LETTERS TO THE EDITOR

Atrial fibrillation after minimally invasive coronary artery bypass

To the Editor:

The article by Cohn, Sirois, and Johnson¹ in the February 1999 issue of the Journal regarding minimally invasive coronary artery bypass (MIDCAB) versus conventional bypass is notable for its failure to specify the number of vessels with critical stenoses in each group vis-à-vis the difference in the number of anastomoses (1.1 vs 3.6). Therefore the issue of complete versus incomplete revascularization is open in regard to its potential contribution to equalizing the incidence of postoperative atrial fibrillation of both groups.

Noted also is a 9% incidence of "revision" for the group undergoing MIDCAB. The text does not elaborate on the nature of the "revision," its timing after the first surgical procedure, and the incidence of atrial fibrillation in that subset of patients. Without this information, one may not draw any inferences on the incidence and cause of postoperative atrial fibrillation in the MIDCAB group.

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Reply to the Editor:

Our study was intended to examine whether the incidence of postoperative atrial fibrillation was higher after conventional (CCAB) compared with minimally invasive (MIDCAB) coronary bypass operations. Nathanson questions whether our MIDCAB patients might be less well revascularized than their CCAB counterparts and experiencing an increased incidence of atrial fibrillation as a consequence of that less complete revascularization. As Nathanson notes, our MIDCAB patients received fewer grafts on average than our CCAB patients, but this fact merely reflects the difference in the selection of patients for the two procedures. In our *Methods* section we cited the fact that 14 of our 55 MIDCAB patients had "more than single left anterior descending coronary disease."¹ These MIDCAB patients were treated as part of a culprit strategy and had identifiable, clinically significant lesions in graftable vessels. In response to this interesting query, we looked back at the coronary lesion data on all 110 patients. Seventeen of the MIDCAB patients had 3-vessel involvement, and their incidence of atrial fibrillation was 17.6%. This is the same as

the 15.8% incidence of atrial fibrillation among the 39 patients with 3-vessel disease having CCAB. These data do not suggest a relationship between completeness of revascularization and postoperative atrial fibrillation.

Nathanson's second concern regards the nature and timing of "revision" in 5 of our 55 MIDCAB patients. With respect to the timing of these revisions, we^{2,3} have previously cited our practice of obtaining angiograms in all patients with normal renal function within 24 hours of their MIDCAB operation. Our rate of revision is consistent with the abnormalities reported in other consecutive series of early post-MIDCAB angiograms.⁴ All revisions were accomplished in that same 24-hour interval. The nature of the revisions is actually presented in our *Results* section (2 revisions for kinking and 3 anastomotic revisions), as is the incidence of atrial fibrillation in among these patients (1 of the 5). If any conclusion can be drawn from such a small number of patients, revision does not seem to be a factor in the incidence of postprocedure atrial fibrillation.

Our data challenge prevalent notions about the cause of atrial fibrillation after coronary artery bypass grafting. Although the results surprised us as much as they may have frustrated Nathanson, we cannot but conclude that, if one corrects for age, the incidence of postoperative atrial fibrillation is *not lower* in MIDCAB patients than in CCAB patients. We look forward to increasing our experience with these procedures, as well as to data from other investigators who may select a population for MIDCAB procedures that is somewhat different from our own.

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4. Schaff HV, Cable DG, Rihal CS, Daly RC, Orszulak TA. Minimal thoracotomy for coronary artery bypass. *Circulation* 1996;94:1-51.

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