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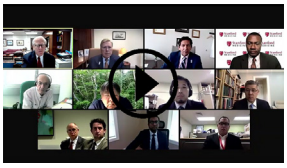

Conflict of Interest Statement

The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

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Key Words: coronary artery bypass grafting, ischemic cardiomyopathy, sudden cardiac death, ventricular arrhythmia

Discussion

Presenter: Dr Masaro Nakae

Dr William Holman *(Birmingham, Ala)*. In our patients with ischemic cardiomyopathy, sudden death, presumably from arrhythmias, constitutes a substantial source of postsurgical mortality. Thus, the notion that an ICD placed at the time of coronary artery bypass surgery will save lives in appropriately selected patients is intuitively appealing. However, this goal has proven elusive. One reason is the competing risk nature of postsurgical mortality. In other words, there are several potential modes for death after cardiac surgery. They include progressive pump failure and acute myocardial infarction among several others. Accurately identifying the patients who will die of an arrhythmia rather than a death from another cause is difficult, as shown by the CABG Patch Trial in 1997 and other subsequent studies. Moreover, ICDs themselves come with a cost, both in terms of complications and monetary expenditure. This article from Dr Nakae and associates at Osaka University Graduate School of Medicine provides interesting and potentially useful information for surgeons and their collaborators. I thank them for their contribution to our base of knowledge in this area and have the following questions.

First, the authors showed a survival benefit for patients with VAs and other risk factors who received an ICD. Within this

group, there were 3 subgroups of patients with postoperative VAs. A total of 46 of them had ventricular fibrillation or pulseless, in other words, symptomatic VT, whereas there were 27 patients with asymptomatic sustained VT and 26 patients with nonsustained VT. Was the survival of these 3 groups of patients over time similar or did the benefit for an ICD in the symptomatic patients account for most of the benefit seen in the entire group of patients with postoperative VAs? Second, were there any patients at your hospital who received an ICD at the time of CABG who did not have preoperative VAs? If yes, what were the most common indications for the ICD? Third, the details for managing patients with asymptomatic preoperative VAs are particularly important. For example, does monomorphic self-terminating VT before surgery serve as an indication for an ICD when the surgeon expects to achieve complete revascularization? What risk factors for postsurgical sudden death do the authors view as most crucial and important in their decision [to?] implant an ICD in patients with asymptomatic VT before surgery? Fourth, do the authors ever prescribe a wearable or external defibrillator for patients at risk for arrhythmias and defer reevaluation for an ICD until 3 months after coronary surgery?

Dr Masaro Nakae *(Osaka, Japan)*. For the first question, among patients with postoperative VAs, those who had ventricular fibrillation or pulseless VT had the worst prognosis, followed by asymptomatic sustained VT and nonsustained VT. As you mentioned, the benefits for ICD implantation depended on the benefits of the patients with symptomatic VT. Second, were there any patients at my hospital who received an ICD at the of CABG? There were no patients who received a concomitant ICD implantation at CABG in our study. However, during hospitalization, 11 patients who did not have preoperative VAs underwent ICD implantation, and 5 patients developed postoperative asymptomatic VA in [our EP?] and received an implant for secondary prevention. The remaining 6 patients were for primary prevention based on the results of EP study or postoperative [interval?] functional recovery. Third, in our studies, there were no differences in frequency of complete revascularization between the patients who did and did not develop postoperative VAs.

On the other hand, our multivariate analysis demonstrated that the degree of preoperative [inaudible], the extent of scar lesion, and redo surgery were the most important determinants of postoperative VAs. Thus, our results implied that VAs could not be directly prevented even if complete revascularization was achieved, in particular, when the patient had some extent of scar lesion. So even if complete revascularization could be achieved, careful follow-up would be needed by doing the detailed stratification by use of predictors, which I just pointed out. Last question, about wearable defibrillator experience. We prescribe a wearable defibrillator for patients when a patient has recurrent nonsustained VT until 3 months after CABG. The presence of myocardial ischemia will be evaluated. If there is known ischemia in myocardium, the patient is indicated for a wearable defibrillator.

Unidentified Speaker 1. Was there any relationship between the occurrence of the arrhythmias and the performance of SVR?

Dr Nakae. We analyzed the impact of SVR on postoperative VAs. SVR was not significantly considered as a predictor for postoperative VA.