CATHETER ABLATION OF BIGEMINAL PREMATURE VENTRICULAR COMPLEXES

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CASE REPORTS

An 82-year-old woman presented to her cardiologist complaining of episodic weakness and near syncope. She stated that she experienced these symptoms for periods of two to three hours a day for the past year. This lead to substantial disability as she would have to lay in bed, unable to carry on any physical activity.

The physical exam was unremarkable. Electrocardiogram showed normal sinus rhythm with a left bundle branch block and frequent premature ventricular complexes in a pattern of bigeminy and trigeminy, with positive QRS in the inferior leads and left-bundle branch block pattern. Echocardiography revealed a moderate decrease in left ventricular ejection fraction (30%). Perfusion SPECT showed scarring in the septum but no inducible ischemia. Coronary angiography was normal.

She was brought to the electrophysiology laboratory for mapping and ablation of frequent, isolated premature ventricular complexes (top tracing). The surface electrocardiogram pattern suggested an origin from the right ventricular outflow tract. Mapping of isolated beats was performed with the CARTO system (Biosense Webster) and confirmed earliest activation arising from the right ventricular outflow tract in it posteroseptal aspect, in an area of about 1 cm diameter (left panel, red area). Within that area, only the most posterior portion showed negative initial deflections in the unipolar electrogram (right panel, oblique arrow), which preceded the QRS by 56 msec.

A single radiofrequency application eliminated the ventricular ectopy (bottom tracing).