DOI: 10.7860/JCDR/2017/29327.10640 Images in Medicine

Internal Medicine Section

Brugada Syndrome with Spontaneous Fluctuation in ECG Pattern

ABHISHEK GOYAL¹, VARUN LOOMBA², NAVED ASLAM³, BISHAV MOHAN⁴, GURPREET SINGH WANDER⁵

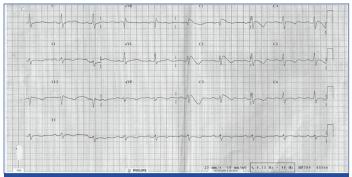
Keywords: Brugada ECG types, Hereditary channelopathies, Spontaneous variation

A 32-year-old male, presented with one month history of recurrent episodes of syncope. General physical examination and 2D Echocardiography (ECG) were normal. ECG was suggestive of Brugada Syndrome with spontaneous occurrence of Type I pattern [Table/Fig-1] which is defined as ST elevation ≥2 mm in ≥1 of right precordial leads V1, V2 and is diagnostic of Brugada syndrome according to the HRS/EHRA/APHRS Expert Consensus Statement [1]. The most remarkable finding was a beat to beat fluctuation in Brugada pattern [Table/Fig-2,3]. Type I pattern spontaneously changed to Type II pattern which is seen in 1st and 2nd QRS complex of lead V2 [Table/Fig-2] and is defined as saddleback pattern with a least 2 mm J-point elevation and at least 1 mm ST elevation. Spontaneously changing ST segment was quite frequently seen in another ECG also [Table/Fig-3]. Such changing ST segment morphology, both daily and circadian fluctuation are well known in Brugada Syndrome specially in symptomatic individuals and confers higher risk of arrhythmia [2]. There was significant and spontaneous variation in QRS duration which varied from 120 msec [Table/Fig-1] to 200 msec [Table/Fig-2,3]. Spontaneous variation in QRS duration is well known and more common seen in symptomatic individuals [3]. This is a unique case which demonstrates myriad ECG manifestations of Brugada Syndrome.

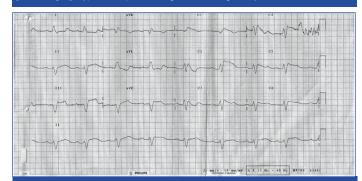
The patient was treated with implantable cardioverter defibrillator and is on follow up for the last two years, during which he has had one episode of ventricular tachycardia, which was successfully terminated by the device.

REFERENCES

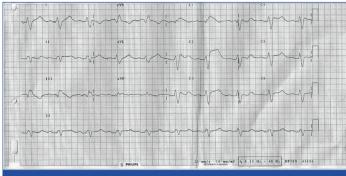
- [1] Priori SG, Wilde AA, Horie M, Cho Y, Behr ER, Berul C, et al. HRS/EHRA/ APHRS Expert consensus statement on the diagnosis and management of patients with inherited primary arrhythmia syndromes. Heart Rhythm. 2013;10(12):1932-63.
- [2] Tatsumi H, Takagi M, Nakagawa E, Yamashita H, Yoshiyama M. Risk stratification in patients with brugada syndrome: analysis of daily fluctuations in 12-Lead Electrocardiogram (ECG) and Signal-Averaged Electrocardiogram (SAECG). J Cardiovasc Electrophysiol. 2006;17(7):705-11.
- [3] Junttila MJ, Brugada P, Hong K, Lizotte E, DE Zutter M, Sarkozy A, et al. Differences in 12-lead electrocardiogram between symptomatic and asymptomatic brugada syndrome patients. J Cardiovasc Electrophysiol. 2008;19(4):380-83.



[Table/Fig-1]: Type I ECG pattern diagnostic of Brugada Syndrome



[Table/Fig-2]: Beat to beat change in ECG pattern from Type I to Type II



[Table/Fig-3]: Spontaneously changing ST segment morphology.

PARTICULARS OF CONTRIBUTORS:

- 1. Assistant Professor, Department of Cardiology, Dayanand Medical College and Hospital Unit Hero DMC Heart Institute, Ludhiana, Punjab, India.
- 2. Resident, Department of Cardiology, Dayanand Medical College and Hospital Unit Hero DMC Heart Institute, Ludhiana, Punjab, India.
- 3. Professor, Department of Cardiology, Dayanand Medical College and Hospital Unit Hero DMC Heart Institute, Ludhiana, Punjab, India.
- Professor, Department of Cardiology, Dayanand Medical College and Hospital Unit Hero DMC Heart Institute, Ludhiana, Punjab, India.
 Professor, Department of Cardiology, Dayanand Medical College and Hospital Unit Hero DMC Heart Institute, Ludhiana, Punjab, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Abhishek Goyal

Dayanand Medical College and Hospital Unit Hero DMC Heart Institute, Ludhiana-141001, Punjab, India. E-mail: drabhishekgoyal11@yahoo.in

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: May 04, 2017 Date of Peer Review: Jun 26, 2017 Date of Acceptance: Aug 30, 2017 Date of Publishing: Sep 01, 2017