In patients with chronic heart failure (HF) or high risk acute myocardial infarction (MI), what is the efficacy of angiotensin receptor blocker (ARB) therapy compared to ACE inhibitors, and what are the costs and benefits?

**METHODS**

**Data sources:** Medline, CINAHL, Database of Abstracts of Reviews of Effects, HealthSTAR, Cochrane Central Register of Controlled Trials, and the Cochrane Database of Systematic Reviews (to 2003); reference lists; and meeting abstracts.

**Study selection and assessment:** English language randomised controlled trials (RCTs) that compared ARBs with appropriate control groups in patients with chronic HF or high risk acute MI and reported outcomes at 4 weeks. Study quality was assessed.

**Outcomes:** All-cause mortality and admission to hospital for HF.

**MAIN RESULTS**

24 RCTs (38,080 patients, 4 wks to 41 mo of follow-up) were included. Chronic HF. Studies were pooled using a fixed-effects model. ARBs reduced hospital admission for HF relative to placebo; for all cause mortality, the benefit for ARBs reached borderline significance (table). ARBs and angiotensin converting enzyme (ACE) inhibitors did not differ for all-cause mortality or hospital admission (table). ARBs plus ACE inhibitors led to fewer hospital admissions for HF relative to ACE inhibitors alone; the groups did not differ for all-cause mortality (table).

**Comparisons Outcomes Number of RCTs Weighted event rates RRR (95% CI) NNT (CI)**

<table>
<thead>
<tr>
<th>ARBs vs placebo</th>
<th>All cause mortality</th>
<th>9</th>
<th>15.5% vs 18%</th>
<th>14% (0 to 27)</th>
<th>40 (21 to 80)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HF hospital admission</td>
<td>3</td>
<td>18% vs 25%</td>
<td>30% (17 to 40)</td>
<td>14 (10 to 23)</td>
</tr>
<tr>
<td>ARBs vs ACE inhibitors</td>
<td>All cause mortality</td>
<td>8</td>
<td>13.4% vs 12.8%</td>
<td>5% (−8 to 22)</td>
<td>Not significant</td>
</tr>
<tr>
<td></td>
<td>HF hospital admission</td>
<td>3</td>
<td>15.0% vs 15.6%</td>
<td>4% (−11 to 17)</td>
<td>Not significant</td>
</tr>
<tr>
<td>ARBs + ACE inhibitors vs ACE inhibitors alone</td>
<td>All cause mortality</td>
<td>7</td>
<td>22.0% vs 22.6%</td>
<td>2.3% (−6.1 to 10)</td>
<td>Not significant</td>
</tr>
<tr>
<td></td>
<td>HF hospital admission</td>
<td>4</td>
<td>17% vs 21%</td>
<td>19% (11 to 26)</td>
<td>26 (19 to 46)</td>
</tr>
</tbody>
</table>

**CONCLUSION**

In patients with chronic heart failure (HF) or high risk acute myocardial infarction, angiotensin receptor blockers do not differ from angiotensin converting enzyme inhibitors for all-cause mortality or hospital admission for HF.

**Commentary**

Many papers have been written about the choice between ARBs and ACE inhibitors for patients with cardiovascular disease, but 2 basic facts dominate decision making: (1) there is no evidence that ARBs are any better than ACE inhibitors and (2) ARBs cost much more than the generic ACE inhibitors. This is why ACE inhibitors were included in the proposed Polypill—6 drug combination that 2 English physicians proposed 5 years ago.1 And there is good reason why ARBs were not included in the Polypill proposal. Fewer data support ARBs than ACE inhibitors.

One reason, of course, is that ARBs are relatively new. Huge sums have been spent bringing ARBs to market, and their manufacturers hope they will be found superior to ACE inhibitors. They continue to invest in trials that show a wide range of benefits for ARBs. The only problem is that ARBs don’t appear any better than ACE inhibitors.

ARBs are great drugs, but their misfortune is that ACE inhibitors are too.

There is good reason why ACE inhibitors were included in the proposed Polypill—the 6 drug combination that 2 English physicians have proposed for all adults over 55 years of age.1 And there is good reason why ARBs were not included in the Polypill proposal. Fewer data support ARBs than ACE inhibitors. But ARB manufacturers hoping for evidence that ARBs should be a first choice over an ACE inhibitor are probably close to giving up.

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1 Wald NJ, Law MR. A strategy to reduce cardiovascular disease by more than 80%. BMJ 2003;326:1419.