Clinical usefulness of the Rhythmia mapping for focal atrial tachycardia originating from the left atrial appendage: A case report.

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Introduction: Rhythmia is a new mapping system using a 64 printed mini-electrodes small basket catheter (Orion). There are few reports about the usefulness of this system for pediatric arrhythmias.

Methods: Sixteen-year-old boy was pointed out an arrhythmia at school heart screening. He presented infrequent PACs with negative P waves in lead I. Three and a half years after the initial diagnosis, he developed palpitations and exercise intolerance. At the annual check-up, he was diagnosed as incessant atrial tachycardia rated 110bpm. His echocardiogram revealed mildly suppressed left ventricular systolic function.

Result: We performed him radiofrequency catheter ablation under general anesthesia. After the transseptal puncture and angiography, we mapped the left atrium using Orion. The earliest activated site during tachycardia was the middle basal portion of the left atrial appendage. Although we tried to add more mapping point using the irrigated-ablation catheter, the tachycardia terminated easily with catheter-induced mechanical trauma (bumping) when the catheter advanced into the appendage. We eventually ablated the small area of the earliest activated site of the tachycardia during sinus rhythm. There has been no recurrence for five months after the procedure.

Conclusion: We had successfully ablated the atrial tachycardia originated from left atrial appendage using the Rhythmia mapping system. Orion, a uniquely designed expandable basket catheter, was useful for mapping in the small contractile chamber without bumping.