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| Title | Optimal Temperature for Cardioplegia During Coronary Artery Bypass Grafting |
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Aim

To address the optimal temperature in cardiopulmonary bypass and cardioplegia during cardiovascular surgery, with specific attention to defining the optimal method for myocardial protection during coronary artery bypass grafting (CABG).

Conclusions and results

Variations in the optimal methods used to protect the heart from damage due to lack of oxygen during cardiovascular surgery suggests a lack of consensus among practitioners, particularly among thoracic surgeons and in VA cardiac surgery programs.

Seventeen published randomized controlled trials (one yielding 2 separate publications) met the inclusion criteria for this review. The searches also identified 3 published analyses of large databases relevant to cardioplegia temperature, 2 of which used data from randomized controlled trials. Results from these studies support the American College of Cardiology/American Heart Association (ACC/AHA) guidelines for CABG (1999).

Recommendations

The ACC/AHA guidelines for CABG (1999) state *“no strong argument can currently be made for warm versus cold and crystalloid versus blood cardioplegia”* in patients with normal left ventricular function.

Methods

The VA Technology Assessment Program (TAP) searched MEDLINE, HealthSTAR, and EMBASE databases on November 1999, June 2000, January 2001, and September 2003. The databases of the Cochrane Collaboration and the International Network of Agencies for Health Technology Assessment (INAHTA) were searched to identify existing assessments. Reference lists were examined to identify additional randomized controlled trials.

Further research/reviews required

Additional research is needed to determine the optimal temperature for cardiopulmonary bypass and cardioplegia during cardiovascular surgery. Specific attention should be given to defining the optimal method for myocardial protection during CABG.