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Isolated Right Ventricular Apical Hypertrophy

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A 38-year-old female whose appearance was ordinary was referred to our hospital for further evaluation of heart murmur. His father had a history of cardiac arrest. Electrocardiogram showed deep S-wave in left precordial leads (Fig. 1). Echocardiography revealed focal hypertrophy of the right ventricular (RV) apex and almost obliterating the apex (Fig. 2-a). Furthermore, this protruded structure partially infiltrated the RV outflow tract and caused mild obstruction (Fig. 2-b). There was no concomitant left ventricular hypertrophy. Cardiac magnetic resonance imaging also showed the focal hypertrophy of the RV apex, which signal intensity was similar to the normal myocardium (Fig. 3). The histological findings of hematoxylin-eosin staining obtained from the RV apex showed almost normal myocardium (Fig. 4). In conclusion, we experienced a very rare case of isolated RV apical hypertrophy and mild obstruction in the RV outflow tract without involvement of the left ventricle cause of heart murmur.



