Brugada Syndrome, a rare cause of Syncope

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Introduction :

Brugada syndrome is an autosomal dominant genetic disorder that leads to an increased risk of ventricular tachyarrhythmias and sudden cardiac death. Abnormal ECG findings include right bundle branch block and persistent ST segment elevation in leads V1 and V2. Asymptomatic patients with typical ECG features and without other clinical criteria are said to have the Brugada pattern**.** We present a case of Brugada syndrome presenting as near syncope.

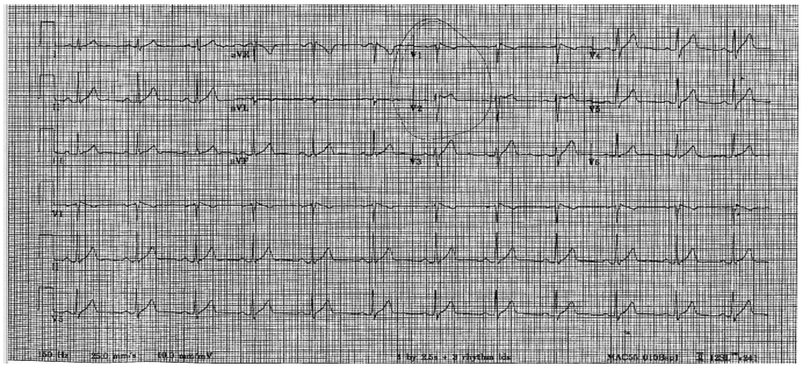
Case Description:

A 22-year-old Asian male with a history of syncope in childhood, presented to the ED with lightheadedness and near syncope.

The patient complained of feeling lightheaded and diaphoretic while standing up after using the bathroom. Prior to feeling lightheaded the patient denied experiencing any palpitations, chest pain, nausea or vomiting. His family history was significant for syncopal episodes in his mother. There was no history of sudden cardiac death. His admission ECG showed a right bundle branch block with saddleback shaped ST segment elevation (type 2 Brugada pattern) in lead V1 to V2 suspicious for Brugada syndrome (Figure 1).

Lab work was within normal limits. He was seen by an electrophysiologist and was recommended for a tilt table test and oral flecainide stimulation tests; however, patient opted out of further testing.

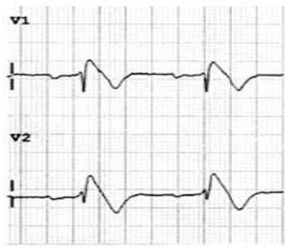
Figure 1:



ECG showing Right bundle branch block with saddleback shaped ST segment elevation in lead V1 to V2

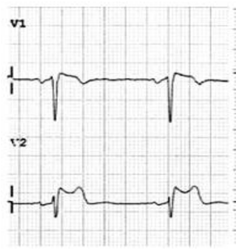
Figure 2:

Types of Brugada Pattern



Type 1

Coved ST segment elevation followed by a negative T wave.



Type 2

Saddleback shaped ST elevation.

Discussion:

The evaluation of all patients with suspected Brugada syndrome should first exclude underlying structural heart disease. Once excluded, Brugada syndrome is diagnosed if the patient has type 1 Brugada pattern.

A further drug challenge with sodium channel blockers should be attempted to elicit a Brugada pattern in all patients with type 2 Brugada pattern. All first degree relatives of the patient should undergo genetic testing if the patient is tested positive for identified genetic mutation. The mainstay of treatment is primarily to prevent sudden cardiac death and to terminate any ventricular tachyarrythmia with an implantable cardioverter-defibrillator.

References:

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