

# Answer to Medical Quiz - 1

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## Answers:

Q1. What are the findings in resting ECG?

ECG shows ST segment elevation and T wave inversion in precordial leads consistent with the diagnosis of acute ST-elevation myocardial infarction (STEMI).

Q2. What is the single-most important observation in echocardiography during index hospitalization?

Two-dimensional echocardiography apical 4-chamber view shows apical ballooning affecting the left ventricle.

Q3. Mention the relevant finding(s) in CMR.

CMR shows apical ballooning affecting the left ventricle.

Q4. What is the clinical diagnosis?

Apical ballooning syndrome, takotsubo cardiomyopathy, stress cardiomyopathy, or the broken heart syndrome.

Q5. Outline the pathophysiology of the condition.

The exact pathophysiology of apical ballooning syndrome is still unknown, however, the catecholamine-mediated myocardial stunning is thought to underlie the condition.

## Overview of apical ballooning syndrome.

Apical ballooning syndrome, also known as takotsubo cardiomyopathy, stress cardiomyopathy, or the broken heart syndrome, is a reversible cardiomyopathy often precipitated by a stressful event. The word 'takotsubo' comes from the name of a pot used by Japanese fishermen to trap octopuses. When the left ventricle changes shape, it develops a narrow neck and a round bottom resembling the octopus' trap. The catecholamine-mediated myocardial stunning is thought to underlie the pathophysiology. Chest pain and dyspnoea often lead to the initial diagnosis of acute coronary syndrome. ECG may show transient ST elevation, and cardiac biomarkers including troponin I may be raised as well. Cardiac imaging, e.g., echocardiography and CMR reveal hypokinesia or akinesia of the mid and apical segments with sparing of the basal segments of the left ventricle. The epicardial coronary arteries do not have obstructive lesions in CAG. Supportive treatment, including prophylaxis for thromboembolism, leads to spontaneous recovery usually within months. Apical ballooning syndrome should be included in the differential diagnosis of an apparent acute coronary syndrome, especially when there is a stressful trigger.