

enhancement in a subendocardial scar (*white arrows*). The *middle panel* shows a two-dimensional image of the LV in long axis corresponding to the sector through the mid-LV (*arrow in figure on right panel*) obtained by an intracardiac echocardiography probe positioned in the right ventricle. An electroanatomic three-dimensional map of the LV in the left anterior oblique projection is displayed in the *right panel*. The purple areas depict areas of normal voltage (>1.5 mV). Blue, green, and yellow represent progressively lower voltages, with the red areas indicating scar (<0.5 mV). Channels of viable myocardium with slow conduction within the scar are identified with the light blue dots. Areas of ablation delivered to regions involved in reentrant VT are indicated by maroon dots.

■ TREATMENT OPTIONS FOR VENTRICULAR ARRHYTHMIAS

Treatment of VAs is guided by the severity and frequency of symptoms. For some, reassurance and removal of aggravating factors (e.g., caffeine) are all that is needed. For arrhythmias associated with a sudden death risk, ICD implantation is usually indicated and will provide a “safety net” to terminate life-threatening VT or VF, preventing sudden death but without preventing the arrhythmia. When suppression of the arrhythmia is required, antiarrhythmic drug therapy or catheter ablation is a major consideration.

■ ANTIARRHYTHMIC DRUGS

Use of antiarrhythmic drugs is based on consideration of the risks and potential benefit for the individual patient. Efficacy and side effects for the individual patient are not predictable and are assessed by individual therapeutic trial. Adverse effects are mostly noncardiac and minor but can sometimes be severe enough to limit their use. Cardiac side effects, however, include the potential for “proarrhythmia,” whereby a drug can increase the frequency of arrhythmia or cause a new arrhythmia. Aggravation of bradyarrhythmias is also a common concern. Although antiarrhythmic drugs are classified based on their actions on receptors or ion channels, most have multiple effects, affecting more than one channel.

■ β -ADRENERGIC BLOCKERS