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# High Yield Unstable Angina

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# Acute Coronary Syndrome

- STEMI
- NSTEMI
- Unstable Angina
- Sudden Cardiac Arrest

## Unstable Angina

- ACS with myocardial ischemia without detectable myocardial necrosis
- Supply demand mismatch
- considered to be present in patients with ischemic symptoms suggestive of an ACS and no elevation in troponin
- +/- EKG changes
- Typically hard to distinguish from NSTEMI
  - Hs TNT may increase NSTEMI and decrease UA diagnosis

## Presentation

- Exertional angina of new onset (even if relieved with rest and requiring a consistent amount of exertion to produce symptoms, angina is considered unstable when it first occurs)
- Exertional angina that was previously stable and now occurs with less physical exertion
- Anginal symptoms at rest without physical exertion

## Other symptoms

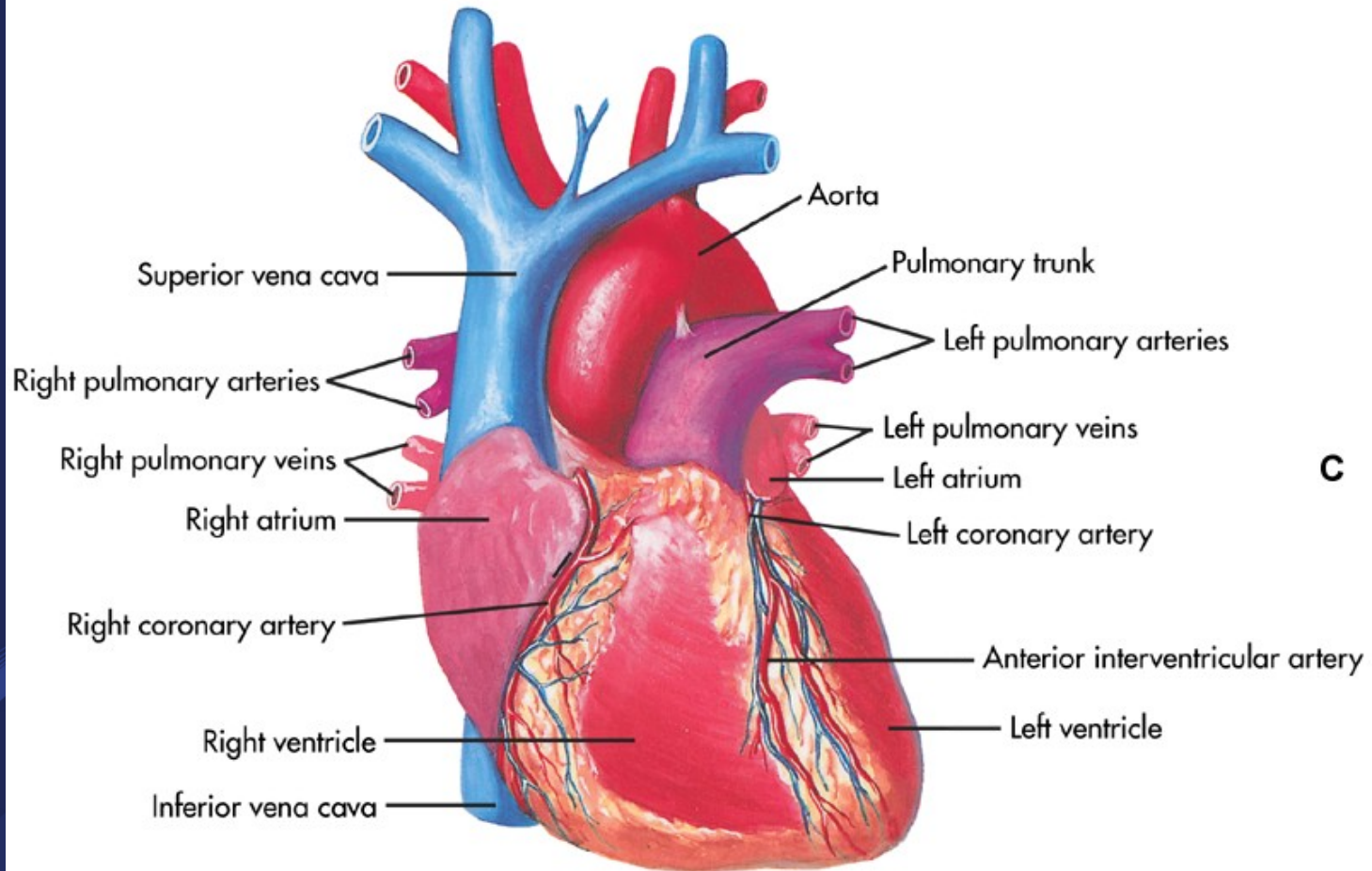
- Abdominal pain
- Nausea
- SOB/dyspnea
- Anxiety, weakness, fatigue
- Palpitations, diaphoresis, pallor





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# STORY

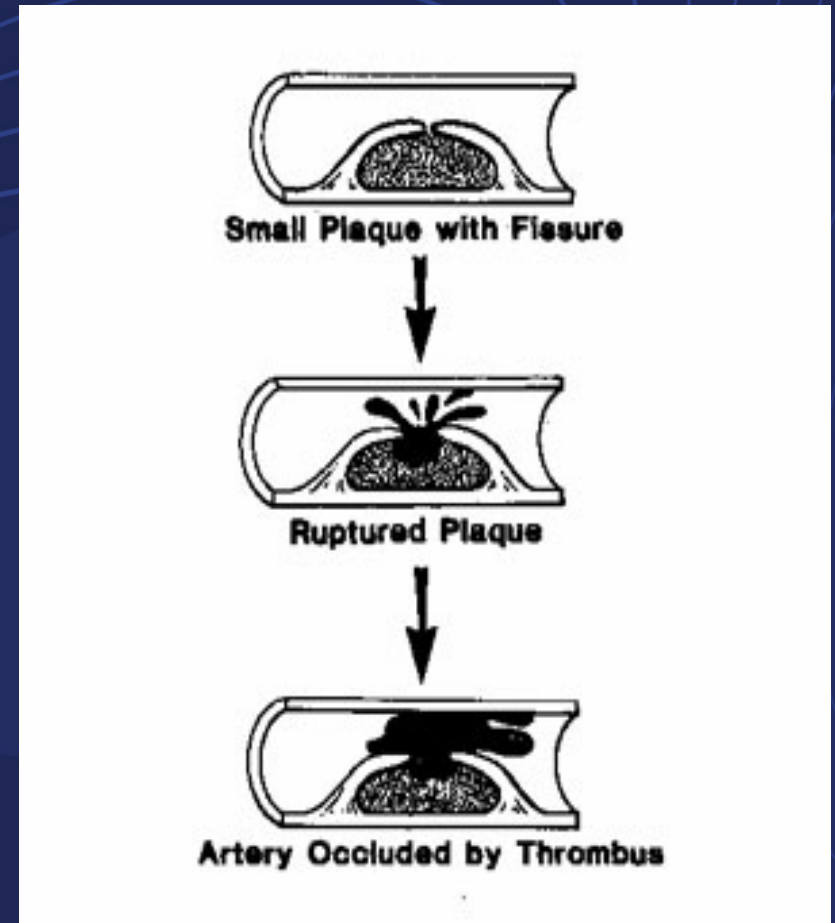


From Seeley RR, Stephens TD, Tate P: *Anatomy and physiology*, ed 3, St Louis, 1995, Mosby.

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# Vulnerable plaque

- a **large lipid core**
- a low density of smooth muscle cells
- a high concentration of **inflammatory cells**
- a **thin fibrous cap** covering the lipid core
- **acute thrombosis** induced by a plaque rupture

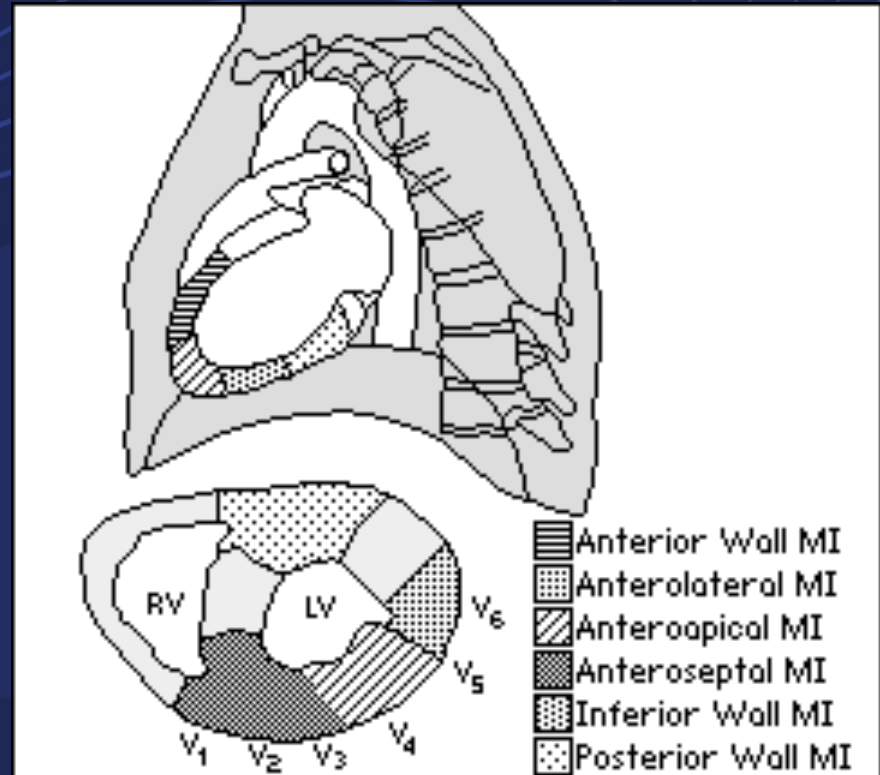




# Location of MI

## ST elevation only:

- Anteroseptal - V1-V3
- Anterolateral - V1-V6
- Inferior wall - II, III, aVF
- Lateral wall - I, aVL, V4-V6
- Right ventricular - RV4, RV5
- Posterior- R/S ratio  $>1$  in V1 and T wave inversion



## Imaging of the coronary anatomy

- The imaging of the coronary anatomy **is the most important diagnostics method** in evaluation of acute coronary syndrome
- The **gold standard** of patients with ACS is conventional invasive **coronary angiography**

## TTE

- segmental wall motion abnormality is detected
- small infarcts may not be apparent on the echocardiogram.

## Nuclear stress

- Uses radionuclide imaging
- Evaluates myocardial bloodflow for perfusion mismatch
- Could be normal with diffuse disease



## Summary

- UA is a difficult diagnosis, heavily based on clinical presentation or story
- Biomarkers are negative
- EKG can be non acute
- Stress testing not always reliable