Can We Predict Complete Heart Block After Alcohol Ablation For Hypertrophic Cardiomyopathy?

To the Editor:

Lakkis et al. obtained excellent results in their series of 33 patients who had echocardiographically guided septal reduction for hypertrophic obstructive cardiomyopathy. However, they required permanent pacemaker implantation in a third of their patients. Their possible explanation for the high incidence of this complication is the presence of more conduction abnormalities at baseline.

On the basis of clinical experience, the most common arrhythmia reported with septal alcohol injection is right bundle-branch block, which occurs in 52% to 85% of patients. Complete heart block reportedly occurs in 60% to 65% of patients, with only 20% requiring permanent pacemaker implantation when the condition persists for >2 weeks. In addition, using the 108 patients reported in several major studies, ventricular tachycardia/ventricular fibrillation occurred in 5% of the patients, and 3% of the patients died.

Lakkis et al. think that by modifying their technique by using contrast echocardiography and injecting alcohol at a slower rate, they had less complete heart block. However, contrast echocardiography only helps to delineate the hypertrophied area during the procedure. Kuhn et al. reported no conduction defects in 35 minutes of induced ischemia without alcohol injection, which may be an important method of screening patients suitable for this procedure. However, Seggeweis et al. reported that the predictability of this transitory occlusion (in regards to acute hemodynamic results) was not very high due to the presence of several small septal branches.

Therefore, complete heart block in septal alcohol ablation is unpredictable. Presumably, the procedure should be avoided in patients with preexisting left bundle branches because right bundle-branch block occurs in as many as two-thirds of the patients. Complete heart block should be considered a sequela of alcohol ablation. Moreover, Lakkis et al. did not find that dual-chamber pacing conferred any additional therapeutic effects to ethanol septal reduction. Therefore, alcohol ablation should be tried only when the dual chamber pacemaker has failed to show clinical and hemodynamic benefit.

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