Incessant Focal Atrial Tachycardia Originating From The Right Pulmonary Vein With Extreme Short Cycle Length And Variable Exit Block

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Abstract

Introduction: The underlying mechanism of focal atrial tachycardia (AT) is usually considered to be abnormal automaticity often of cycle length >120ms.

Case report: A 29-year-old female with recurrent symptomatic palpitation was referred for electrophysiologic study and catheter ablation. Twelve-lead ECG showed a sinus rhythm with incessant atrial ectopic beats and occasional aberrant conduction. Mapping with CARTO system demonstrated a repetitive regular spike potentials incessantly at the left antrum (LA) of the posterior aspect of the right inferior pulmonary vein (RIPV). The cycle length (CL) of tachycardia in the RIPV was approximately 80ms incessantly and then activated to the LA with various pattern from 2:1 to 4:1 conduction. Successful ablation was performed at the earliest activation and shortest CL site outside the RIPV with exit block from the RIPV to LA.

Conclusions: We presented a rare case of incessant focal AT originating from the RIPV with extreme short CL and variable atrial activation block. The mechanism for this tachycardia is uncertain but the very short cycle length suggest that a spiral wave reentry may be a possibility.