Calcium-Channel Blockers and Cardiac Arrest

To the Editor:

We would like to compliment Zipes and Wellens on their excellent article about sudden cardiac death, which was recently published in *Circulation*. We think, however, that calcium channel blockers deserve a mention in this review as a potential treatment for patients who are resuscitated from cardiac arrest. Isolated coronary spasm without associated coronary obstruction can occasionally trigger lethal ventricular arrhythmias. It has, therefore, been recommended that the ergonovine test be performed in any patient who has been resuscitated from cardiac arrest in whom no structural heart disease can be found. In a few reports, treatment with calcium blockers, with or without nitrates, seems to give a good prognosis. For instance, in a study by Myerburg et al., treatment with calcium-channel blockers was successful in preventing ventricular arrhythmias in patients with previous cardiac arrest and a positive ergonovine test.

We recently reviewed our experience with 7 patients who suffered an arrhythmic cardiac arrest due to coronary artery spasm that was not associated with significant coronary artery narrowing. All patients underwent an ergonovine provocation test, and the dose of their treatment with calcium-channel blockers was determined by titrating the dose until a negative test result was obtained. After a mean follow-up period of 58 months, 6 patients remained symptom-free; 1 patient who had not stopped smoking had another cardiac arrest, despite treatment for coronary spasm. Without this strategy, our patients would have unnecessarily had an automatic defibrillator implanted. This topic also clearly demonstrates how patients who have a cardiac arrest and who have apparently normal hearts need careful evaluation. We, therefore, believe that ergonovine testing and individually-adapted calcium blocker therapy are options that should be discussed in the management of patients who have been resuscitated from cardiac arrest but have no structural heart disease. Furthermore, more research is needed to explain the interaction between myocardial ischemia and ventricular arrhythmias.

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Response

We agree with the comments of Drs Toubol and Chevalier. Coronary vasospasm can be a cause of sudden cardiac death, and it should be treated with a calcium-channel blocker. When a patient is suspected of having coronary artery spasm, the use of a provocative test, such as an infusion of ergonovine, can be very helpful.

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