Case Report

Intermittent atrial flutter: A cause of recurrent syncope in a 3 year old child — A challenging case

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A 3 year old male child presented to us with 2 months history of frequent episodes of sweating, chest discomfort, and irritability followed by syncope. He underwent ventricular septal defect closure at the age of 6 months. He was on regular follow up and was doing well. After admission, 2D echocardiogram was normal with normal biventricular function. Other systems including central nervous system were normal. Baseline heart rate was 85/min. ECG showed significant ST segment depression of >2 mm in lead II, III and lateral leads (Fig. 1) on each occasion. Child was not on any medication (especially digoxin) and all investigations including electrolytes were within normal range. Cause of ST depression could not be determined. Coronary angiogram showed normal origin and course of coronary arteries with no myocardial bridge. Twenty-four hours Holter monitoring was within normal limits. While in the hospital, he had one episode of aborted sudden death. Baseline rhythm during the episode was ventricular fibrillation. He was successfully cardioverted. Rhythm reverted to sinus with ST depression. Electrophysiological (EP) study was done before placing an ICD (Implantable Cardioverter Defibrillator). To our surprise, it revealed inducible typical right atrial, hemodynamically unstable flutter which was successfully ablated. Ventricular rate during flutter was 290/min. After ablation, ST depression disappeared partially (Fig. 2) and there were no further episodes of syncope. Tests for genetic syndromes were normal.

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B-blocker was started and he is doing well on 6 months follow up. Atrial flutter may be an unsuspected and rare cause of VT/VF in children and an EP study may be useful before triaging patients for ICD.

Conflicts of interest

All authors have none to declare.