When Wellens’ Syndrome Meets Brugada Phenocopy

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Introduction: The Brugada electrocardiographic (ECG) pattern, can be dynamic being recorded in upper precordial leads, is basically the hallmark of Brugada syndrome. The differential diagnosis could include Brugada-like pattern in the right precordial leads, especially athletes, right bundle-branch block, arrhythmogenic right ventricular dysplasia or cardiomyopathy and pectus excavatum. Here it is important to mention the concept of Brugada phenocopies that ECG patterns are of characteristic Brugada pattern that may appear and disappear in relation with multiple causes but are not related with Brugada syndrome. The case which we’re discussing here includes the clinical criteria and implications of wellens syndrome and Brugada phenocopy

Methods: A 53 year old male with Past Medical History of treated Pulmonary Tuberculosis, presented in the hospital with severe chest pain for one hour, started while he was working in his garden. The pain radiated to both arms associated with nausea and sweating. He denied use of illicit substances, drugs, smoking and alcohol. He had no family history of coronary artery disease. Patient was pain free when he reached the hospital emergency. Glasgow coma scale (GCS) was 15/15, blood pressure was 150/90 mmHg, heart rate was 68 beat/min, respiratory rate was 18 breath/min, temperature was 98 F, and jugular venous pressure (JVP) was not raised. Rest of the physical examination was unremarkable. Written informed consent was taken and initial 12 lead ECG showed ST segment elevation in leads V1, V2, V3 with ST segment elevation similar to Brugada pattern (Type I), showed in Figure 1. Patient was admitted and given antiplatelet medication. Anti-Ischemics and anticoagulants were started because the patient was started having chest pain on and off. Serial ECGs were done and the ECG done after 10 hours was consistent with ischemia (wellenoid pattern).

Result: Patient underwent Coronary angiography which showed severe proximal LAD stenosis (Figure 3) and that brugada pattern came out to be brugada phenocopy seen in V1 and V2. PCI to LAD was done (Figure 4) with Drug eluting stent (DES)

Conclusion: The purpose for presenting this case is that any patient with Brugada Pattern ECG can have underlying Wellens’ syndrome. Coronary angiogram should be performed to rule out the coronary artery disease. Ischemic changes can be confused with Brugada pattern. History and recognition of the ECG findings of both Type 1 and 2 Wellens’ syndrome is important for proper management and emergent intervention to avoid large anterior wall MI. Hence the definitive treatment for wellens syndrome typically involves cardiac catheterization with percutaneous coronary intervention (PCI) to relieve the occlusion.