

Potential Benefits of Amiodarone for Patients Undergoing Open-Heart Surgery

Summaries for Patients are a service provided by *Annals* to help patients better understand the complicated and often mystifying language of modern medicine.

The full report is titled “Amiodarone Prophylaxis Reduces Major Cardiovascular Morbidity and Length of Stay after Cardiac Surgery: A Meta-Analysis.” It is in the 6 September 2005 issue of *Annals of Internal Medicine* (volume 143, pages 327-336). The authors are J.D. Aasbo, A.T. Lawrence, K. Krishnan, M.H. Kim, and R.G. Trohman.

What is the problem and what is known about it so far?

Irregular heart rates and rhythms (arrhythmias) occur commonly in the first week after heart surgery. They are associated with increased risks for stroke, heart attack, and death. They can increase postoperative care needs, length of hospital stay, and costs. Doctors usually give patients undergoing heart surgery beta-blocker drugs to help prevent dangerous heart rates and their complications. Another drug that they might consider giving is amiodarone. Amiodarone works by slowing down the electrical signals in both the upper chambers (atria) and lower chambers (ventricles) of the heart.

Why did the researchers do this particular study?

To see if giving amiodarone to adults undergoing heart surgery reduces length of hospital stay and risk for arrhythmias, stroke, heart attack, and death.

Who was studied?

1744 adults undergoing coronary bypass or heart valve surgery who participated in 10 trials of perioperative amiodarone therapy.

How was the study done?

The researchers searched the medical literature up to February 2005 to find randomized trials that compared amiodarone with dummy pills (placebo) in patients undergoing open-heart surgery. Patients could have received amiodarone just before, during, or immediately after surgery. The researchers then combined data about outcomes and side effects from the studies.

What did the researchers find?

Compared with placebo, amiodarone reduced the incidence of both atrial and ventricular arrhythmias. Amiodarone also reduced strokes and length of hospital stay. Its effects on heart attacks and deaths were unclear. Adverse effects of amiodarone included nausea and slow heart rate (bradycardia).

What were the limitations of the study?

Some trials were conducted in the early 1990s. Some participants did not get beta-blocker drugs, the currently recommended preventive treatment for patients undergoing heart surgery. Dosages and timing of amiodarone administration and follow-up duration varied across studies.

What are the implications of the study?

Perioperative amiodarone may benefit some patients undergoing heart surgery. We now need trials that compare amiodarone plus beta-blockers versus beta-blockers alone to see if the combination better prevents adverse outcomes than do beta-blockers alone.

Summaries for Patients are presented for informational purposes only. These summaries are not a substitute for advice from your own medical provider. If you have questions about this material, or need medical advice about your own health or situation, please contact your physician. The summaries may be reproduced for not-for-profit educational purposes only. Any other uses must be approved by the American College of Physicians.