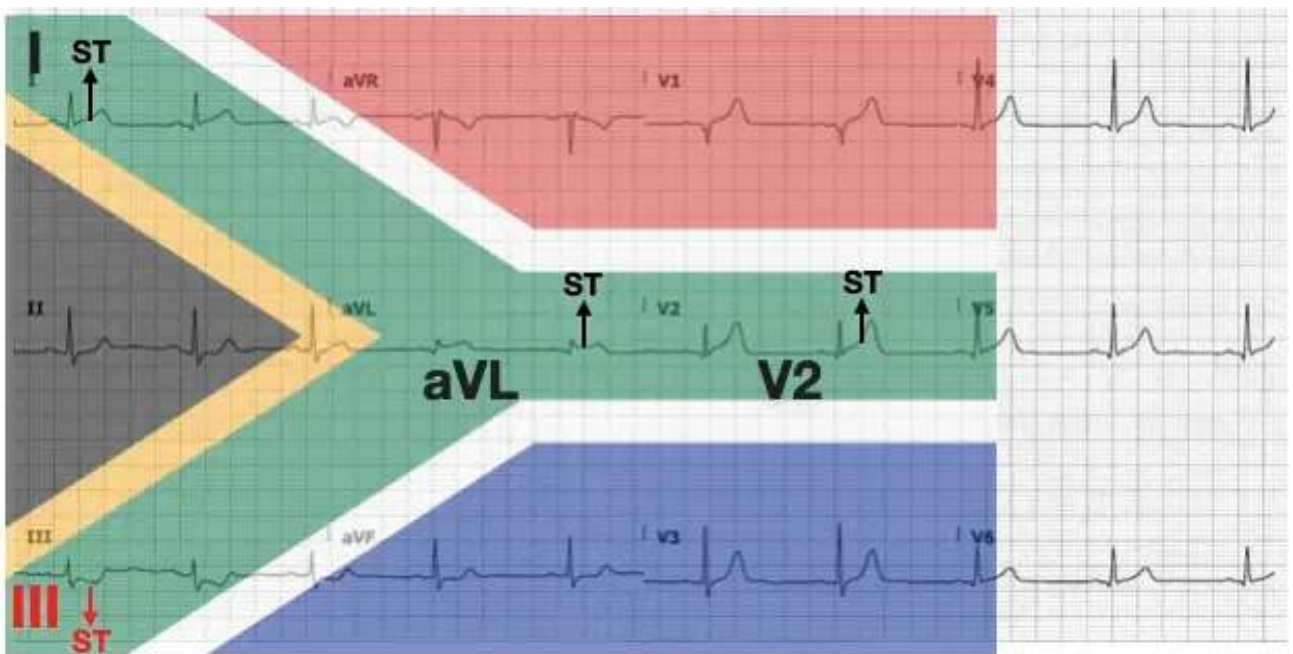
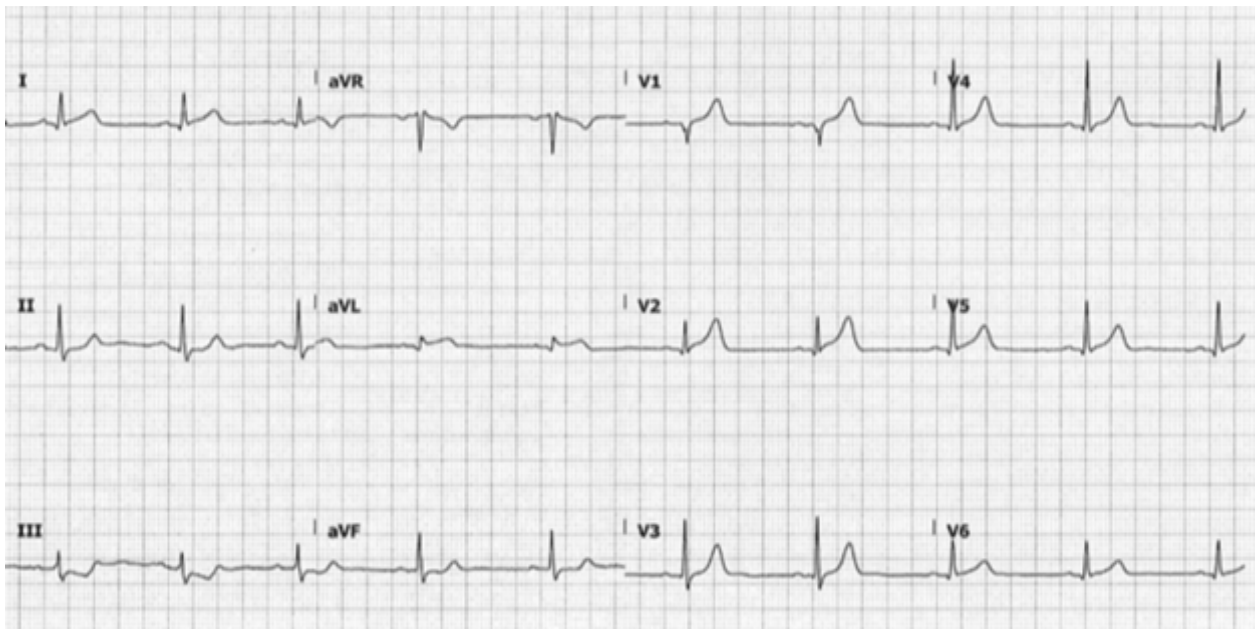


## ECG Excursion

### ECG pearls

74-year-old man with one hour of central chest pain. He has no past medical history or cardiovascular risk factors.





## *The Medical* **Bulletin**

**What are the main abnormalities present on this ECG?**

***Reveal Answer***

ST elevation in lead I, aVL and V1-2

ST depression and T-wave inversion in lead III

Hyperacute T-waves and pathological Q waves in V1-2 — note the way that T waves “tower” over the preceding QRS complex in V1

Trace ST elevation in V5-6

This ECG pattern, also known as the South Africa Flag Sign, is typically seen in “high lateral” Occlusion Myocardial Infarction (OMI), often due to complete occlusion of the first diagonal branch of the LAD (LAD-D1). Trace ST elevation seen here in leads V5-6 may be due to lateral wall involvement or early repolarisation.

**CLINICAL PEARLS** The South Africa Flag Sign should be in every critical care practitioner’s knowledge base as a “STEMI-equivalent”, regardless of the magnitude of ST-segment changes seen. The apparent non-contiguous nature of ST elevation means this pattern can be overlooked even by experienced Emergency Physicians.

**Lead III:** the most accurate reflector of high lateral OMI There is no lead that directly reflects the “high lateral region” usually supplied by the LAD-D1 vessel. Infarction of this territory therefore often causes subtle ST segment changes that fail to meet STEMI criteria. Lead III is directly reciprocal to this region, and thus ST depression and T-wave inversion in lead III is often more pronounced than any ST elevation seen elsewhere.

The South Africa Flag Sign is an important STEMI (-) OMI (+) pattern that should be in every critical care practitioner’s knowledge base

Lead III is directly reciprocal to the high lateral region and thus may manifest the most pronounced ECG changes seen in high lateral OMI

ST depression does not localise on the ECG — localised ST depression in any lead should be assumed to be a reflection of infarction in mirror image leads

Courtesy

***ECG Case 121***

Robert Buttner and Emre Aslanger Dec 21, 2021 HOME TOP 100 ECG

***Dr. Balachandran***