

Trigger 2:

The same 29 yo M presents to ED with a 1-day history of acute chest pain described as 9/10 chest tightness that does not radiate to his jaw or shoulder, associated with SOB. The pain is worse when he leans forward. Relevant history is a previous diagnosis of pericarditis 2 weeks prior.

Task 1: Interpret the ECG and based on the presentation and ECG provide a probable diagnosis.

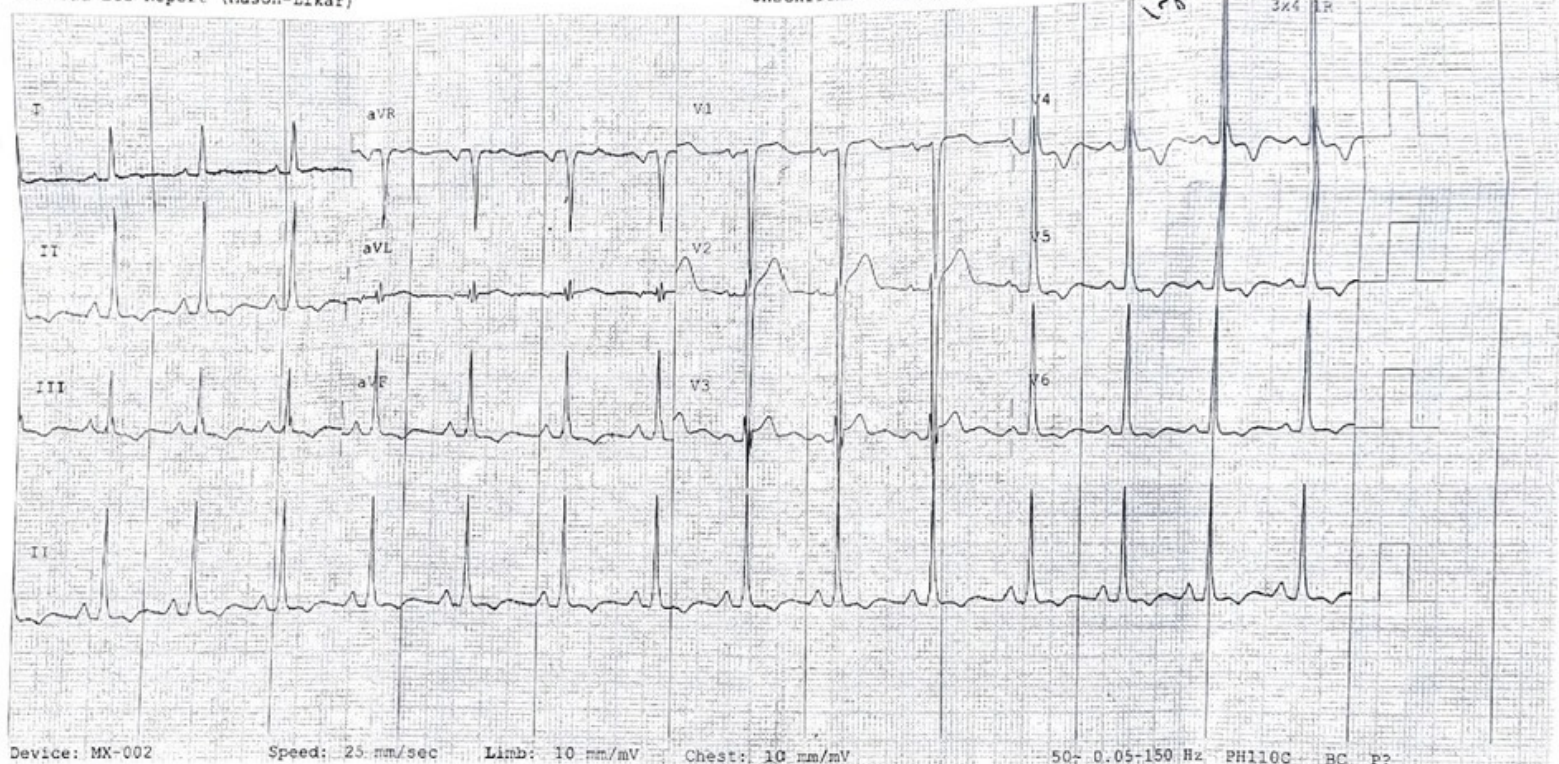
HR 87
RR 692
PR 163
QRSD 92
QT 350
QTc 421

--AXIS--
P 64
QRS 58
T -29

Dr. L. B. Patten
Room: T2
Anterior
Lateral
T2
T2

12 Lead ECG Report (Mason-Likar)

Unconfirmed Diagnosis



Device: MX-002 Speed: 25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV 50 0.05-150 Hz PH110C BC P?

Rate	87 PM	
Rhythm	Regular sinus rhythm	
Axis	No axis deviation	
Intervals (ref. ranges)	PR (120-200ms)	WNL <120ms
	QRS (<120ms)	WNL <120ms
	QT (<480ms)	WNL at <480ms
Segments	<p>PR segments aren't depressed in this ECG, rather there is TP downsloping giving the impression of PR segment. This is called spodicks sign.</p> <p>ST elevation in V2 and V3.</p>	
Other morphology	<p>T wave inversion in II, III, aVR, aVF, V4,5,6.</p> <p>Tall R waves in all chest leads (can be normal in young adults)</p>	
Interpretation	<p>This is the ECG of a 25 yo, the patient is normocardic, with a regular sinus rhythm without axis deviation.</p> <p>There are no abnormalities in the PR/QRS/QT intervals. There is TP downsloping indicative of a potential spodicks sign. There is no PR segment depression.</p> <p>ST elevation can be seen in leads V2 and V3. There is evident T wave inversion in leads II, III, aVR, aVF, V4, V5,V6. Tall R waves can be seen in all praecordial leads.</p> <p>Seen out of context of this patient this ECG is concerning for a septal infarct (V1 - V2 ST elevation)</p> <p>In the context of this patient's previous diagnosis of pericarditis these ECG changes are consistent with stage 3 pericarditis.</p>	

- **Stages of Pericarditis**

- Pericarditis is classically associated with ECG changes that evolve through four stages.
- **Stage 1** – widespread STE and PR depression with reciprocal changes in aVR (occurs during the first two weeks)
- **Stage 2** – normalisation of ST changes; generalised T wave flattening (1 to 3 weeks)
- **Stage 3** – flattened T waves become inverted (3 to several weeks)
- **Stage 4** – ECG returns to normal (several weeks onwards)

Spodicks sign is defined as TP downsloping of $>1\text{mm}$. It is a sign of acute stage 1 pericarditis. It is interesting that the second ECG exhibits these signs.