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Case Report

Bidirectional ventricular tachycardia with myocardial infarction: A case report with insight on mechanism and treatment

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ABSTRACT

Bidirectional ventricular tachycardia (BVT) is a rare variety of tachycardia with morphologically distinct presentation: The QRS axis and/or morphology is alternating in the frontal plane leads. Since its original description in association with digitalis,[1] numerous cases of this fascinating tachycardia with disparate etiologies and mechanisms have been postulated. We report a patient with BVT in association with non-ST elevation myocardial infarction and severe cardiomyopathy in the absence of digoxin toxicity.

1. Case report

A 61-year-old African American male with history of myocardial infarction in the remote past came to the emergency department with chest pressure associated with nausea, vomiting, palpitation and diaphoresis for two days, which became progressively worse. On a 12-lead EKG he had sustained monomorphic ventricular tachycardia at a rate of 153 beats per minute at the time of presentation to the ED (Figs. 1 and 2). After initial doses of amiodarone and lidocaine failed to restore sinus rhythm, he was cardioverted by transthoracic approach with 100 J synchronized, biphasic direct current shock. Initially intravenous abciximab drip started

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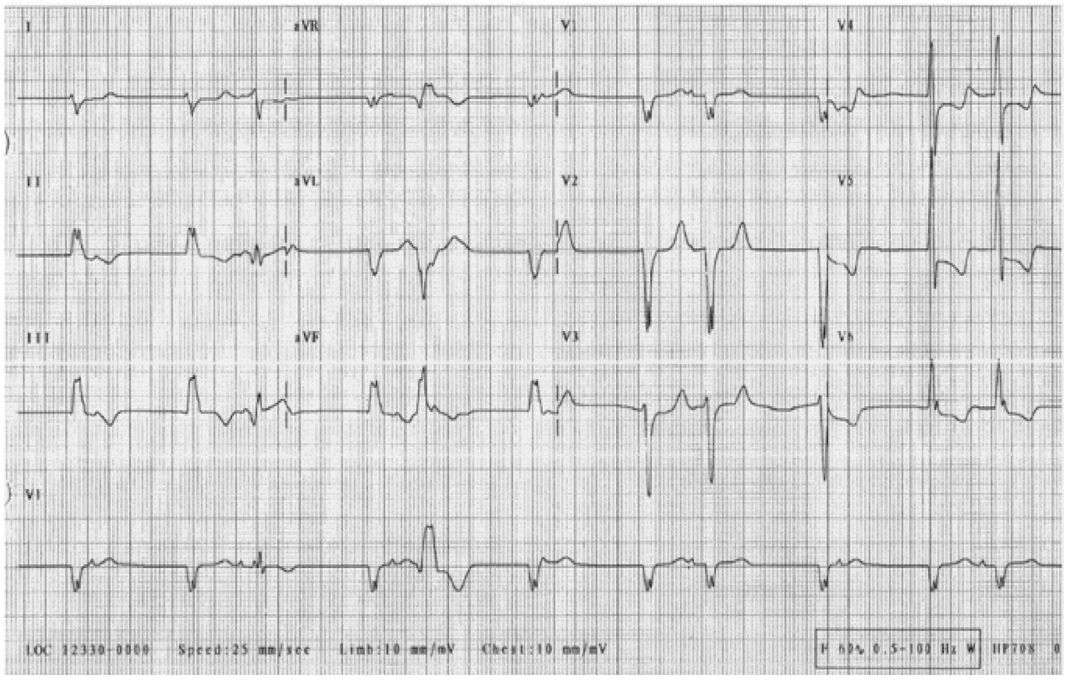

Fig. 1 – Accelerated idio-ventricular rhythm, 3rd complex is sinus with aberrant conduction, 5th beat is a PVC and subsequent blocked PAC.

based on high suspicion of STEMI, which was later discontinued and patient was continued on heparin and amiodarone drips.

He had a history of ischemic cardiomyopathy, hypertension, COPD, hyperlipidemia and chronic renal insufficiency. His left ventricular ejection fraction was 20%. He was taking Fenofibrate 48 mg per day, Altace 10 mg per day, Hydrochlorthiazide 25 mg per day and Furosemide 40 mg twice a day. He was not on any beta-blockers.

Patient was alert and oriented to time place and person during presentation followed by loss of consciousness. His blood pressure was 84/62, heart rate 153, respiratory rate 18. He had S3 gallop and diminished breath sounds with minimal rales bilaterally.

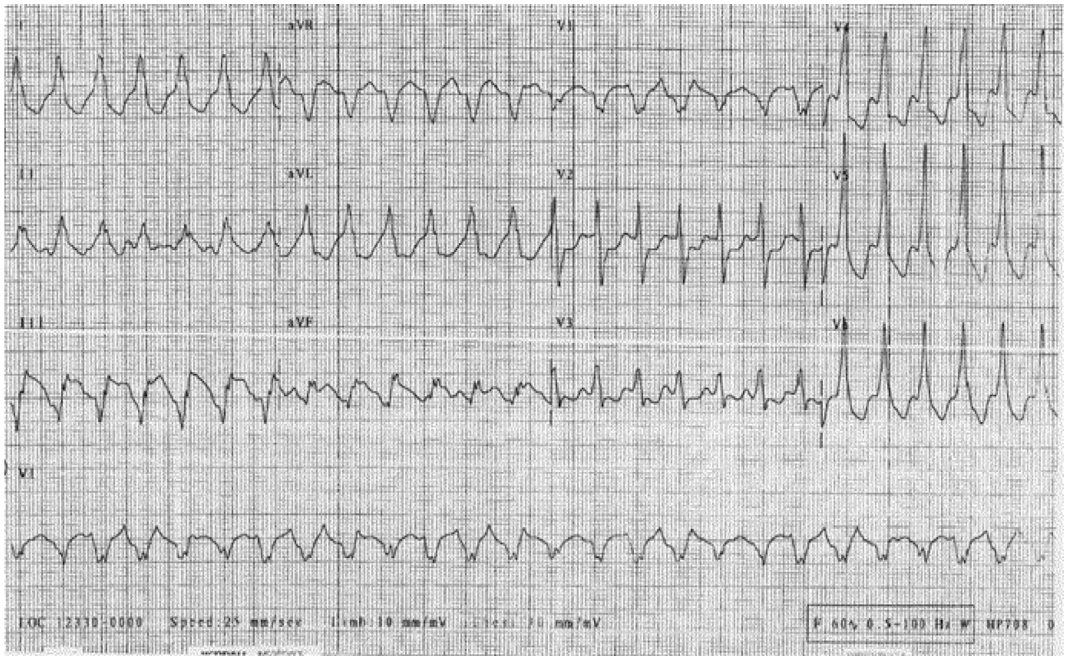

Fig. 2 – Sustained monomorphic ventricular tachycardia.