Heat Preservation During Cardiac Surgery

The postbypass period is important clinically because an acute reduction in core temperature is common. However, hypothermia results largely from a core-to-peripheral redistribution of body heat rather than heat loss; thus, the initial hour after separation from bypass is a poor time to test warming systems. It remains likely that intravenous fluid warming would have proved effective under less dynamic circumstances. There is little question that fluid warming is a critical adjunct to anterior surface warming in patients given large volumes of fluid.

It is rarely appropriate to include untreated control groups when proven therapies are available. In such cases, new treatments should be compared with the best existing ones. The authors chose not to include an untreated control group because “it would be ethically inappropriate to deprive any patients of all heat preservation techniques.” At least 2 of the treatments tested in this study have never been proved effective, however. This study would, therefore, have been ideal for an untreated control, and a true control group would have facilitated interpretation of the results. In contrast to the treatments tested by Ginsberg et al, forced-air warming halves the magnitude of postbypass afterdrop. Thus, it would have been interesting to include anterior surface heating in the trial.

The authors conclude that “intravenous fluid warmers are more economical and at least as clinically effective in preventing temperature afterdrop as heated humidified breathing circuits and fluid-filled blankets.” In fact, their results—combined with previous studies—justify a considerably stronger conclusion: The 3 tested warming methods are of no value in bypass patients. There is little therapeutic or logical basis for using ineffective treatments even if they are inexpensive and free of risk. In this case, the treatments involve considerable expense (especially for airway heating) and nontrivial risk (especially for circulating-water mattresses). Available data indicate that none of the tested treatments is justified under the circumstances of this study.

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REFERENCES