Review: Amiodarone reduces all-cause mortality in patients at risk for sudden cardiac death


Question
Can amiodarone reduce the risk for all-cause mortality and cardiac and sudden cardiac death?

Data sources
Studies were identified by searching the MEDLINE and BIOSIS databases, contacting colleagues, and scanning bibliographies of relevant studies and conference proceedings.

Study selection
Randomized controlled trials were selected if they were published from 1985 to March 1997, mortality was reported as an outcome (all-cause, cardiac, and sudden), and treatment and follow-up were > 3 months. Exclusion criteria were use of intravenous amiodarone, treatment of atrial fibrillation or nonarrhythmic indications, hypertrophic cardiomyopathy as the underlying cardiac disease, or patient allocation to an implantable defibrillator.

Data extraction
Data were extracted on patients, type of control (placebo, active control, or usual care), arrhythmia status, dose of amiodarone, and length of follow-up. Patients had left ventricular dysfunction or had myocardial infarction (MI) or cardiac arrest.

Main results
15 trials of 5864 patients were included. Meta-analysis showed that patients who received amiodarone had a decreased risk for all-cause mortality (P < 0.01), cardiac death (P < 0.01), and sudden death (P < 0.001) (Table). The odds ratios (ORs) showed similar reductions in subgroups: Among patients who received amiodarone compared with controls, the all-cause mortality rates were, respectively, 10.2% and 11.8% (OR 0.79, 95% CI 0.60 to 1.04) for patients with a history of MI, 33.2% and 38.5% (OR 0.78, CI 0.59 to 1.05) for patients who had left ventricular dysfunction, and 21.7% and 27.1% (OR 0.75, CI 0.43 to 1.29) for patients with a history of cardiac arrest. Similar ORs were found for cardiac and sudden death. For patients who had evidence of arrhythmias (10 trials), all-cause mortality was decreased (P = 0.004).

Conclusion
Amiodarone therapy leads to modest reductions in the risk for all-cause mortality, cardiac death, and sudden death in all patients who have had myocardial infarction or cardiac arrest or who have left ventricular failure.

Source of funding: Agency for Health Care Policy and Research.

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Amiodarone vs control for patients at risk for sudden cardiac death

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Weighted amiodarone</th>
<th>Weighted control</th>
<th>NNT (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-cause mortality</td>
<td>17%</td>
<td>19%</td>
<td>30 (17 to 95)</td>
</tr>
<tr>
<td>Cardiac death</td>
<td>13%</td>
<td>16%</td>
<td>31 (21 to 152)</td>
</tr>
<tr>
<td>Sudden death</td>
<td>6.9%</td>
<td>9.6%</td>
<td>38 (26 to 76)</td>
</tr>
</tbody>
</table>

Abbreviations defined in Glossary; NNT and CI calculated from data in article.