TABLE 1. Early atrial fibrillation recurrence between crossovers and noncrossovers

Groups	Crossovers	Noncrossovers	Total
Amiodarone group	18	27	45
Early AF recurrence	1	7	8
Nonamiodarone group	18	27	45
Early AF recurrence	18	5	23

AF, Atrial fibrillation.

In this study, however, there were 18 (40%) crossovers in each group, with a similar mean time to crossover (13 vs 11 days), which indicates that in the nonamiodarone group, 18 of 23 cases of AF recurrence may occur within 30 days after surgery (Table 1). Studies have raised the caution that early AF recurrence after ablation is a risk factor for long-term AF recurrence.^{2,3} It is common, however, for arrhythmias to recur early after surgical ablation; most of these are transient and can be resolved within 1 month.⁴ Thus it is perhaps more meaningful to separate the AF recurrences within 30 days from the other recurrences. In addition, amiodarone is a routine treatment choice for AF recurrence. So the clinicians may be more interested in comparing the long-term outcomes of prophylactic amiodarone and therapeutic amiodarone uses.

With respect to the long-term outcome, Ad and colleagues¹ have also pooled an analysis that removed any rhythm status not verified by long-term monitoring (6 weeks, 12 weeks) and found out that AF recurred more often in the nonamiodarone group than in the amiodarone group (22 of 40 vs 8 of 37). We believe, however, that this conclusion about the long term should be interpreted with caution. First, 18 patients in the nonamiodarone group crossed over to the amiodarone group at an early time, but the final analysis was made on the basis of the initial randomization, which increased the bias. Second, in this study, long-term monitoring was executed at 6 weeks and 12 weeks, but 6 weeks is really not a long time, so an analysis of the outcomes at 12 weeks may be more meaningful.

Yanfei Shen, MD

Xuping Cheng, MD

Manzhen Ying, MD

Intensive Care Unit

Dongyang People's Hospital

Jinhua City, People's Republic of China

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PROPHYLACTIC AMIODARONE REDUCED THE RECURRENCE OF ATRIAL ARRHYTHMIAS

Reply to the Editor:

We appreciate the comments of Yanfei Shen, MD, on our study, in which we sought to clarify the need for prophylactic antiarrhythmic medication in the first few months after surgical ablation of atrial fibrillation. We conducted a prospective, randomized controlled trial to determine whether amiodarone treatment after surgical ablation is effective in reducing the risk of early recurrence of atrial arrhythmia (ie, within <3 months). We found that prophylactic amiodarone did reduce early recurrence of atrial arrhythmia.

We agree with Dr Shen about the importance of knowing whether the prophylactic use of amiodarone is associated with better long-term outcomes. However, we certainly would not classify the outcome in this study as “long term,” as all recurrences were defined as those arising within the first 12 weeks after surgery. In addition, long-term outcome was not the focus of our investigation. Rather, we used long-term *rhythm monitoring* techniques, in which patients wore monitors that recorded for 48 to 72 hours, and this monitoring occurred at 6 and 12 weeks after surgery, which does not qualify as a long-term outcome.

Our analysis, which includes only long-term *rhythm monitoring*, was intended to show that even when this more reliable method of rhythm verification was used, the results did not differ from those of the full analyses of the primary outcome. We are therefore uncertain as to why Dr Shen cautions the reader about this finding, which is simply a subset of our primary outcome analysis but with more-rigorous monitoring.

Crossovers from no-amiodarone to amiodarone treatment represent not bias, but rather incidence of the primary outcome. As stated in our Methods section, “crossover from the no-amiodarone to the amiodarone group due to atrial arrhythmia at any time in the first 3 months after surgery” is part of the definition for the primary outcome. In addition, we state in the Methods section that any “recurrence of atrial arrhythmia at 6- or 12-week follow-up monitoring or at any point during the first 3 months after surgery” was included in the primary outcome definition. Therefore, if patients experienced recurrence of atrial arrhythmia at 12 weeks after surgery, this event would

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have been captured in our primary outcome. Of course, many patients with the primary outcome experienced recurrence before the 12-week point, but only the initial recurrence was necessary to meet the definition for the primary outcome. In fact, almost all patients in whom the primary outcome occurred initially experienced recurrence within the first 45 days after surgery (Figure 2).

Treatment with amiodarone for a short period, such as during the first 3 months after surgery, has been shown to be safe and effective when patients are closely monitored. The results of our study indicate that prophylactic use of amiodarone reduced the incidence of atrial arrhythmia recurrence within the first 3 months after surgery. Future studies are warranted to understand whether this reduction in recurrence during the early postoperative period translates into long-term success after surgical ablation.

Niv Ad, MD

Department of Cardiac Surgery
Inova Heart and Vascular Institute
Inova Fairfax Hospital
Falls Church, Va

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OFF-PUMP CORONARY ARTERY BYPASS GRAFTING VERSUS CONVENTIONAL CORONARY ARTERY BYPASS GRAFTING: WHAT WE DON'T KNOW

To the Editor:

I read with interest the editorial titled “The Emperor’s New Clothes” by Dr Richard Lee,¹ commenting on the article by Dr Fabio Barili and colleagues titled “Impact of Off-Pump Coronary Artery Bypass Grafting on Long-Term Percutaneous Coronary Interventions.”² My purpose is not to agree or disagree with either author, but rather to point out that Barili and colleagues’ conclusions and Lee’s commentary are missing the forest for the trees. To debate the merits of off-pump coronary artery bypass grafting (OPCAB) versus conventional on-pump coronary artery bypass grafting (CCAB) is to have the wrong discussion.

The goal of surgical revascularization should be to relentlessly restore blood supply, by both anatomic and physiologic criteria, to all areas of myocardium possible for the longest interval of time possible. This goal specifies

a new objective framework for all coronary artery bypass grafting procedures that is different from the conventional anatomic framework.

Current techniques for both OPCAB and CCAB do not come close to meeting this goal, but for different reasons. Transposing this conventional framework to OPCAB, both Dr Barili and colleagues and Dr Lee address the important OPCAB liabilities of “incomplete revascularization,” increased late percutaneous coronary intervention, and increased late mortality versus CCAB. By using this newer framework, many recent OPCAB studies document a higher incidence of multiarterial grafting, known to improve late mortality after revascularization by either technique.³ Moreover, Dr Lee’s comment that “he personally continues to use it (OPCAB) in select situations” is precisely a very important component of the Achilles’ heel of a majority of the OPCAB analyses and experience.¹

Likewise, the CCAB surgeons advocate that CCAB outcomes are better than they have ever been, and that CCAB is the “gold standard” for multivessel disease versus medical therapy and percutaneous coronary intervention.⁴ Although this may be true today, it will not be tomorrow. The component Achilles’ heel of this approach continues to include stroke, neurocognitive issues, 15% to 25% graft attrition at 12 to 18 months, the lack of multiarterial grafting in actual practice, and the lack of incorporation of new, important physiologic data into the operative strategy.

Advocating for an “all or none” approach misses the opportunities available and retards progress. The OPCAB setting is an exciting window into the real-time physiology of revascularization blood flow and perfusion, an opportunity not previously available to cardiac surgeons.⁵ This information is critical to all revascularization surgeons committed to making all surgical revascularization better than it is today.

Inherent to this perspective is the ability and responsibility to document at the time of surgery that this goal has or has not been met. More important, whether this goal is met should be a patient-driven outcome, not a surgeon-driven outcome.

T. Bruce Ferguson, Jr, MD

Department of Cardiovascular Sciences
East Carolina Heart Institute
East Carolina Diabetes and Obesity Institute
The Brody School of Medicine at ECU
Greenville, NC

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