and heart failure hospitalisations compared with placebo (all-cause mortality: 9 RCTs, 4623 people, OR 0.83, 95% CI 0.69 to 1.00; heart failure hospitalisations: 3 RCTs, 2590 people, OR 0.64, 95% CI 0.53 to 0.78).

Angiotensin II receptor blockers versus ACE inhibitors:

We found one systematic review (search date 2003, 8 RCTs, 5201 people with New York Heart Association functional class II–IV, follow-up 4 weeks to 2.7 years). [25] It found no significant difference between angiotensin II receptor blockers and ACE inhibitors for all-cause mortality or heart failure hospitalisations (all-cause mortality: OR 1.06, 95% CI 0.90 to 1.26; heart failure hospitalisations: 3 RCTs, 4310 people, OR 0.95, 95% CI 0.80 to 1.13).

Angiotensin II receptor blockers plus ACE inhibitors versus ACE inhibitors alone:

We found two systematic reviews (search date 2003, 7 RCTs, 8260 people with New York Heart Association functional class II–IV heart failure; [25] search date 2003, 4 RCTs [26]). The first systematic review found that angiotensin II receptor blockers plus ACE inhibitors significantly reduced heart failure hospitalisations compared with ACE inhibitors alone, but found no significant difference between treatments for all-cause mortality (heart failure hospitalisations: 4 RCTs, 8108 people, OR 0.77, 95% CI 0.69 to 0.87; all-cause mortality: 7 RCTs, 8206 people, OR 0.97, 95% CI 0.87 to 1.08). [25] The second systematic review [26] (4 RCTs included in the first systematic review, [25] 7666 people) compared angiotensin II receptor blockers plus ACE inhibitors versus ACE inhibitors alone whether or not people were taking beta-blockers. Meta-analysis found no significant difference between treatments for the combined outcome of morbidity and mortality or mortality alone in people taking beta-blockers; however, studies were statistically heterogeneous, with different directions of effect (morbidity or mortality: 2 RCTs, OR 0.94, 95% CI 0.82 to 1.10; mortality: 2 RCTs, OR 1.08, 95% CI 0.90 to 1.29). The review found that angiotensin II receptor blockers plus ACE inhibitors significantly reduced the combined outcome of morbidity and mortality compared with ACE inhibitors

alone in people not taking beta-blockers but found no significant difference between treatments for mortality (morbidity or mortality: 2 RCTs, OR 0.83, 95% CI 0.73 to 0.94; mortality: 2 RCTs, OR 0.93, 95% CI 0.81 to 1.06; no significant heterogeneity in either analysis).

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Harms

Angiotensin II receptor blockers versus placebo:

The systematic review did not report on harms. [25]

Angiotensin II receptor blockers versus ACE inhibitors:

The systematic review did not report on harms. [25]

Angiotensin II receptor blockers plus ACE inhibitors versus ACE inhibitors alone:

The systematic reviews did not report on harms. [25] [26]

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Comment

Clinical guide:

The evidence suggests that in people who are intolerant of ACE inhibitors, an angiotensin II receptor blocker would be as useful in reducing mortality and morbidity. Furthermore, the evidence suggests that, for people with New York Heart Association functional class II–IV, an angiotensin II receptor blocker should be added to therapy after ACE inhibition and beta-blocker therapy have been optimised to reduce further both mortality and morbidity.

References

25. Lee VC, Rhew DC, Dylan M, et al. Meta-analysis: angiotensin-receptor blockers in chronic heart failure and high risk acute myocardial infarction. *Ann Intern Med* 2004;141:693–704. Search date 2003; primary sources the Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Cinahl, Dare, HealthStar, Medline, reference lists, and conference abstracts. [PubMed]

26. Dimopoulos K, Sulukhe TV, Coats AJS, et al. Meta-analyses of mortality and morbidity effects of an angiotensin receptor blocker in patients with chronic heart failure already receiving an ACE inhibitor (alone or with a beta-blocker). *Int J Cardiol* 2004;93:105–111. Search date 2003; primary source Medline. [PubMed]