Small Left Ventricular Aneurysms in Patients With Ventricular Tachyarrhythmias and Normal Coronary Arteriograms

To the Editor:

Ouyang et al. report on 4 patients with recurrent exercise-induced syncope attributable to fast ventricular tachycardia, aneurysms in the inferior-lateral wall of the left ventricle, and a peculiar subepicardial arrhythmogenic substrate. The authors speculate that this presentation may constitute a distinct clinical syndrome and may be amenable to epicardial catheter ablation.

A recent study has demonstrated that inflammatory left ventricular microaneurysms, often of viral origin, can be a cause of idiopathic ventricular tachyarrhythmias. Additionally, we recently reported a case of left ventricular microaneurysms as a cause of apparently idiopathic ventricular fibrillation in a 36-year-old woman.

Both the study by Chimenti et al. and our report provide examples of ventricular aneurysms of small dimension with different localization in the left ventricle. In contrast, the authors of the present study describe aneurysms that are confined to the inferior-lateral wall of the left ventricle in all patients. On closer inspection, their Figure 3 (left ventricular angiography in the right anterior oblique projection in patient 2) shows not 1 but 2 aneurysms during diastole (left) and systole (right). The second aneurysm (arrowheads) is located in the anterior wall of the left ventricle. This gives reason to suspect the presence of small aneurysms with different localization in the left ventricle in the patients reported in the present study.

Thus, syncope attributable to fast ventricular tachycardia and aneurysms with different localization in the left ventricle (not confined to the inferior-lateral wall), possibly often of viral origin, may constitute a distinct clinical syndrome. Some patients may be amenable to epicardial ablation. As multiple aneurysms with different localization in the left ventricle can cause multiple arrhythmogenic foci, long-term follow-up is very important because long-term effects of catheter ablation and clinical outcome in these particular patients are not known.

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Response

We have read with interest the comments made by Dr Auer and colleagues regarding our article on left ventricular aneurysm.

First, they suggest the presence of a second aneurysm in the anterior wall of the left ventricle in Figure 3 of our article. We disagree, because the original left ventricular angiography was reviewed by at least 3 experts. Additionally, no pathological findings were observed on 3-dimensional electroanatomical endocardial and epicardial mapping except in the epicardial area consistent with the left inferolateral ventricular aneurysm. This information strongly supports that it is very unlikely that there is an additional aneurysm in the anterior wall of the left ventricle.

Second, none of our patients had a history of flulike syndrome before the onset of symptoms. All patients presented with exercised-induced syncope attributable to fast monomorphic ventricular tachycardia of right bundle branch block morphology; a small q wave in leads II, III, and aVF; one or two small aneurysms located in the inferior-lateral wall; and peculiar subepicardial fragmented and late potentials of low amplitude during sinus rhythm and subepicardial reentrant ventricular tachycardia during tachycardia. This distinct clinical syndrome may differ from inflammatory left ventricular microaneurysms resulting in idiopathic ventricular tachyarrhythmias, although no histological data were available to exclude inflammatory left ventricular aneurysms.

Finally, as mentioned in the article, long-term follow-up of patients with irrigated catheter ablation in the epicardial space is important because long-term effects are not known.

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Circulation. 2003;108:e174
doi: 10.1161/01.CIR.0000108173.52391.FA
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/108/25/e174

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