A 4-year-old Hispanic male presented with an isolated episode of vomiting and syncope. The clinical history was otherwise unremarkable, and he appeared well on clinical examination. His initial resting ECG demonstrated ST-segment abnormalities and increased voltages; there was no ventricular preexcitation (Figure 1A). Transthoracic echocardiography revealed marked dyskinesis of the basal interventricular septum with aneurysmal septal movement into the right ventricle (Figure 2A and 2B and Movies I and II in the online only Data Supplement). Repeat ECG demonstrated manifest preexcitation consistent with Wolff-Parkinson-White (WPW) pattern (Figure 1B).

Because of the antecedent history of syncope, preexcitation, and ventricular dyskinesis, cardiac catheterization with angiography, biopsy, and electrophysiology study was performed. Three-dimensional mapping revealed a right para-Hisian accessory pathway. This was successfully ablated, resulting in loss of preexcitation on the subsequent ECG (Figure 1C). Hemodynamic measurements and coronary angiography were normal; there were no signs of inflammation on RV muscle biopsy. After ablation, septal dyssynchrony improved (Movies III and IV in the online only Data Supplement) but did not completely normalize until 1 year later (Figure 2C and 2D and Movies V and VI in the online only Data Supplement).

In patients with ventricular preexcitation, septal dyskinesis and AV dyssynchrony can occur because of abnormal ventricular activation, even when preexcitation is intermittent. The association between WPW pattern and abnormal echocardiographic contractile patterns was first described by DeMaria et al in 1976. The dyskinesis and dyssynchrony can resolve after successful ablation of the accessory pathway but may take up to 1 year to normalize. Resolution of severe dyssynchrony in the setting of dilated cardiomyopathy and ventricular preexcitation after successful ablation has been reported in a few case reports.2,3

Disclosures
None.

References

Key Words: preexcitation ■ Wolff-Parkinson-White syndrome ■ ventricular dyssynchrony ■ echocardiography ■ electrophysiology ■ ECG
Figure 1. Electrocardiographic tracings. A, Initial ECG with ST-segment abnormalities, increased precordial voltages and no obvious ventricular pre-excitation present. B, Repeat ECG with manifest WPW pattern. C, Postablation ECG with loss of ventricular preexcitation.
Figure 2. Echocardiographic images of aneurysmal septum at presentation in the parasternal long axis (A) and apical 4-chamber (B) views. One year after successful accessory pathway ablation, there is normalization in the septal configuration (C and D), and the aneurysm is no longer present.