

# Differential diagnosis Brugada type 1 pattern from “pre-history”

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**1953**

October 31, 1953 Harold L. Osher and Louis Woff from Beth Israel Hospital Boston, Mass, USA noticed in The American Journal of the Medical Sciences, the RBBB ECG pattern, associated to ST segment elevation in the right precordial leads “simulating acute myocardial injury”. This pattern is currently called type 1 ECG Brugada pattern. This pattern was considered at the time as normal variants, not having been related to SCD. (**Osher HL, Wolff L. Electrocardiographic pattern simulating acute myocardial injury. J Med Sci. 1953 ;22 Nov226(5) :541–545 PMID: 13104407.**) Recently, Brazilian researchers reported a patient who presented with chest pain and had an ECG compatible with BrS. An ischemic workup was performed, and acute coronary syndrome was ruled out. He had a final diagnosis of BrS and was discharged home after the placement of an automatic defibrillator. (L. De Castro Junior, R., Alcantara Lima, N. de, & Sampaio Vitorino, S. (2020). Brugada Pattern Mimicking Myocardial Acute Infarct. JOURNAL OF CARDIAC ARRHYTHMIAS, 2020 33(1), 29-33. Retrieved from <https://www.jca.org.br/jca/article/view/3352>)

## ST-Segment Elevation in Normal Circumstances and in Various Conditions

Condition	Features
<b>Normal (so-called male pattern)</b>	Seen in approximately 90% of healthy young men; therefore, normal Elevation of 1–3 mm Most marked in V2 Concave
<b>Early repolarization pattern</b>	Most marked in V4, with notching at J point Tall, upright T waves. Reciprocal ST depression in aVR, not in aVL, when limb leads are involved
<b>ST elevation of normal variant</b>	Seen in V3 through V5 with inverted T waves Short QT, high QRS voltage

<b>Left ventricular hypertrophy (LVH)</b>	Concave Other features of LVH
<b>Left bundle-branch block</b>	Concave ST-segment deviation discordant from the QRS
<b>Acute pericarditis</b>	Diffuse ST-segment elevation Reciprocal ST-segment depression in aVR, not in aVL Elevation seldom >5 mm PR-segment depression
<b>Hyperkalemia</b>	Other features of hyperkalemia present: Widened QRS and tall, peaked, tented T waves Low-amplitude or absent P waves ST segment usually downsloping. “Tour Eiffel T-wave”
<b>Pulmonary embolism</b>	Changes simulating myocardial infarction seen often in both inferior and anteroseptal leads
<b>Cardioversion</b>	Striking ST-segment elevation, often >10 mm, but lasting only a minute or two immediately after direct-current shock
<b>Prinzmetal’s angina</b>	Same as ST-segment elevation in infarction, but transient
<b>Acute myocardial infarction</b>	ST segment with a plateau or shoulder or upsloping Reciprocal behavior between aVL and III
<b>Brugada syndrome</b>	ST segment elevation $\geq 2$ mm in at least one right precordial lead in conventional or higher position convex to the top or rectilinear descendent followed by symmetric negative T wave. Possible precordial pain.(1)

1. **Youssef Jalloul 1, Marwan M Refaat 1Brugada syndrome and chest pain. Pacing Clin Electrophysiol. 2020 Apr;43(4):364. doi: 10.1111/pace.1388**