Ablation of left-deviated dual atrioventricular nodal pathway from coronary sinus

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Background: Variation of dual atrioventricular nodal pathway is one of the common reasons of misdiagnosis, failure of ablation, or recurrence of atrioventricular nodal re-entrant tachycardia (AVNRT).

Methods and results: We report one case of atypical AVNRT associated with an unusual left-side deviation of atrioventricular node and dual AV nodal pathway, which received an unsuccessful ablation attempt before. His bundle potential was prominent when recorded from left side of the interatrial septum but not from right septum.

Conclusion: Radiofrequency energy attempts failed at several routine sites including the ostium of the coronary sinus. But the ablation was finally succeeded deep in the coronary sinus.

Failed cardiac resynchronization therapy in a young patient with dilated cardiomyopathy and narrow QRS duration: a case report

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Background: An 11-year-old girl (24 kg) diagnosed as cardiomyopathy since 5 years ago presented with recurrent NYHA III or IV despite optimization of medical therapy (valsartan 60 mg bid, carvedilol 6.25 mg bid, furosemide 20 mg tid, and spironolactone 25 mg bid). Methods and results: Electrocardiogram revealed sinus rhythm, narrow QRS complex duration (100 ms). Echocardiography revealed depressed left ventricular (LV) function [ejection fraction (EF) 20%], dilated LV, and mild mitral regurgitation (MR). Tissue Doppler imaging study revealed septal to lateral delay of 60 ms, maximal difference time to onset 90 ms, standard deviation of 12 segments time to onset of 37.3 ms, and interventricular mechanical delay of 7 ms, suggesting intraventricular without interventricular dyssynchrony. After initial stabilization, cardiac resynchronization therapy (CRT) was performed by hybrid approach due to the small coronary sinus ostium, accomplished by transvenous insertion of right atrial and right ventricular apex leads under fluoroscopy guidance followed by limited thoracotomy placement of epicardial lead in LV free wall. Hypotension occurred after the procedure that responded to inotropics. Vasodilators were withheld. Subsequent echocardiography detected no dyssynchrony despite slight deterioration of LV systolic function (EF 19%). Valsartan was reintroduced gradually without haemodynamic compromise. Unfortunately, dyspnoea worsens. Echocardiography revealed atrioventricular without interventricular dyssynchrony. End-diastolic MR recurred. We were unable to reduce inotropic supports.

Conclusion: Frequent CRT reprogramming was performed to optimize stroke volume. Left ventricular systolic function kept deteriorating (EF 11% using Simpson’s method). She died on her Day 102 hospitalization due to cardiogenic shock unresponsive to volume loading and vasopressors complicated by acute renal failure unresponsive to renal replacement therapy.

Symptomatic pre-excitation during sinus rhythm: new indication for radio frequency ablation

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Background: Patients with pre-excitation without arrhythmic symptoms are diagnosed as WPW pattern or asymptomatic pre-excitation. Recently, some studies associated Wolff-Parkinson-White (WPW) pattern with developmental cardiomyopathy and narrow QRS duration. Weibin Huang, Jiang Hong, Yan Wang, Faoguang Zhou, Zhaopin Zeng, Gong Yan, Baoguo Sun, and Lesin Wang

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