An unusual incessant narrow QRS tachycardia

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Introduction: We describe an unusual incessant narrow QRS tachycardia in a young man. A 29-year-old man presented with incessant narrow QRS tachycardia, resistant to all anti-arrhythmics and repeated electric cardioversion. He had no other significant history and his echocardiogram was normal.

Methods: During electrophysiology study (EPS), he had an ongoing tachycardia at 150 bpm (1A) with right axis deviation, QRS width of 110 ms, HV interval of 26 ms, and distal his EGM preceding the proximal his (1B). There was ventriculo-atrial dissociation with cranio-caudal activation of right atrium (Fig 1B). The tachycardia broke for a single beat, and the HV interval increased to 55 ms with only a subtle change in QRS morphology (Figure 1C). On mapping proximal and mid left ventricular septum (LVS) with decapolar catheter, ventricular EGM were preceded by Purkinje potentials in tachycardia with base to apex activation pattern (Fig 1E). P1 diastolic potentials were also noted with opposite activation pattern (Fig 1D). Entrainment of tachycardia was not contributory.

Result: A diagnosis of upper septal type of fascicular VT was made and further mapping done with ablation catheter. During mapping of upper LVS, several large amplitude diastolic potential were noted. As soon as ablation was started, an ablation catheter induced ectopic terminated the tachycardia and sinus rhythm resumed thereafter (Fig 1F). Several consolidation burns were given in the adjoining areas carefully (1G-I) and after this the tachycardia was not inducible despite several provocative maneuvers on isoprenaline. At follow up of 3 months, he was asymptomatic off all medications.

Conclusion: We have described an unusual refractory incessant upper septal variant of fascicular VT. During EPS, a fortuitous finding of increase in HV interval, when tachycardia broke to sinus rhythm for a single beat, clinched the diagnosis of VT.