A new method to reduce the interference wave of unipolar electrogram during catheter ablation in patients with arrhythmia

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Introduction: It has several advantages of using unipolar electrogram to guide ablation, compared with bipolar electrogram. However, there's great interference wave when we use unipolar electrogram to guide operation during catheter ablation. We aimed to use a new additional sheath for creating an auxiliary reference which can reduce the interference wave to make the unipolar electrogram clearer.

Methods: 12 patients with arrhythmia, 7 patient with atrial fibrillation and 5 patients with premature ventricular contraction, who need to undergo catheter ablation were included in the study so far. The new additional sheath was put into patient’s inferior vena cava as auxiliary reference to replace the common system reference during the operation.

Result: In all 12 patients, interference wave amplitude of unipolar electrogram reduced obviously at the moment that switched from system reference to auxiliary reference. No device-related complications occurred.

Conclusion: Interference wave amplitude of unipolar electrogram reduced obviously when we used a new additional sheath to switch from system reference to auxiliary reference.