Coronary Steal Syndrome in Coronary Artery Fistula Presenting The Four-Timers Recurrent Ventricular Tachycardia

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Introduction: Background: Coronary Arterial Fistula (CAF) is a connection between one or more of the coronary arteries and a cardiac chamber or great vessel. We describe a rare case of a 60-year-old male who had a fistula proximal left anterior descending coronary artery to apex left ventricle, that causing coronary ischemia with recurrent monomorphic sustained ventricular tachycardia (VT).

Methods: Case Description: A 60-year-old male came to the ED with chest pressure associated with palpitation, nausea, vomiting, and diaphoresis for four hours. The patient had a history of the three-timers Recurrent VT monomorphic. The patient was alert and his blood-pressure was 80/60, heart-rate 190x, respiratory-rate 32x. Physical examination was normal. His laboratory revealed: cardiac enzymes and electrolytes were normal. On 12-lead EKG showed sustained monomorphic VT with a right bundle branch block pattern and a superior QRS axis. Echocardiogram showed left-ventricle (LV) dilatation abnormal and segmental LV hypokinetic anteroseptal with ejection-fraction 55%. Coronary Angiography revealed Fistula Proximal Left Anterior Descendent to Apex Left Ventricle with Double Vessel Disease. He was found to be in unstable pulsatile VT and his arrhythmia was converted to sinus rhythm by cardioversion with 100 J synchronized. VT was terminated to sinus rhythm with ECG pattern showed ST depression in anterolateral and inferior leads. Patient was given loading Clopidogrel 300 mg Aspirin 300 mg and maintenance therapy injection subcutaneous Fondaparinux 1 x 2.5 mg, MgSO4 20% 1 gram in 10 minutes, Clopidogrel 1x75mg, Aspirin1 x100mg, Rosuvastatin 1x20mg, Nitroglycerin 1x 2.5 mg, Bisoprolol 2x 1.25 mg, Trimetazidine 2x20mg, Perindopril 2 x 2.5 mg.

Result: Discussion: Coronary fistulae that expand to the left ventricle are known to cause coronary ischemia due to coronary steal syndrome. Complications of coronary artery fistula include ‘steal’ from the adjacent myocardium causing myocardium scars. There was a relationship between structural changes and recurrent VT represented by reentry. In this case, the patient was diagnosed with recurrent monomorphic sustained ventricular tachycardia (VT), which has not previously been reported ever that VT was caused by coronary artery fistula.

Conclusion: Conclusion: A Fistula between the proximal left anterior descending coronary artery and the LV can lead to coronary steal syndrome. We hypothesized that recurrent VT was caused by myocardium scars due to coronary steal syndrome.