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Fallacious electrocardiographic interpretation in acute myocardial infarction

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A 47-year-old male, with risk factors of diabetes mellitus and hypertension, had history of typical anginal chest pain of 8 h duration. A diagnosis of acute inferior wall and old anterior wall myocardial infarction was considered based on an ECG (figure 1A), and referred for further management. At admission, patient was asymptomatic and haemodynamically stable (Killip class I). There was no pericardial rub. The ECG was reanalysed. In addition to conspicuous ST segment elevation in inferior and precordial leads, an isoelectric baseline in lead I and abnormal P wave orientation in limb leads were appreciated (figure 1A). Limb lead reversal was suspected and an ECG was repeated. The infarct was confined to the anterior wall, with no evidence

of inferior wall infarction (figure 1B). In the first ECG, the right arm electrode was interchanged with left foot, and left arm electrode was interchanged with right foot. Hence, the reciprocal ST depression in limb leads manifest as ST elevation, simulating acute inferior wall infarction. This is likely to result in erroneous localisation of culprit vessel. Hence, it is imperative to adhere to the standard recommendations while recording an ECG. To conclude, one should be mindful of lead reversal and a systematic approach is prerequisite for accurate interpretation of an ECG.

Competing interests None.**Patient consent** Obtained.

Figure 1 (A) ECG illustrating ST segment elevation in inferior and precordial leads. Additional findings include an isoelectric baseline in lead I, abnormal orientation of P waves in limb leads, pathological Q waves in V1 to V3 and poor R wave progression. (B) Repeat ECG demonstrating evidence of anterior wall myocardial infarction. There is no evidence of inferior wall infarction and P wave axis is normal.

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