

DILATED CARDIOMYOPATHY IN ASYMPTOMATIC CHILDREN WITH VENTRICULAR PREEXCITATION: AN INSIGHT FROM SPECKLE TRACKING

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Background: Ventricular preexcitation may be associated with functional potentially reversible dilated cardiomyopathy, even without a significant arrhythmia burden.

Objective: The aim of this study was to evaluate left ventricular (LV) function in children with ventricular pre-excitation and dilated cardiomyopathy, before and after radiofrequency catheter ablation (RFCA).

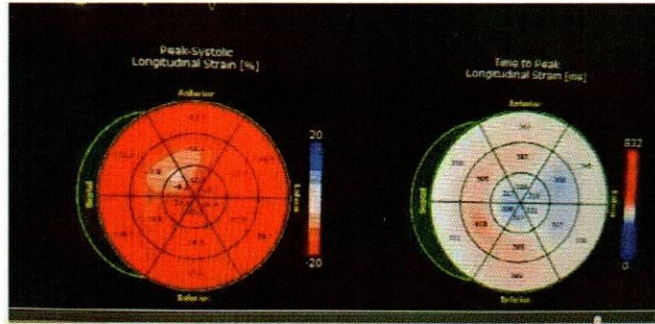
Methods: Nine children (5 males) with a median age of 11 years (range 7-17 years) who presented with dilated cardiomyopathy and evidence of ventricular preexcitation on the 12-lead electrocardiogram. 24 hours Holter monitoring showed persistently overt pre-excitation with no periods of normal conduction in all patients. 8/9 patients had no prior history of supraventricular tachycardia. Conventional two-dimensional echocardiography & speckle tracking were performed before RFCA and 1 month after ablation.

Results: the electrocardiogram suggested Rt sided accessory pathway in all patients. During electrophysiology mapping, 8/9 patients had Rt accessory

pathways (posteroseptal in 3 patients, anteroseptal in 4 patients and Right lateral in one patient), one patient had a posteroseptal accessory ablated from the left side. 8/9 patients had successful radiofrequency ablation and one patient had reappearance of ventricular pre-excitation pattern after 48 hours of ablation. All patients had significant left ventricular dilation with impaired function and a characteristic septal bounce before ablation and during a median follow up of 3 months, LV function showed complete recovery in patients with successful ablation and loss of preexcitation.

Conclusion: Overt ventricular preexcitation specially in Right-sided septal accessory pathways may result in left ventricular dyssynchrony and dilated cardiomyopathy even in absence of tachycardia, this association is suggested by the rapid improvement of ventricular function after a loss of ventricular preexcitation.

After Ablation



Before ablation

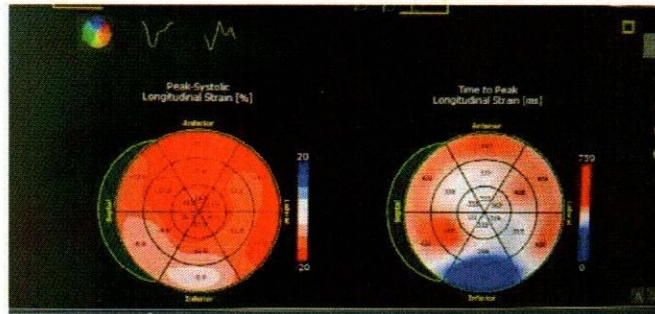


Figure 1

Lower image: showing impaired longitudinal strain of the septal segments of left ventricle (left) and earlier time to peak strain (right) in a patient with septal accessory pathway

Upper image: showing improved longitudinal strain of the septal segments of left ventricle (left) and synchronized time to peak strain (right) after ablation of the accessory pathway (right)