

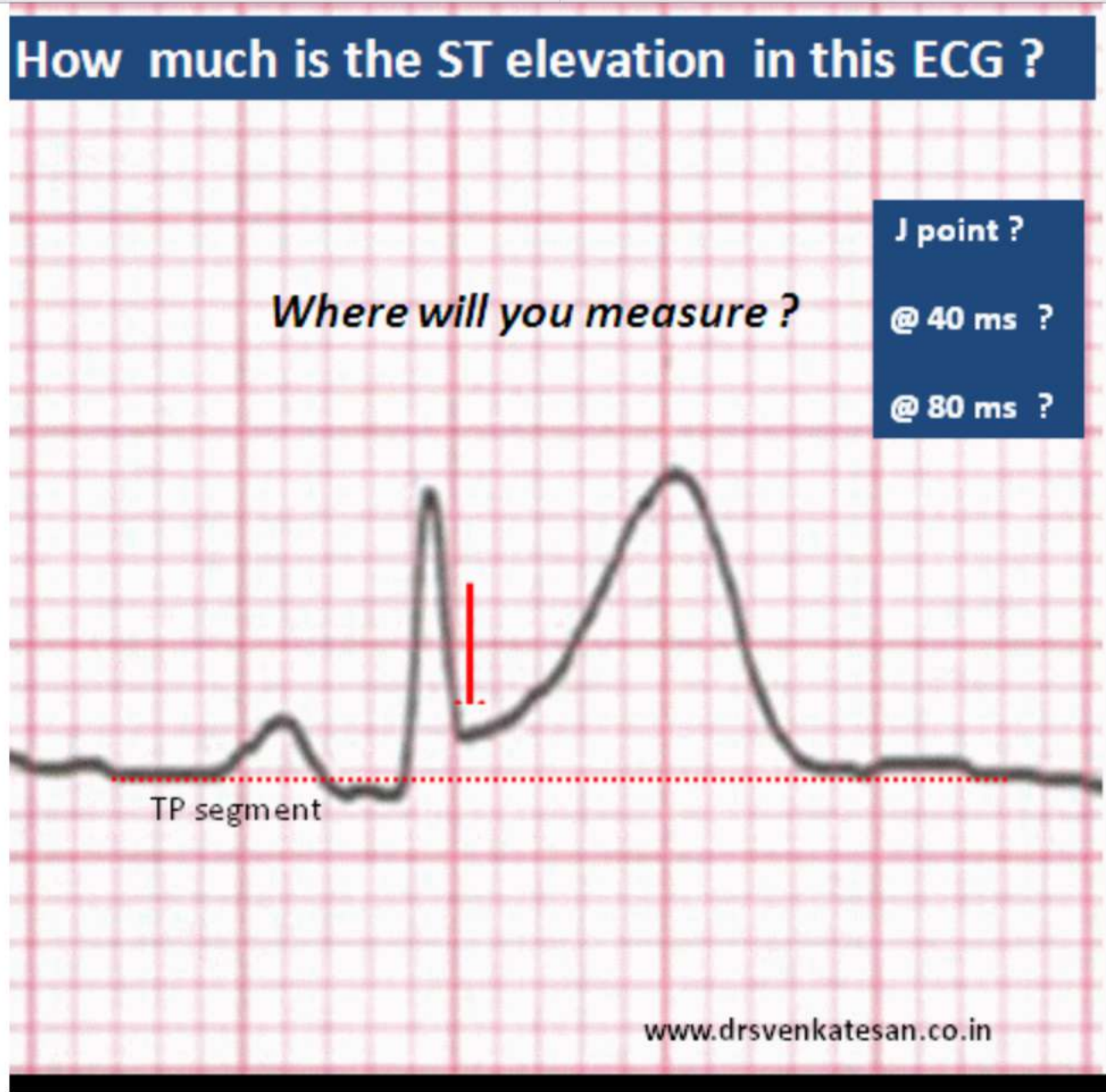
Differential Diagnosis of ST Elevation

References

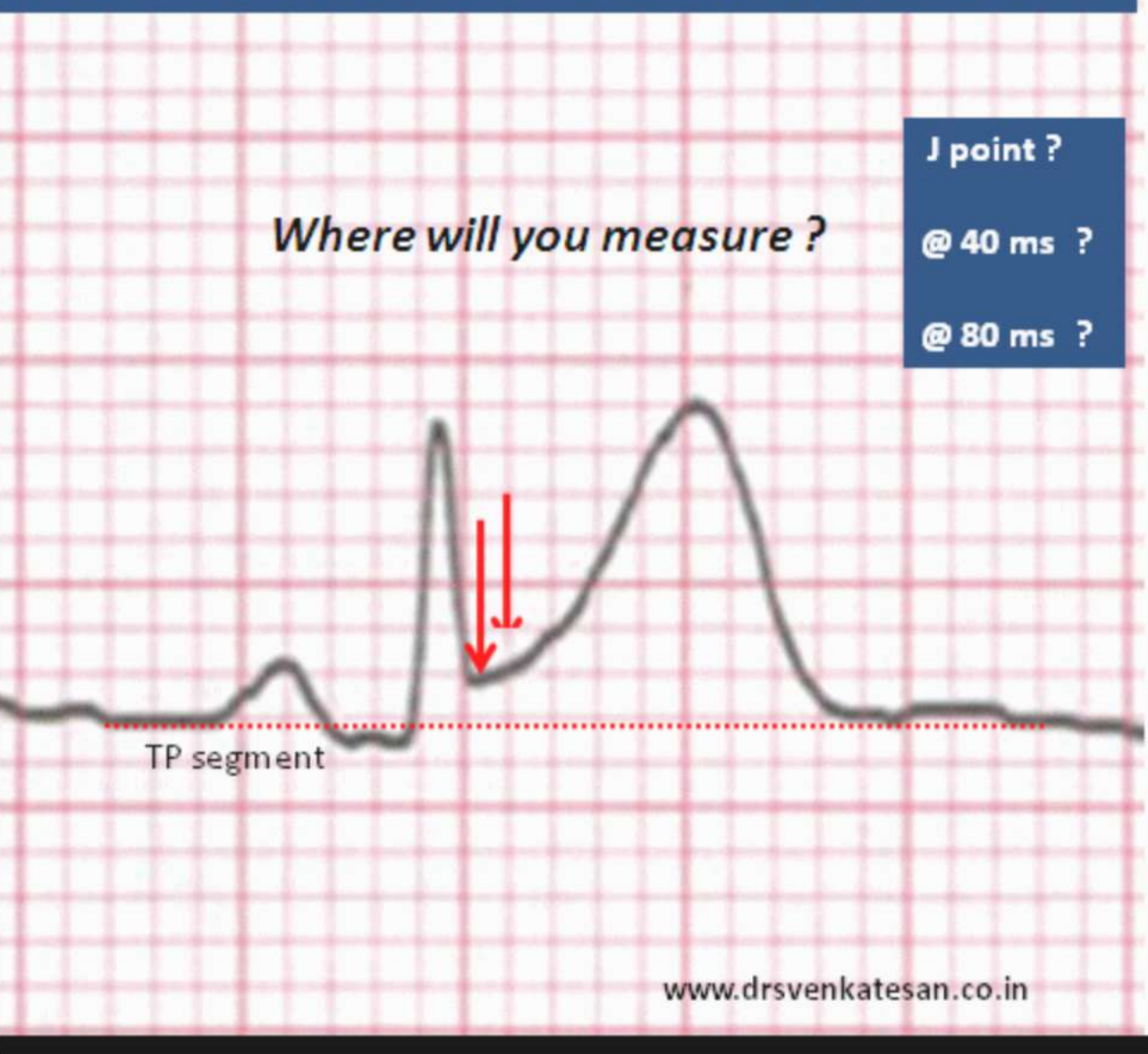
- ¥ ST elevation: Differential diagnosis and caveats. A comprehensive review to help distinguish ST elevation myocardial infarction from nonischemic etiologies of ST elevation Erwin Christian de Bliek, MD
- ¥ ST-Segment Elevation in Conditions Other Than Acute Myocardial Infarction Kyuhyun Wang, M.D., Richard W. Asinger, M.D., and Henry J.L. Marriott, M.D.

ACLS

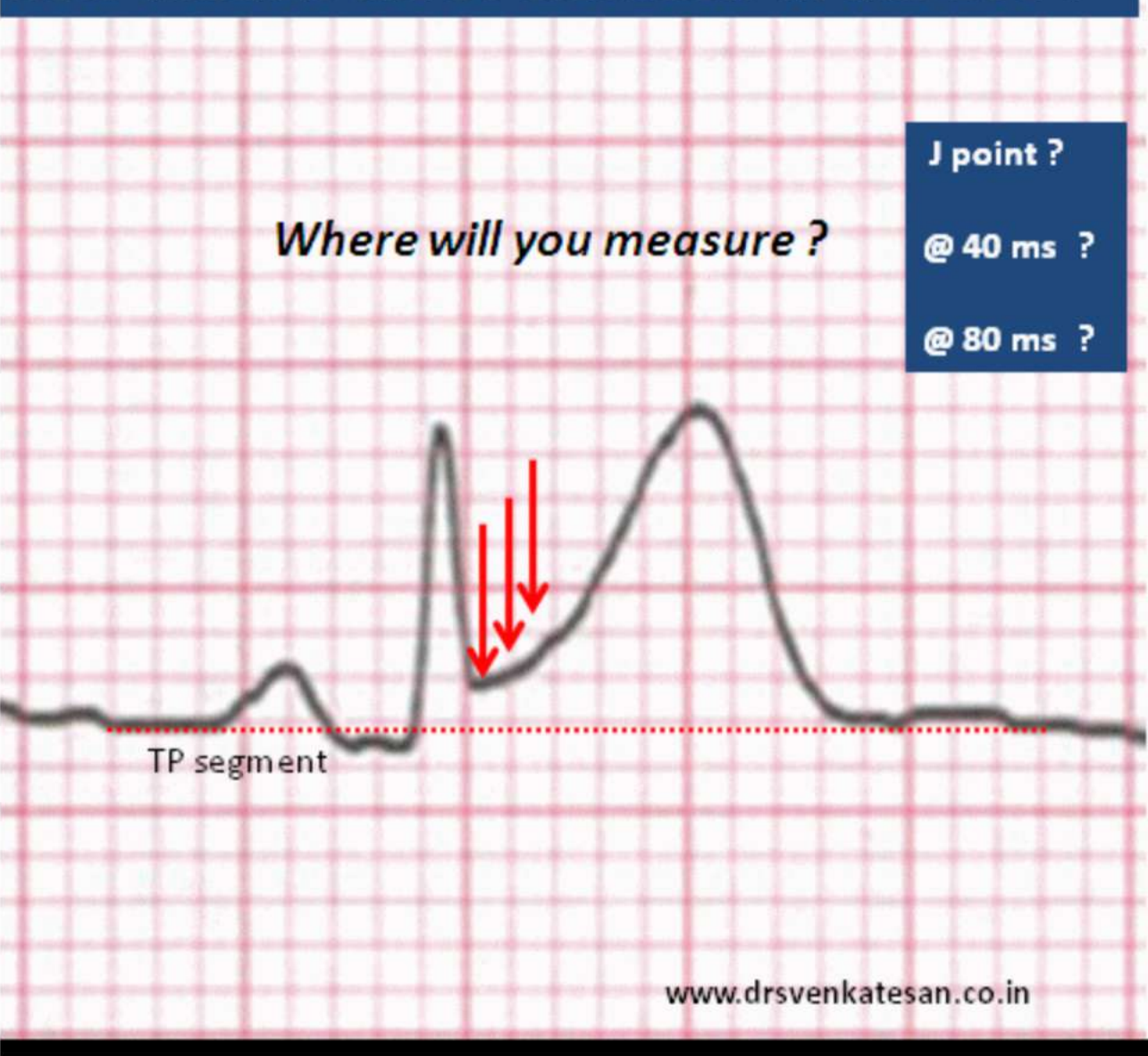
- ¥ The 12 Lead ECG is at the center of the Decision Pathway in the Management of Ischemic Chest Discomfort
- ¥ Is the Only Means of Identifying STE-ACS



How much is the ST elevation in this ECG ?



How much is the ST elevation in this ECG ?



ORIGINAL ARTICLE

What's the point of ST elevation?

S D Carley, R Gamon, P A Driscoll, G Brown, P Wallman

Emerg Med J 2002;**19**:126–128

See end of article for
authors' affiliations

Correspondence to:
Dr S D Carley, Department
of Emergency Medicine,
Manchester Royal
Infirmary, Manchester
M13 9WL, UK;
s.carley@btinternet.com

Accepted for publication
11 May 2001

Objective: The magnitude of ST elevation is a key piece of information in the decision to thrombolyse in acute myocardial infarction. The ability of clinicians to reliably identify ST elevation has not been previously assessed. This study sought to determine the variability in assessment of ST elevation in a group of doctors who commonly prescribe thrombolysis.

Methods: The study was conducted in three large teaching hospitals in Manchester, England. A convenience sample of 63 SHOs and SpRs from emergency and general medicine were recruited. Each was shown three sample ECG complexes. They were asked to identify and quantify the degree of ST elevation. They then indicated the points on the ECG from which they measured ST elevation.

Results: ST elevation was not identified in 12% of cases. Doctors used a wide variety of points on the ST segment to assess elevation, this resulted in a wide variation in the observed magnitude of ST elevation.

Conclusion: No guidance exists on where exactly ST elevation should be measured. This study shows a wide variation in practice. Protocol led thrombolysis decision pathways may be compromised by these findings.

Specialist Registrars (SpRs) and Senior House Officers (SHO)

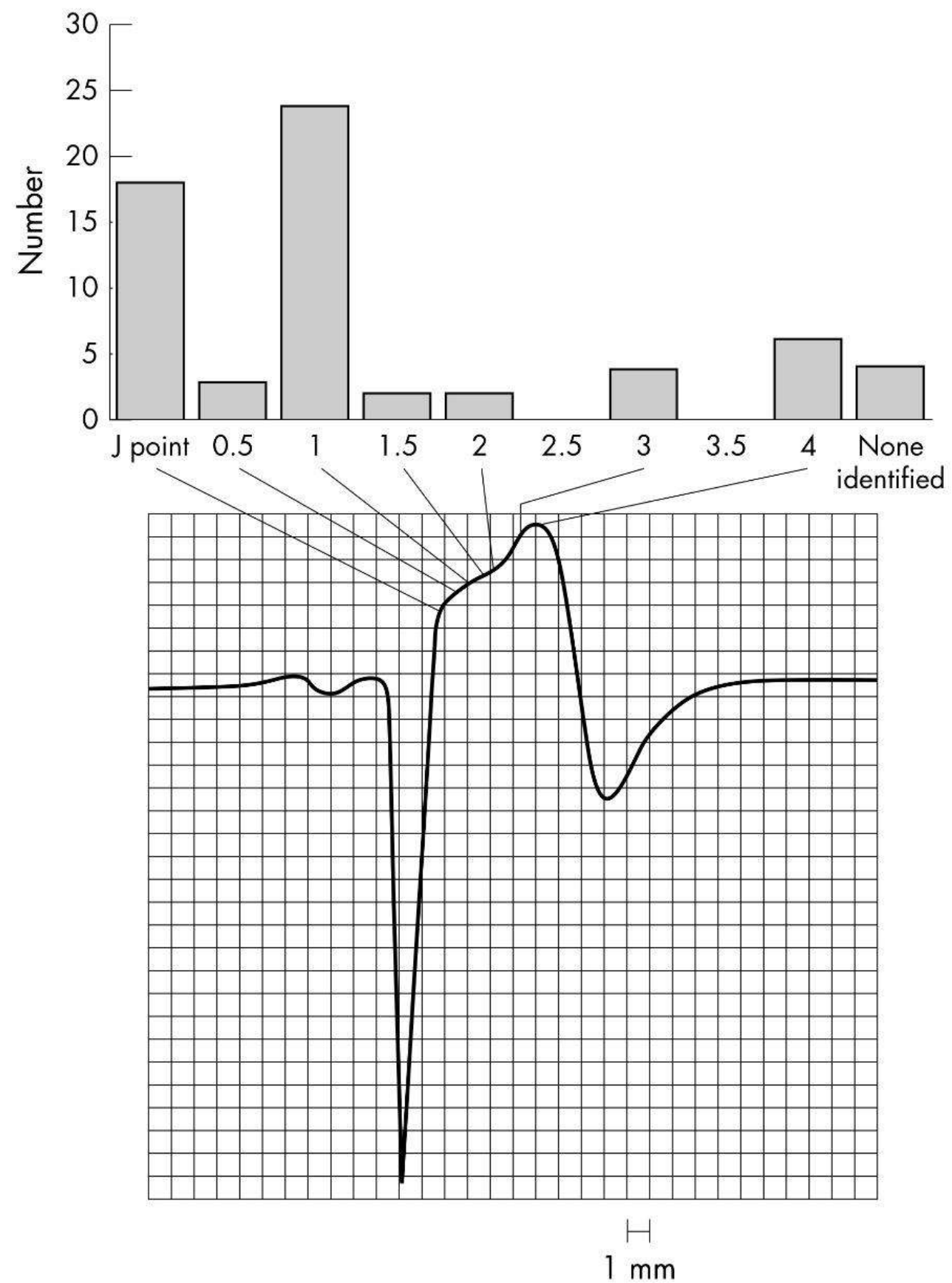


Figure 1 ECG 1. Point of measurement of ST elevation above baseline (in mm past J point).

What's the point of ST elevation?

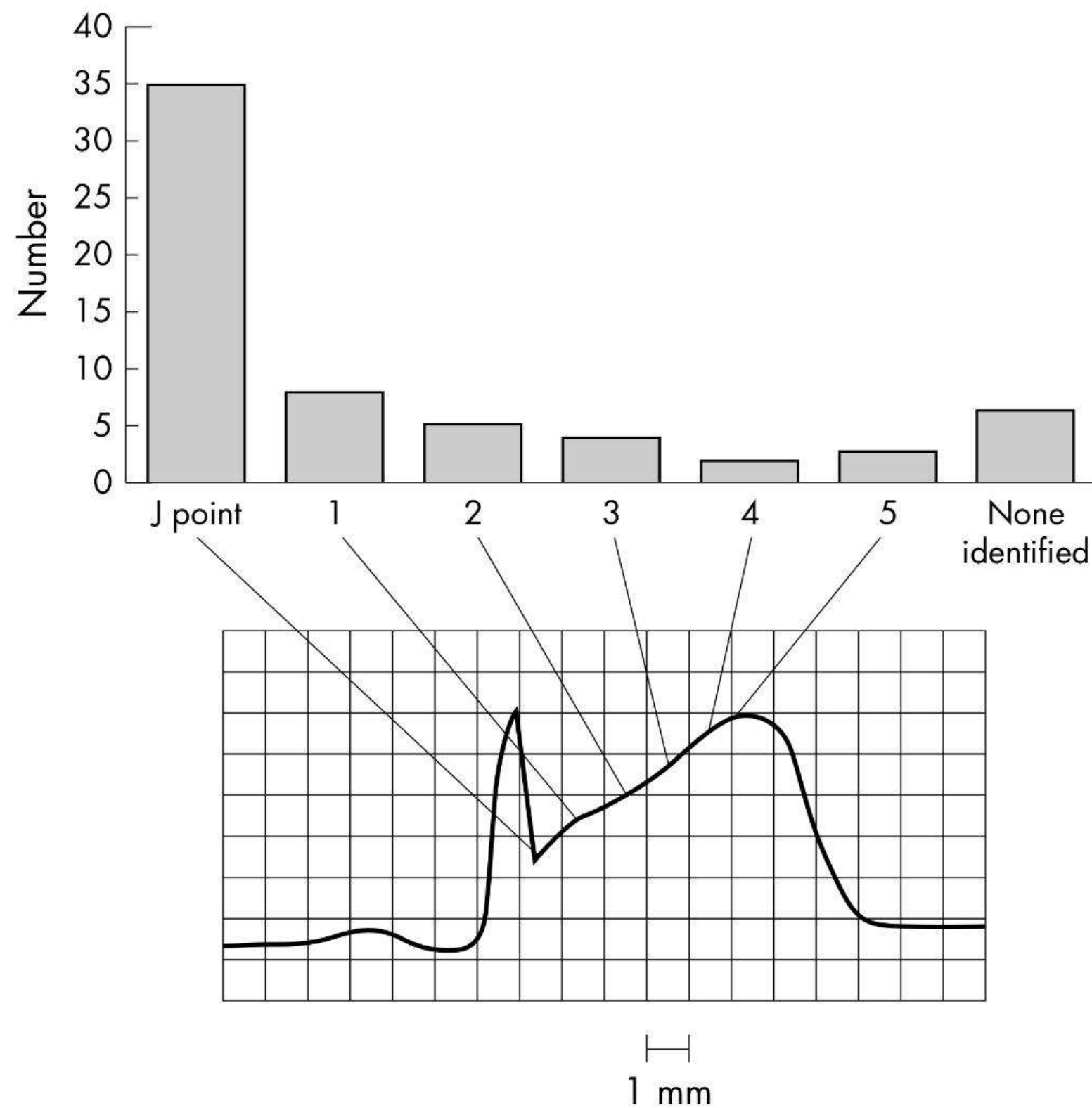


Figure 2 ECG 2. Point of measurement of ST elevation above baseline (in mm past J point).

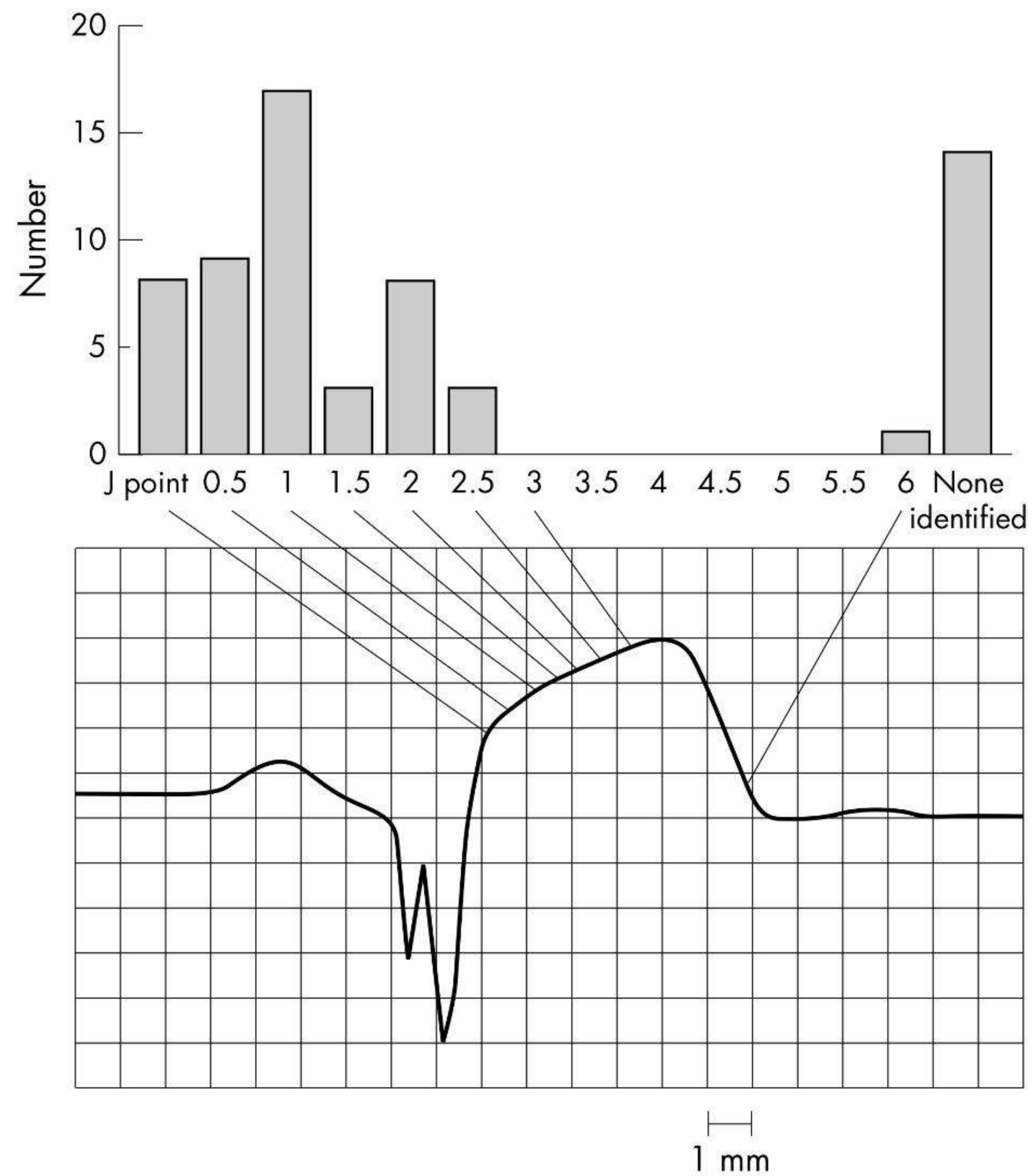


Figure 3 ECG 3. Point of measurement of ST elevation above baseline (in mm past J point).

4 Major Processes

- ¥ STEMI (STE - ACS)
- ¥ Early Repolarization
- ¥ Pericarditis
- ¥ Abnormality QRS Complex (LBBB, LVH, Pre-excitation)

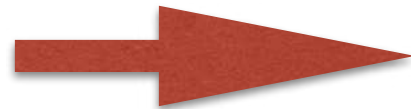
Other Processes

¥ Hyperkalemia

¥ Pulmonary Embolism

¥ Brugada Syndrome

¥ Hypothermia ?



J Wave Syndromes

5 ECG - STEMI FEATURES

- ¥ 1. ST Elevation
- ¥ 2. Concomitant T-wave Abn
- ¥ 3. Q waves
- ¥ 4. ST Depression
- ¥ 5. Increasing ST T Amplitude (QRS Shrinks)

Significant ST ELEVATION

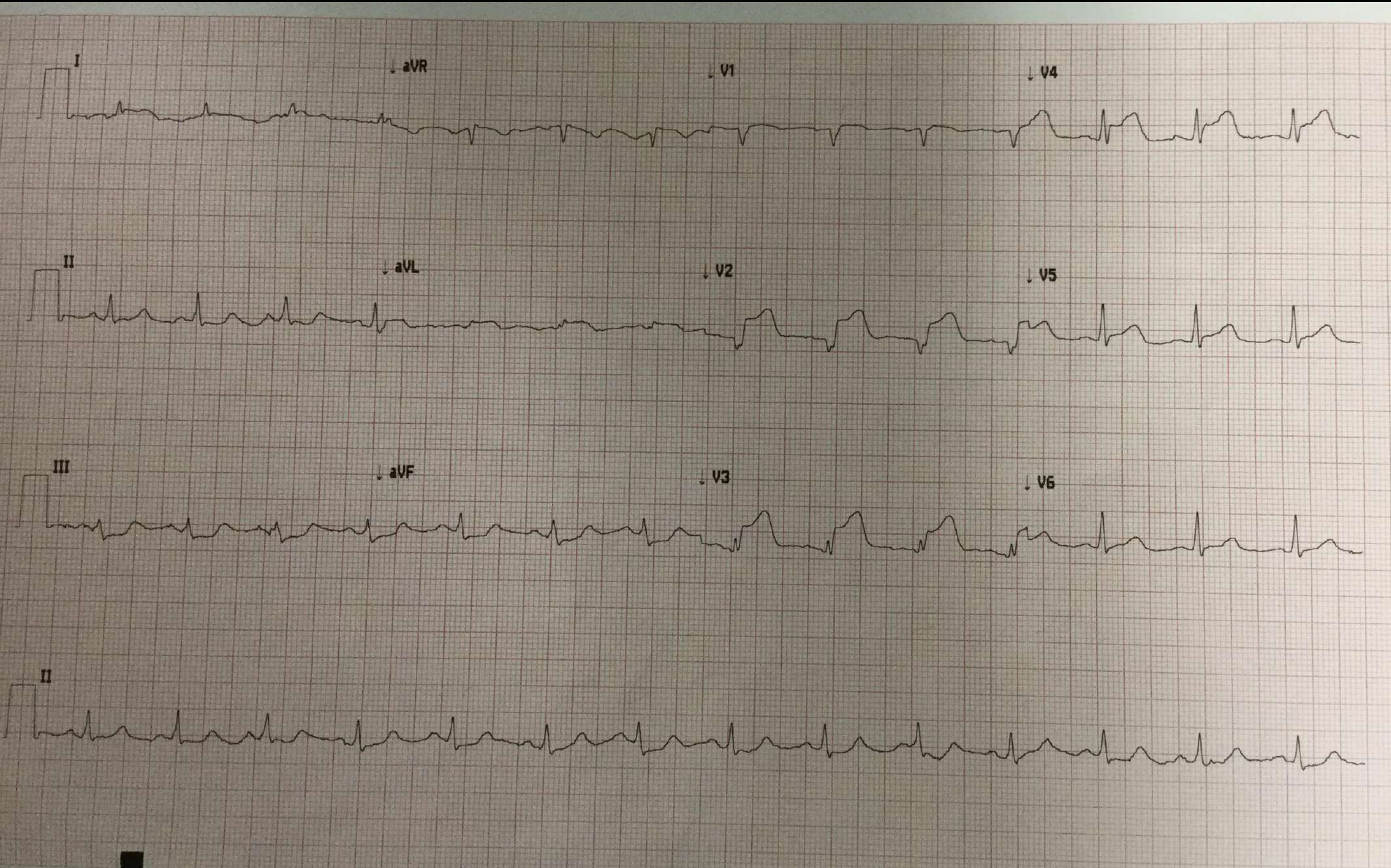
- ¥ 1 mm ST elevation in all standard leads other than V2 & V3

ST ELEVATION ABOVE

- ¥ 2.5 mm in leads V2 & V3 in men < 40.
- ¥ 2.0 mm in leads V2 & V3 in men > 40.
- ¥ 1.5 mm in leads V2 & V 3 in women
- ¥ 0.5 mm in leads V7 - V9 (attenuated due to location)
- ¥

Other STEMI Features

- ¥ Concomitant T- wave Abn
- ¥ Q waves
- ¥ ST Depression
- ¥ ST T Amplitude (QRS Shrinks)



¥ 1. ST Elevation

¥ 2. Concomitant T-wave Abn

¥ 3. Q waves

¥ 4. ST Depression

¥ 5. Increasing ST T Amplitude (QRS Shrinks)

