

## Images in Electrophysiology

# Peeling off the Mask: Pseudo Myocardial Infarction Pattern on Electrocardiogram During AICD Implantation

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### Abstract

Lead induced transient right bundle branch block is not uncommon during pacemaker implantation. We describe a patient with old anterior wall myocardial infarction with severe left ventricular dysfunction presenting with recurrent ventricular tachycardia who developed transient right bundle branch block and pseudomyocardial infarction pattern during AICD implantation.

**Key words:** Pseudo Myocardial Infarction; AICD implantation

### Case

A 54 year old female with an old anterior myocardial infarction and severe left ventricular dysfunction was admitted with recurrent ventricular tachycardia. Her basal ECG revealed widened QRS with nonspecific intraventricular conduction defects (**Figure 1**). Echocardiography showed dilated left ventricle with thin aneurysmic anterior wall and apex. Ejection fraction was 25%. She underwent successful single chamber ICD implant (Medtronic; Maximo II VR D284VRC). She was asymptomatic throughout the procedure. Immediate post implant the ECG revealed new right bundle branch block (RBBB), ST elevation and qR in V2-V6 (**Figure 2**). There was no change in QRS axis. The patient however was asymptomatic and serial Troponin levels were negative. The transient RBBB persisted for 12 hours and at discharge both RBBB and ST elevation disappeared.

### Discussion

Criteria to diagnose acute MI in presence of LBBB are well established. [1] However ST

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elevation and Q waves following anterior MI are often "masked" by pre-existing LBBB or LBBB like intraventricular conduction defects. Notching of upstroke of S in precordial leads though seen in our case has good specificity but poor sensitivity to diagnose an old MI. [2] Patient with post MI anterior aneurysms can have persistent ST elevation in precordial leads, which in our case was masked by the intraventricular conduction defect. During AICD implantation the lead induced injury to right bundle branch resulted in acquired RBBB and the ST elevation simulating new anterolateral myocardial infarction. The patient was asymptomatic and serial cardiac biomarkers ruled out new myocardial infarction. As increasing number of patients with old myocardial infarction undergo ICD implants, cardiologists need to be aware of such surprising acquired pseudoinfarction electrocardiographic patterns causing a diagnostic dilemma.

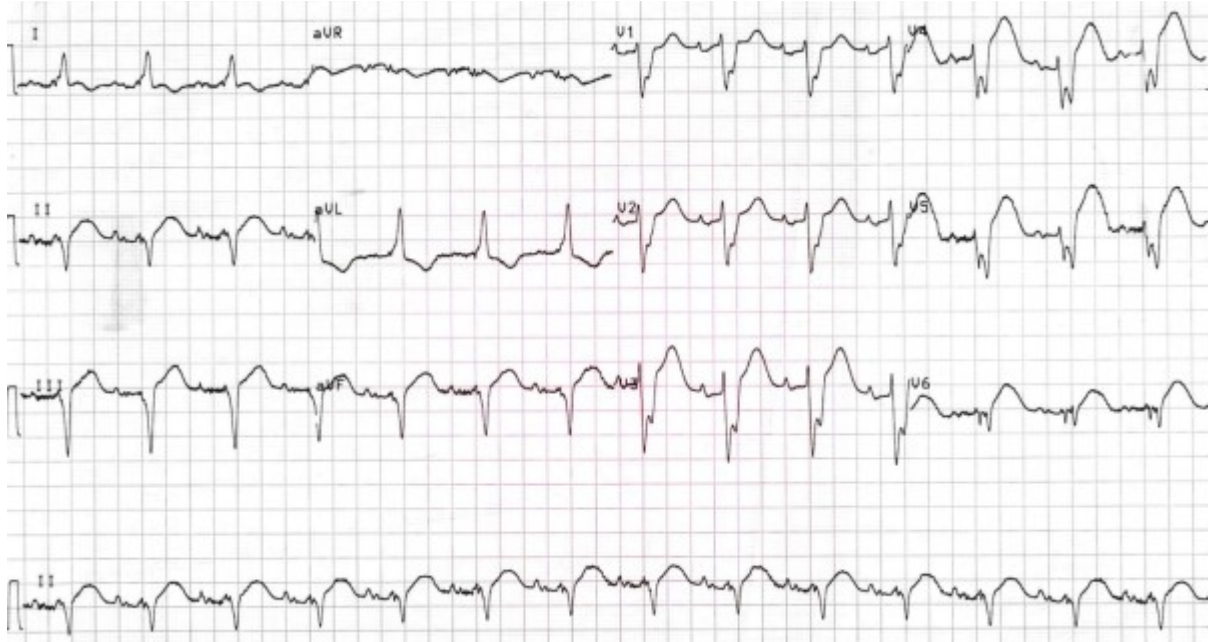


Figure 1

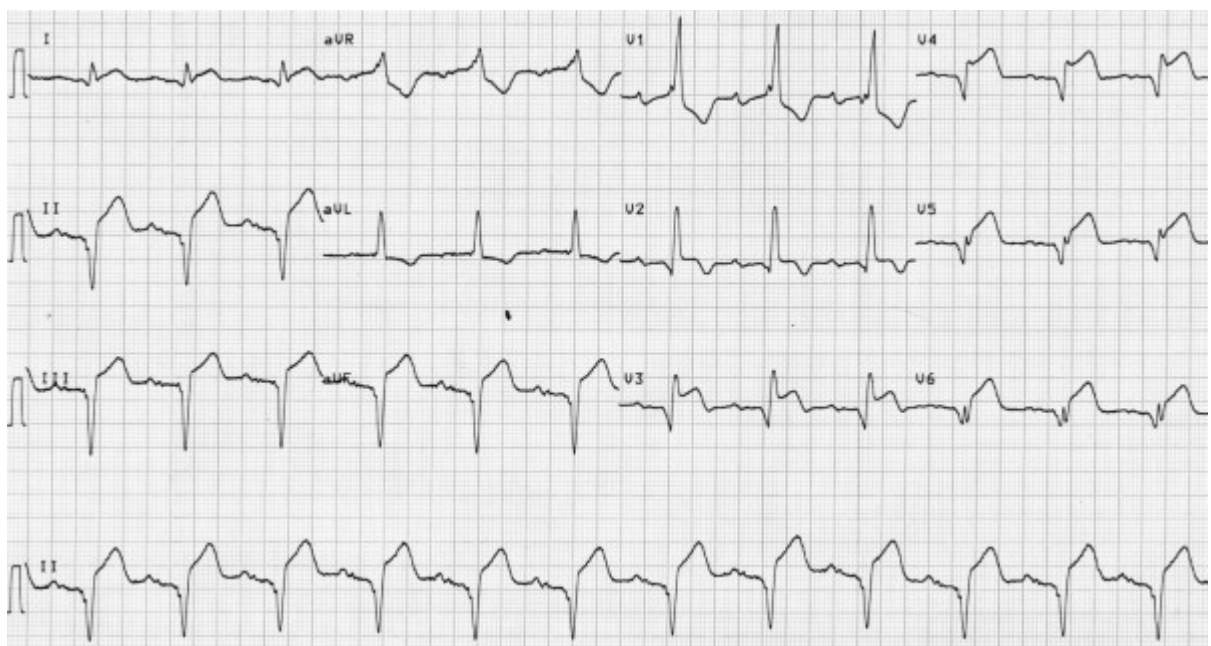


Figure 2

## References

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