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## LETTER TO THE EDITOR

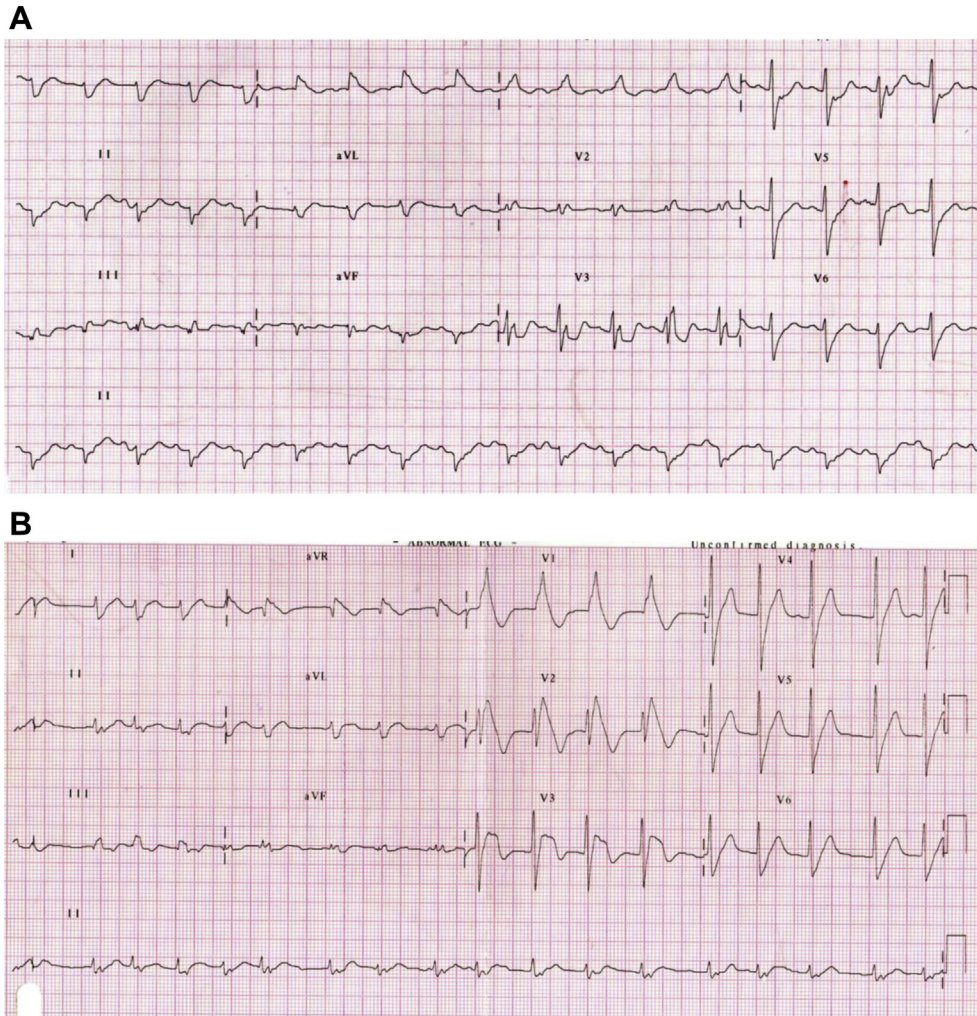
### Brugada Syndrome in a Patient with Complete Right Bundle Branch Block



A 50 year-old male patient was brought to our emergency department (ED) after an episode of sudden cardiac arrest noticed by his wife. Ventricular fibrillation was found by an emergency medical technician. He received electric defibrillation three times with an

automated external defibrillator. The patient regained spontaneous circulation and then arrived at our ED.

At the ED, the patient received protective endotracheal tube intubation due to his poor consciousness. Initially, the physical ex-



**Figure 1** (A) A 12-lead electrocardiogram (ECG) after successful resuscitation showed sinus tachycardia with complete right bundle branch block. (B) A 12-lead ECG 2 years earlier displayed atrial fibrillation with complete right bundle branch block and a typical coved type Brugada ECG in the right precordial leads, especially on the V2.

Conflicts of interest: All contributing authors declare no conflicts of interest.

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aminations showed the finding of Glasgow coma scale E1V1M1. The blood pressure, heart rate, respiratory rate, and body temperature did not show specific abnormal findings. The 12-lead electrocardiogram (ECG) at our ED showed sinus tachycardia with complete right bundle branch block (RBBB; Figure 1A). The patient was admitted to the intensive care unit.

The patient had a similar episode of syncope 2 years earlier with spontaneous recovery and visited our ED by himself. He received a 12-lead ECG at that time and displayed atrial fibrillation with complete RBBB (Figure 1B). A typical coved type Brugada wave was noted in the right precordial leads, especially on the V2. However, Brugada syndrome was not diagnosed at that time.

In the intensive care unit, the patient's consciousness was gradually improved and he could follow orders on the 7th day. Due to multiple episodes of sudden cardiac arrest, we suggested implantable cardioverter-defibrillator (ICD) to treat the recurrent ventricular fibrillation. But his wife declined our suggestion after a period of hesitation. On the same day, as he was leaving our hospital, there was another episode of sudden cardiac arrest and he was immediately sent to another hospital. The ICD was fitted there; however, the patient's consciousness did not recover.

Brugada syndrome is a disorder characterized by sudden cardiac death or potentially ventricular tachyarrhythmia with RBBB-like wave and nonischemic ST segment elevations confined to the precordial leads V1–V3.<sup>1</sup> The typical ECG repolarization patterns of Brugada syndrome can be divided into three types.<sup>2</sup> All three types have RBBB-like pattern but not true RBBB in precordial leads. Therefore, in patients with true RBBB, the Brugada wave may be masked.<sup>3–5</sup> Published case reports indicate that the typical Brugada wave is shown by a febrile illness, under the use of Ajmaline or during the electrophysiological study.<sup>3–5</sup> In our case, the typical coved type Brugada wave appeared intermittently without specific provoking factors. Unfortunately, the Brugada wave was overlooked on the ECG 2 years earlier, possibly due to true RBBB.

In summary, this patient's true RBBB may have masked the typical coved type Brugada ECG wave. This observation in this case suggests that clinicians must be careful to identify the Brugada wave in patients with true RBBB, especially for those who have episodes of syncope. If we could identify Brugada syndrome early, the

ICD could be lifesaving because it is the only proven effective treatment for the disease.<sup>2</sup>

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