



Out-of-Hospital PEA Arrest, STEMI, and Acute LV Free Wall Rupture

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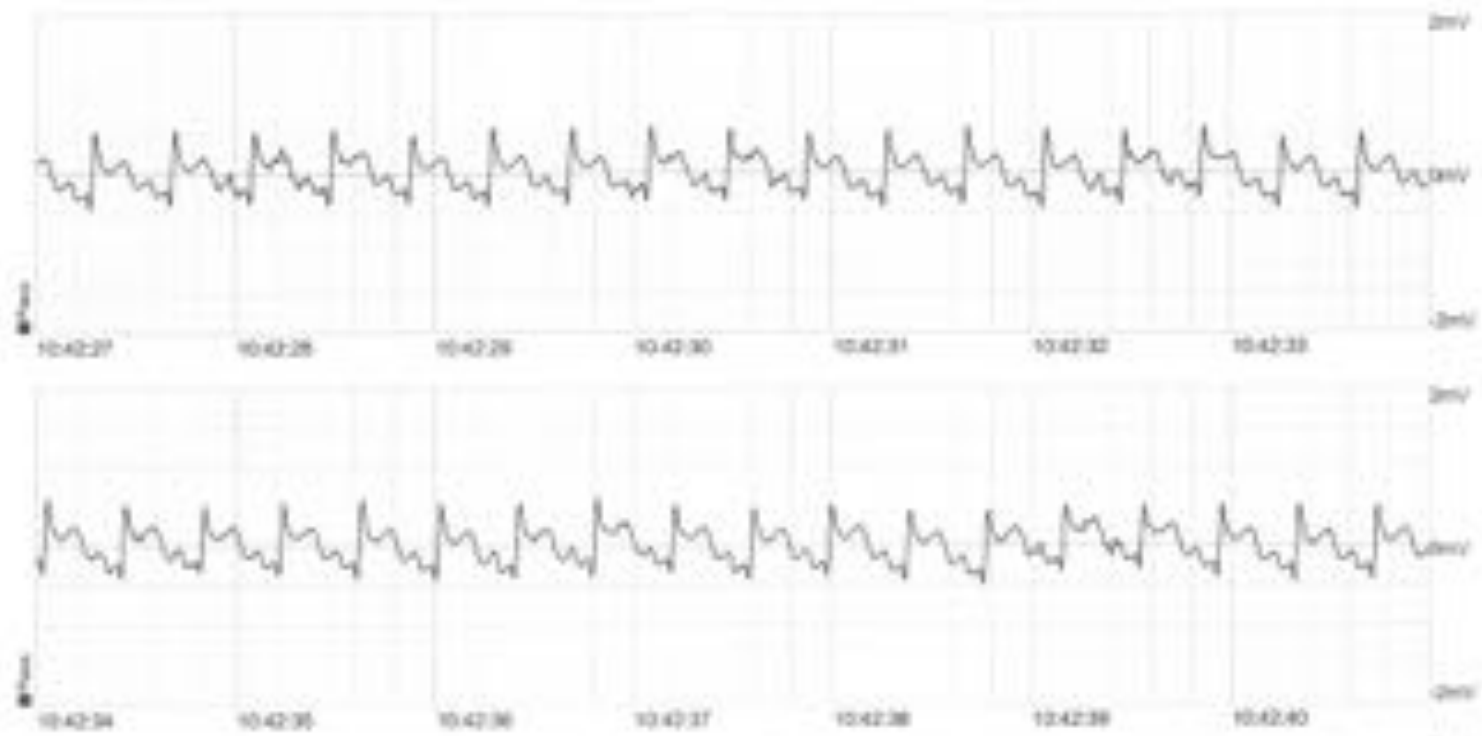
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Clinical History

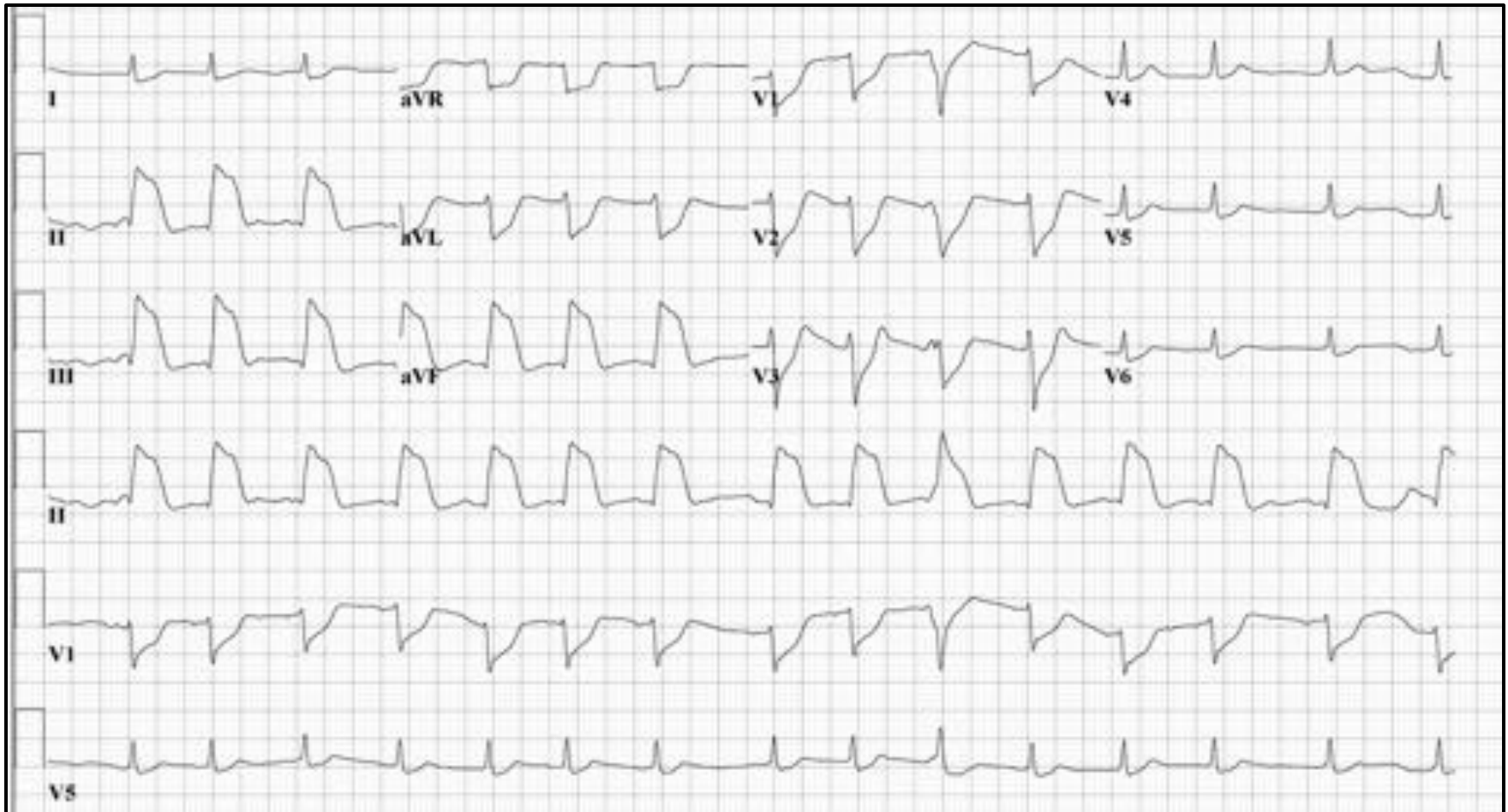
- 01/17/2015: 67 yo male arrested in presence of police officers
- Prior to losing consciousness: “I am going to die”
- CPR initiated for PEA arrest
- ROSC achieved with epinephrine, vasopressin and endotracheal intubation



Emergency Department Course:

- CPR with intermittent ROSC
- Six 1-mg doses of epinephrine
- Bedside ultrasound: Significant pericardial effusion
- Unsuccessful attempts at pericardiocentesis
- Compressions restarted → Cath Lab activated
- At this time, a 12-lead ECG was obtained

ECG in Emergency Department



Coronary Angiography

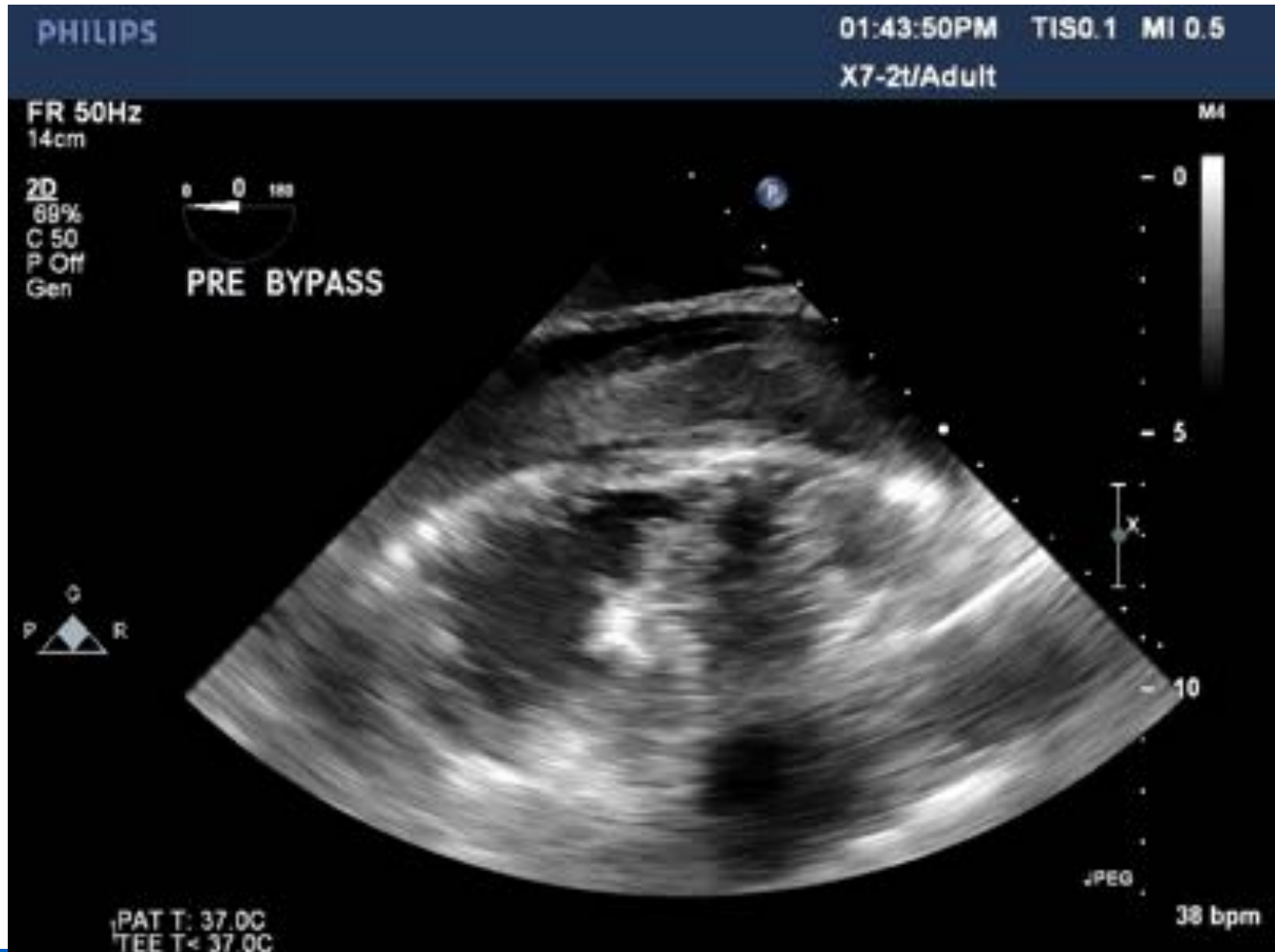
Coronary Summary:

The proximal right coronary artery was 100% occluded and intracoronary thrombus was present

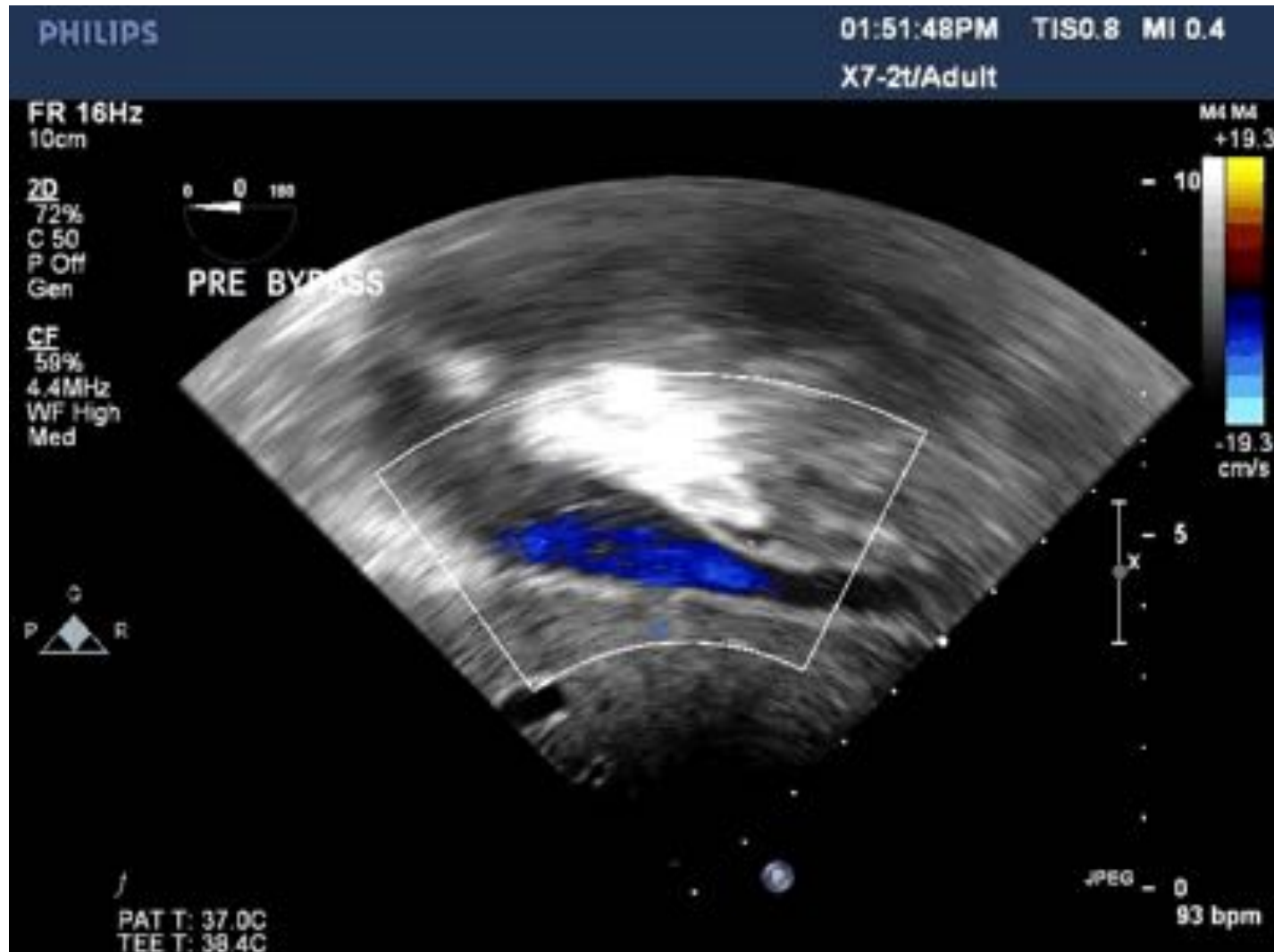
Left Ventriculography

- Abnormal biplane LV angiogram , visual EF 15-20%
- Akinesis of the diaphragmatic and posterobasal segments.
- Posterobasal LV wall rupture with
- extravasation of contrast into the pericardium

TEE



TEE



Final Impressions

1. INTRAOPERATIVE TRANSESOPHAGEAL ECHOCARDIOGRAM
2. PREBYPASS
3. Complete free wall rupture of basal inferior wall of left ventricle, adjacent to ventricular septum.
4. Blood flow from left ventricle into pericardial space with hemopericardium.
5. Normal left ventricular size; moderately decreased function; estimated ejection fraction 35%.

Operative Interventions

- Repair of LV free wall rupture
- Intra-aortic balloon pump placement
- Central VA ECMO support

Hospital course

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- Cerebral infarct during LV rupture, resuscitation & ? surgery.
- SAH with ECMO & severe coagulopathy

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- EEG – severe encephalopathy, generalized seizures

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- Neuro change- fixed pupils, loss of cough & gag reflex

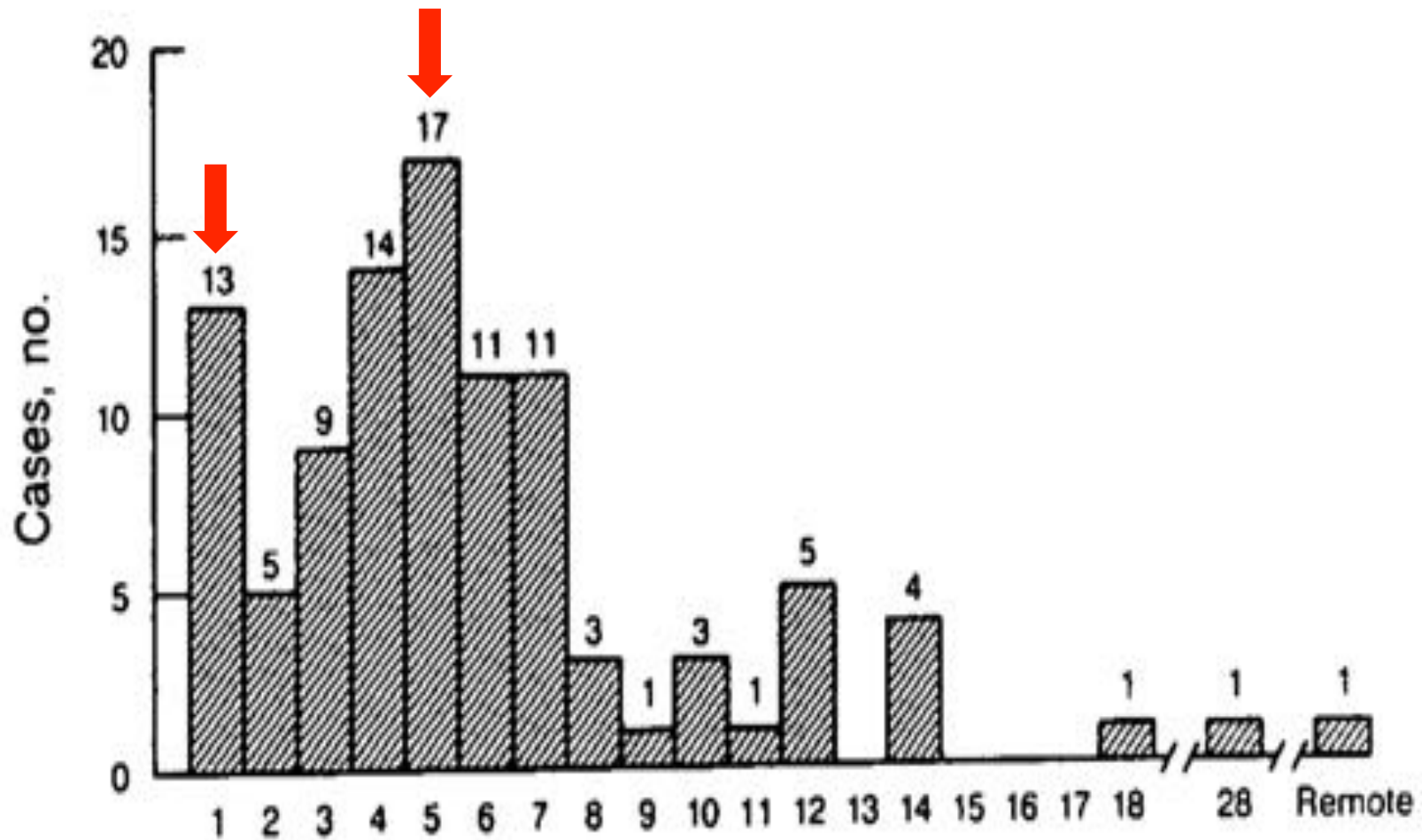
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- Head CT – new large intraparenchymal hemorrhage with severe mass effect.

Myocardial Free Wall Rupture

- Most common mechanical complication.
 - 4-13% of STEMI
- Anterior MI, single vessel disease, no previous MI
- Usually within 5 days in 50%, within 2 weeks in 90%

Histo-pathologic age of infarct



Summary Considerations

- Shock: Consider mechanical complications
- Consider direct transfer from ED to OR for LV free wall rupture
- In the cath lab, consider bi-plane LV angiography for diagnosis