Location of the Channel of the Reentry Circuit in Patient with Ventricular Tachycardia Remote after Myocardial Infarction

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Purpose: Previous study reported the voltage of local bipolar electrogram in the healthy region of the ventricle was larger than 1.5mV, damaged region was less than 1.5mV, and scar region was less than 0.5mV. The aim of this study was to assess the voltage of the local bipolar electrogram of the channel. Methods: 36 consecutive patients underwent radiofrequency ablation because of sustained monomorphic OMI-VT were studied. Electroanatomical mapping was performed during VT if VT was hemodynamically tolerable (VT mapping) and during sinus rhythm (SR) if non-tolerable (SR mapping). Definition of the channel was following, (1) recording mid-diastolic potentials and radiofrequency application at that site terminates VT in VT mapping, and (2) in SR mapping recording delayed potentials with good pacemap or delayed potentials changing into mid-diastolic potential during VT. Results: Channels could be identified in 15 of 18 in VT mapping and 10 of 20 in SR mapping. Bipolar voltage of the channel was 0.35±0.24mV in VT mapping, 0.28±0.17mV in SR mapping and 0.32±0.22mV in all cases. Conclusions: Bipolar voltage of the channel of OMI-VT is 0.32mV, this suggests channels are located inside the so called scar region. Detailed mapping inside scar region is necessary to pinpoint the channel.

Keyword: VT ablation