Wide-Complex Tachycardia

To the Editor:

The Images in Cardiovascular Medicine section of the August 29, 2000 issue of Circulation presented a case of wide-complex tachycardia (WCT) that reportedly required placement of a transesophageal lead to diagnose ventricular tachycardia (VT). Pharmacological trials of adenosine, diltiazem, lidocaine, and procainamide were noted to be unhelpful.

In our view, the diagnosis of VT can be firmly established from the 12-lead ECG alone without the use of the transesophageal recording. In Figure 1, large, probably retrograde P waves are clearly visible after every other QRS complex in multiple leads. This inconsistent P–QRS relationship during regular WCT, ie, one cycle contains a P wave whereas another does not, proves VT. Moreover, the absence of an RS complex in all precordial leads, as seen in Figure 1, immediately identifies VT.

The use of intravenous calcium-channel blockers for empirical treatment of WCT has been discouraged since the mid-1980s and is still disallowed by recently published resuscitation guidelines. Because of the educational impact of the Images in Cardiovascular Medicine section, a warning about the inappropriate use of intravenous diltiazem should have been added.

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Response

We appreciate the comments of Drs Littman, Monroe and Letz. We agree that, on the basis of the 12-lead ECG alone, one should strongly suspect the diagnosis of ventricular tachycardia (VT), because of both an absent RS complex in the precordial leads and the noted evidence of inconstant P–QRS relationships. We disagree, however, that an inconstant P–QRS relationship always “proves VT,” as this finding may occasionally occur with A-V nodal tachycardia with different degrees of antegrade and retrograde conduction. Our purpose in presenting these images was to remind our technologically sophisticated readership that a simple, noninvasive bedside ECG recording, which is technically feasible at virtually all hospitals, can be easily and quickly applied to help define the cause of some wide-complex tachycardias. We also agree that intravenous diltiazem and other calcium-channel antagonists are not indicated for termination of wide-complex tachycardia; their use in this case by the referring physician might have been avoided had a clearer understanding of the underlying rhythm been obtained (perhaps by transesophageal recording) in the first place.

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