Revisit the Purkinje Related VT

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Purkinje-related VT includes idiopathic LV VT (ILVT), some post infarction VT, bundle branch reentry, and focal Purkinje VT. Among them, ILVT is the most common one. In 1983, Lin et al designated ILVT as an unique clinical entity with specific properties: patients having no structural heart disease, tachycardia showing RBBB/superior axis pattern, a reentry mechanism, verapamil responsive, slow-response tissues related. Subsequently, Ohe et al reported this VT may also having right axis deviation in 1988. Catheter ablation was demonstrated in eliminating this VT at exit site by Nakagawa and Wen et al in 1994. The underlying substrate was suggested as LV false tendons by Suwa et al, but Lin or Tharkur et al did not have a conclusive answer on this. In 1997, we firstly demonstrated this tachycardia can be ablated at least 2-3 cm away from the tachycardia exit site. We found it is macroreentry along the LV septum. Subsequently, Tsuchiya et al recorded the late diastolic potential preceding the Purkinje potential. Nogami et al described the relationship between the late potential and presystolic Purkinje potential within the circuit revealing diastolic potential is another ablation target. This reentry circuit was further defined by Lai and Aiba et al. Now LVVT can be classified by QRS morphology: common type, uncommon type, and upper septal type. The success rate in catheter ablation is 90-95%. But the etiology of ILVT is still need to be determined.

Keyword: ventricular tachycardia