

دکتر منا کیا

متخصص قلب و عروق

دانشکده علوم پزشکی شهرستان ساوه

کد ۲۴۷



قابلیت مدیریت بیماران سکته حاد قلبی طی
۲۴ ساعت در هفت روز هفته



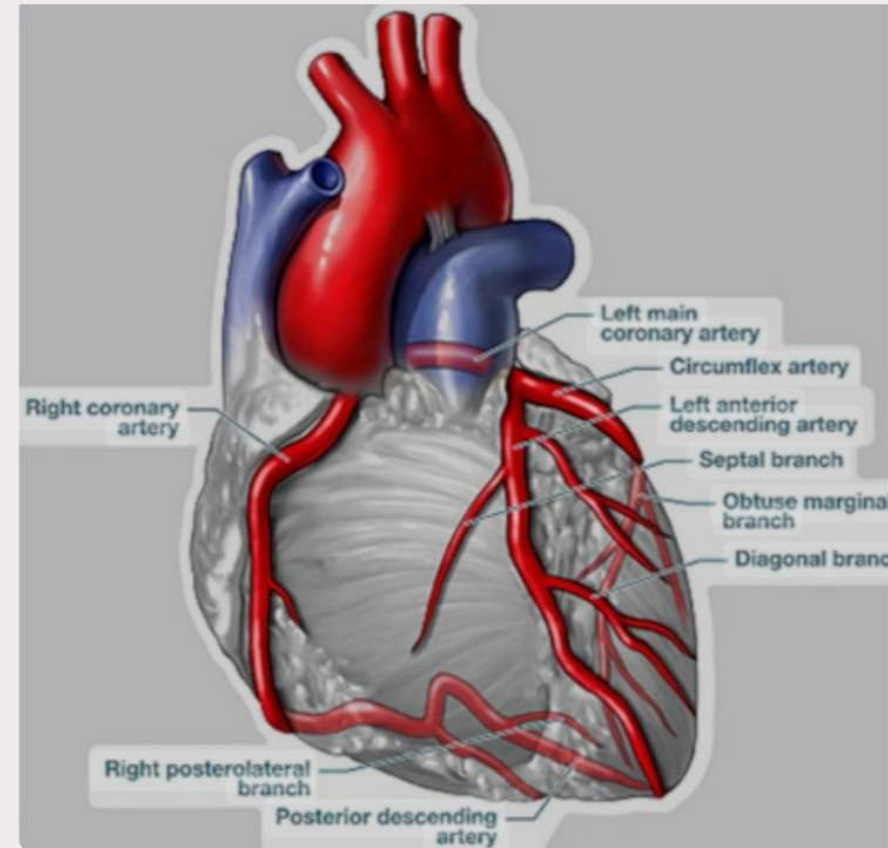
آناتومی فیزیولوژی قلب



قلب نیاز مستمر به غذا و اکسیژن دارد.

مواد غذای قلب، گلوکز و Free Fatty Acid ها هستند و اکسیژن هم جزو لاینفک نیاز قلب به مساب می آید.

سلول ها یا میوسیت های قلب این اکسیژن و مواد غذایی را از طریق عروق کرونر دریافت می کنند؛ پس تا زمانی که خونرسانی به میوکارد کامل باشد سلول های قلب به خوبی کار می کنند ولی اگر این خونرسانی به هر دلیلی قطع یا دچار اختلال شود موجب ایجاد بیماری های قلبی می شود.



طبقه بندی بیماری های قلبی



بیماری های قلبی به سه دسته تقسیم می شوند:

(A) بیماری اسکیمی مزمن قلبی

NSTEMI

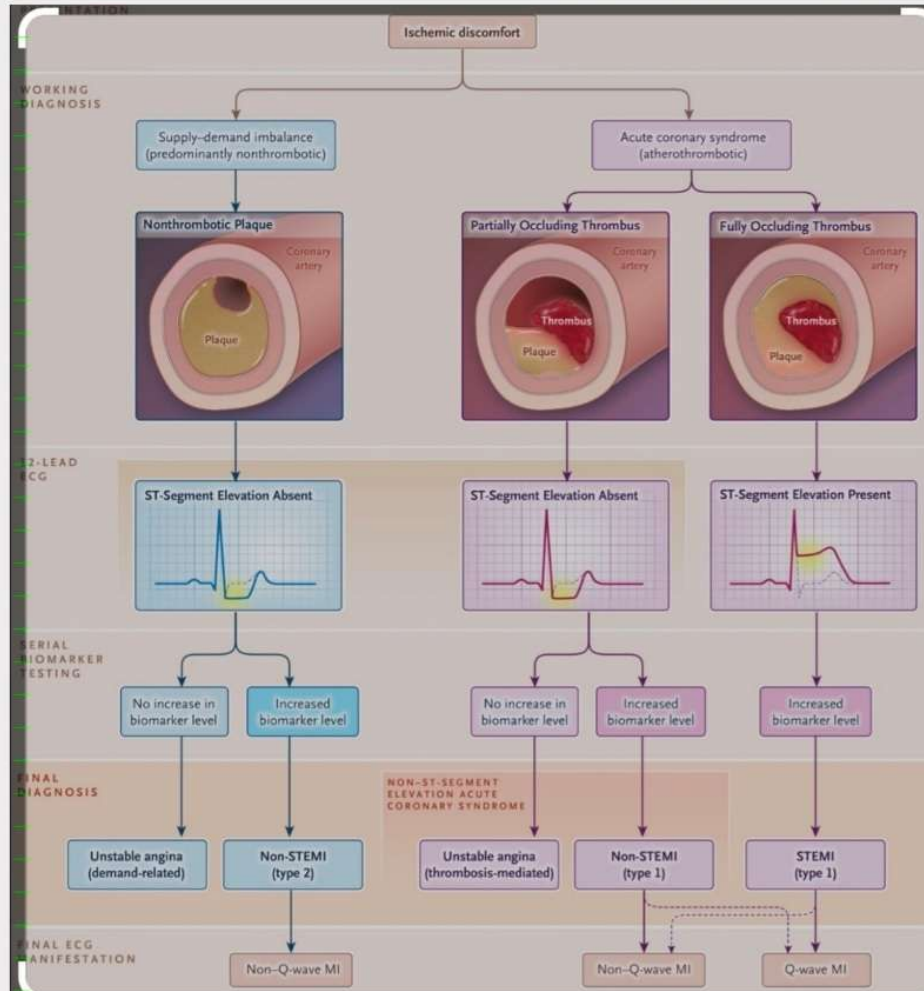
U/A

STEMI

← (B) سندروم ماد کرونری ACS

(C) SCD (مرگ ناگهانی)

مقطع كرونر



تشخيص ACS



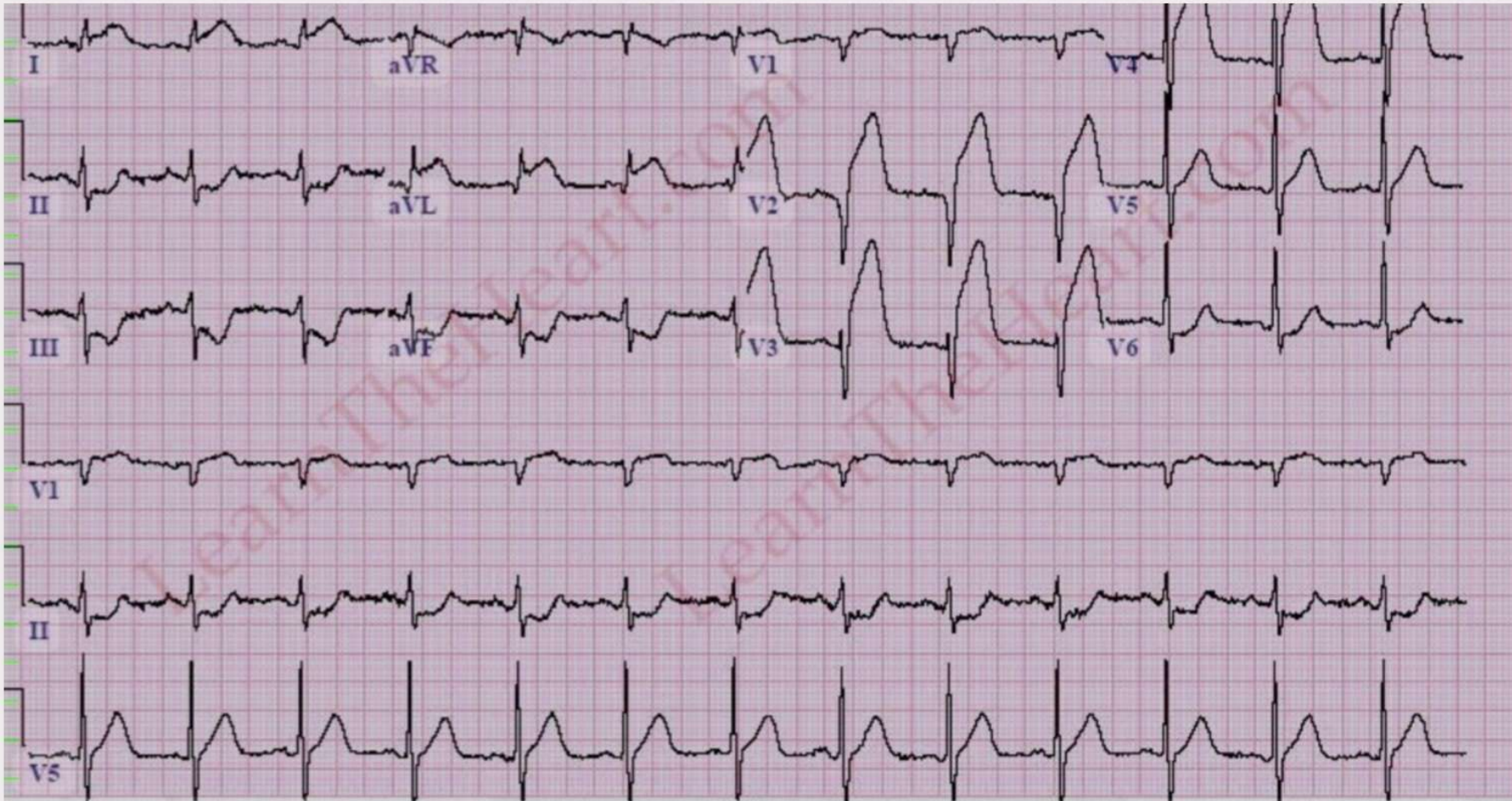
(A) علائمه

(B) ECG

(C) اكي والان هاي آنژين



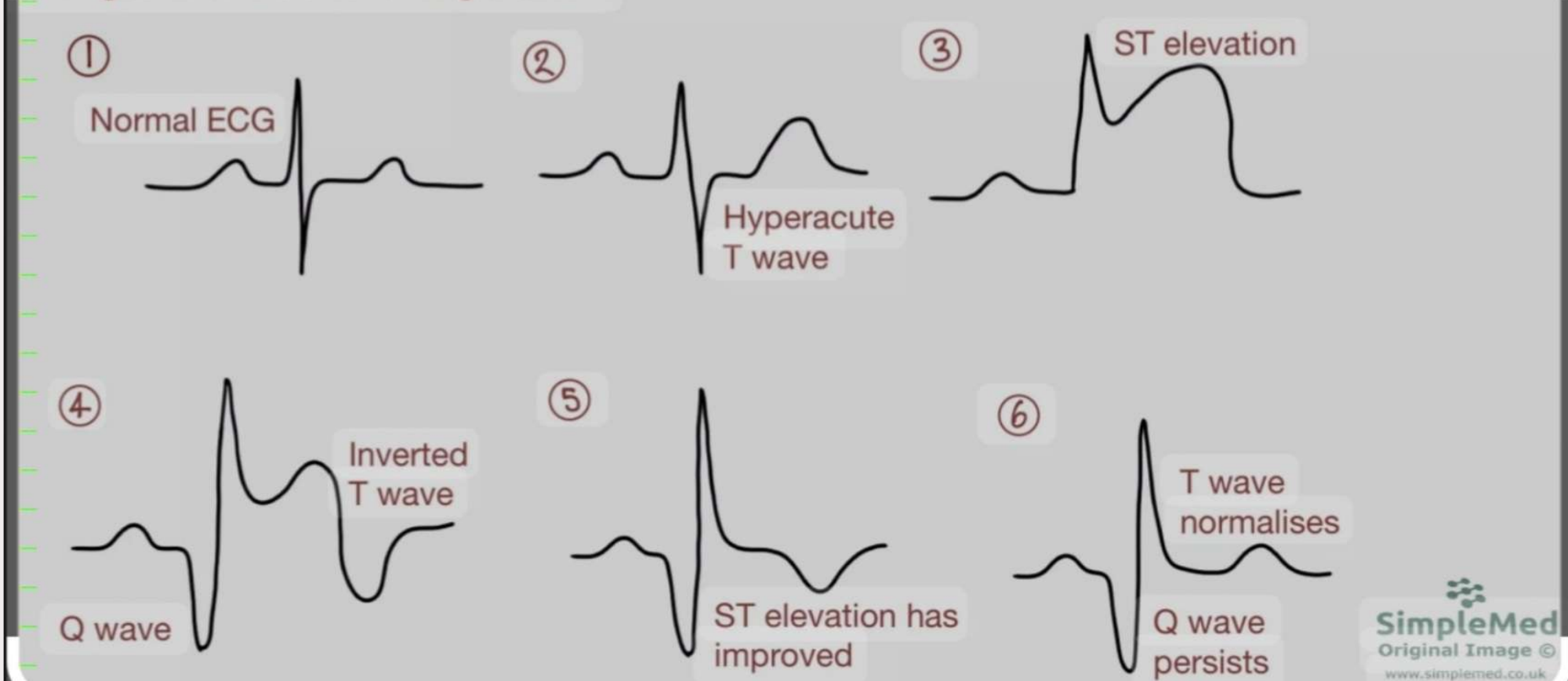
نوار قلب حملہ



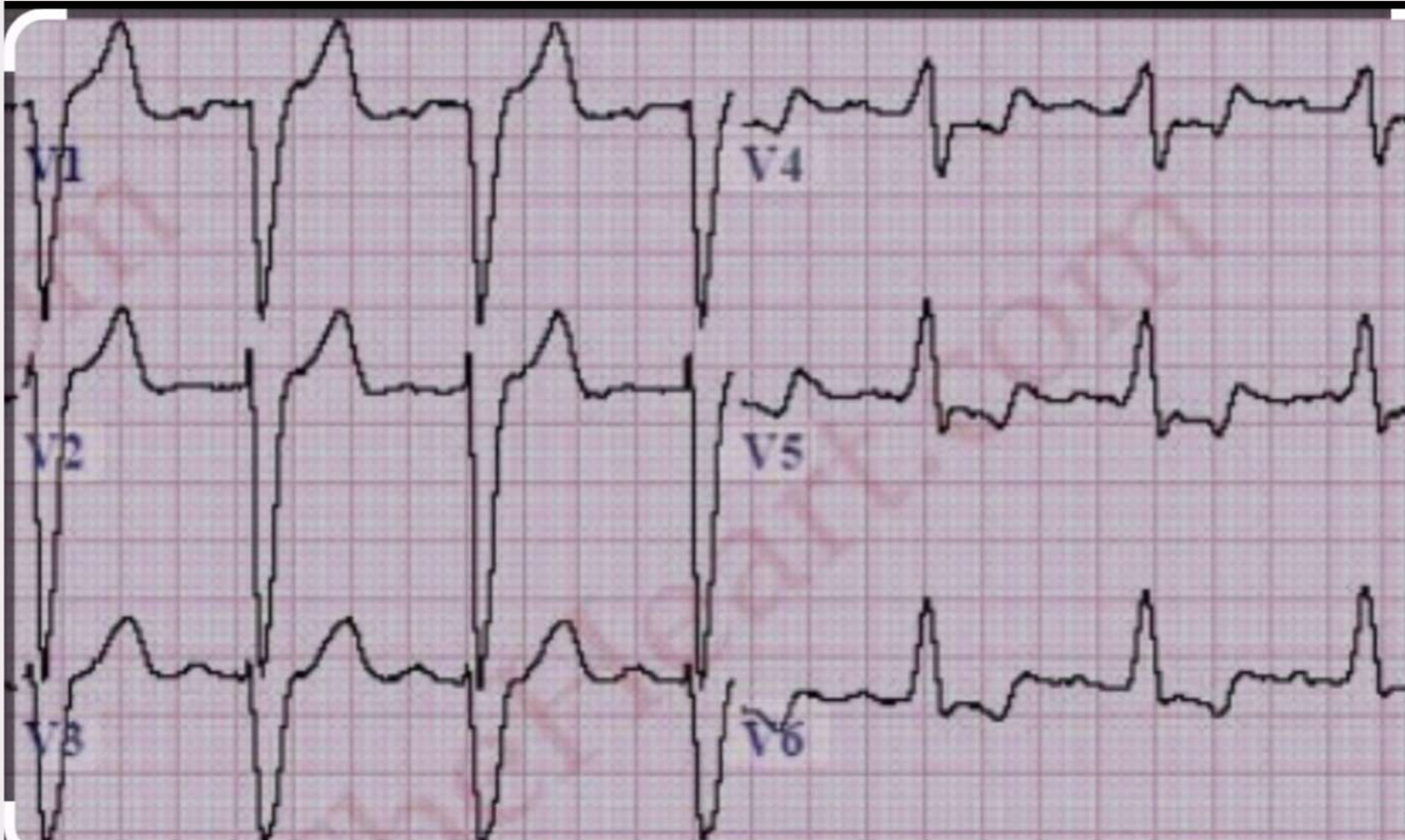
روند ایجاد ST[↑]



Changes in an ECG following a STEMI

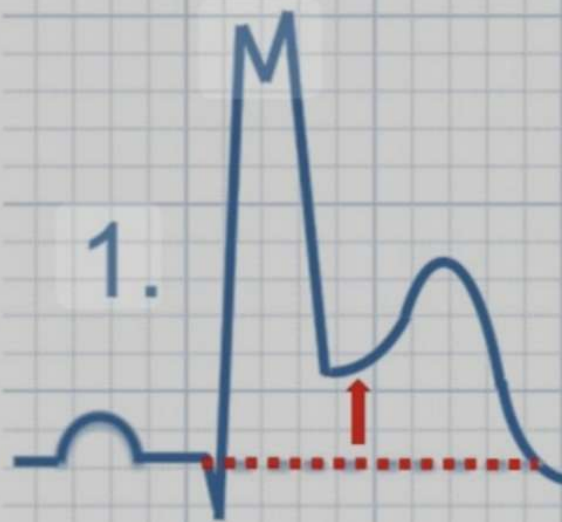


New LBBB



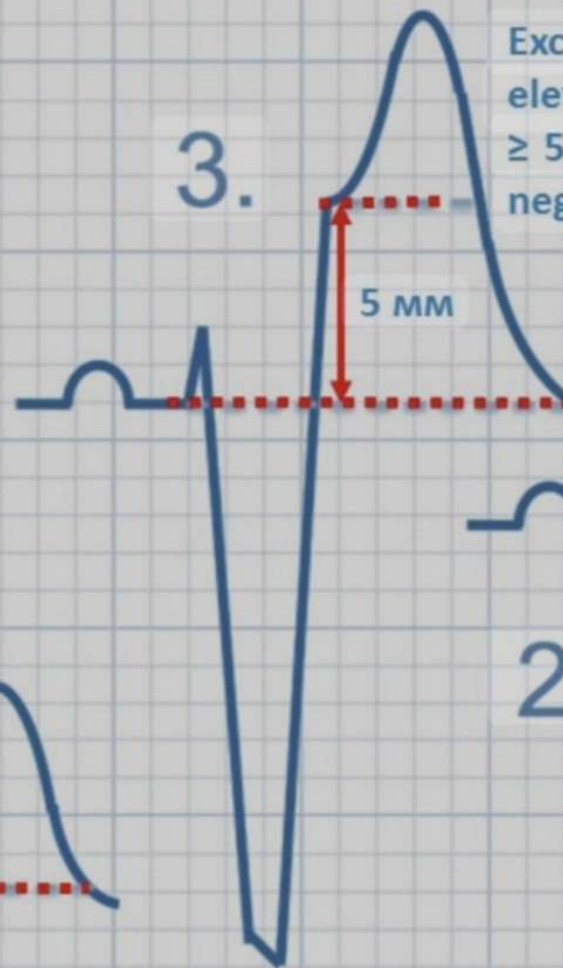
Sgarbossa's Criteria for MI in Left Bundle Branch Block

Concordant ST elevation
> 1mm in leads with a
positive QRS complex



3.

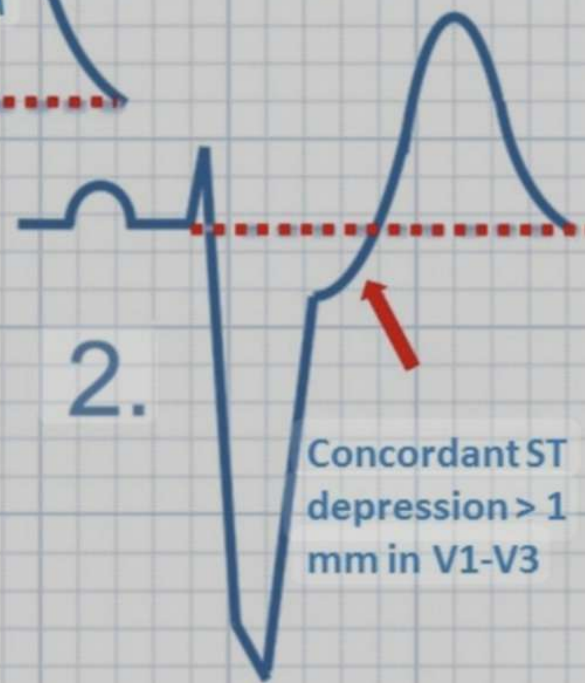
Excessively discordant ST
elevation (or depression)
 ≥ 5 mm in leads with a
negative QRS

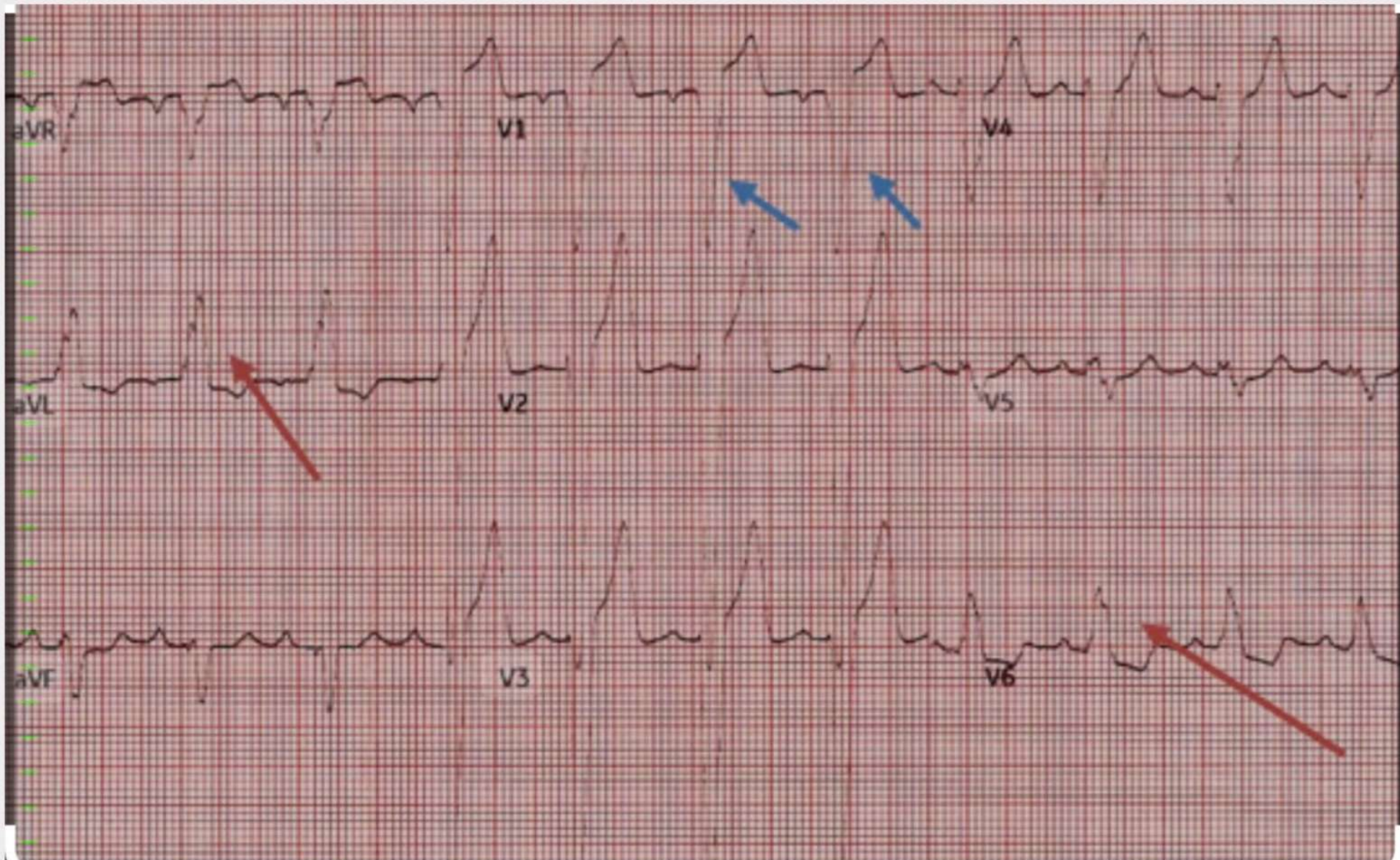


5 mm

2.

Concordant ST
depression > 1
mm in V1-V3

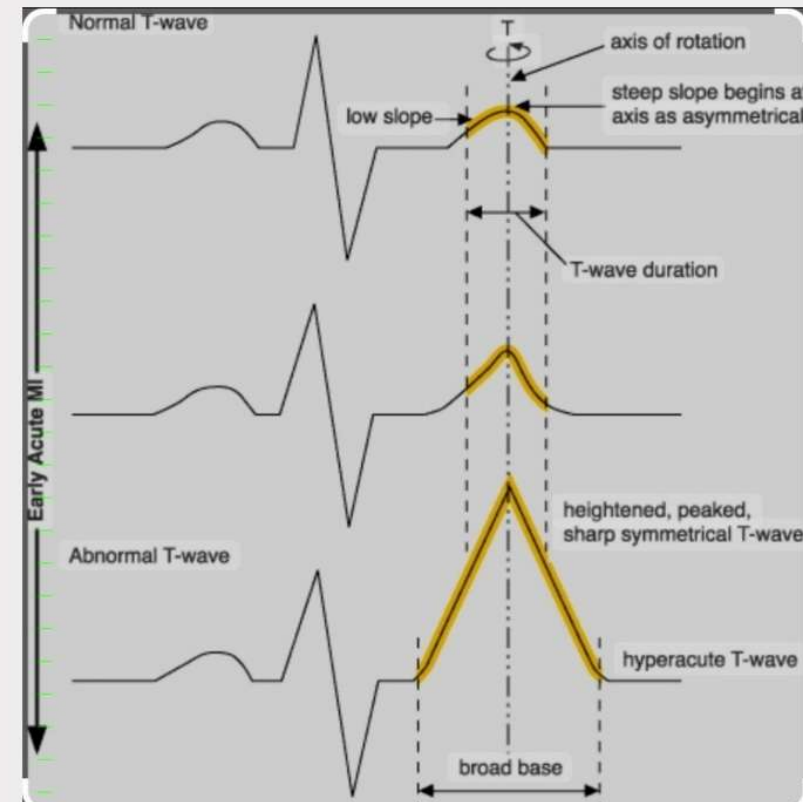




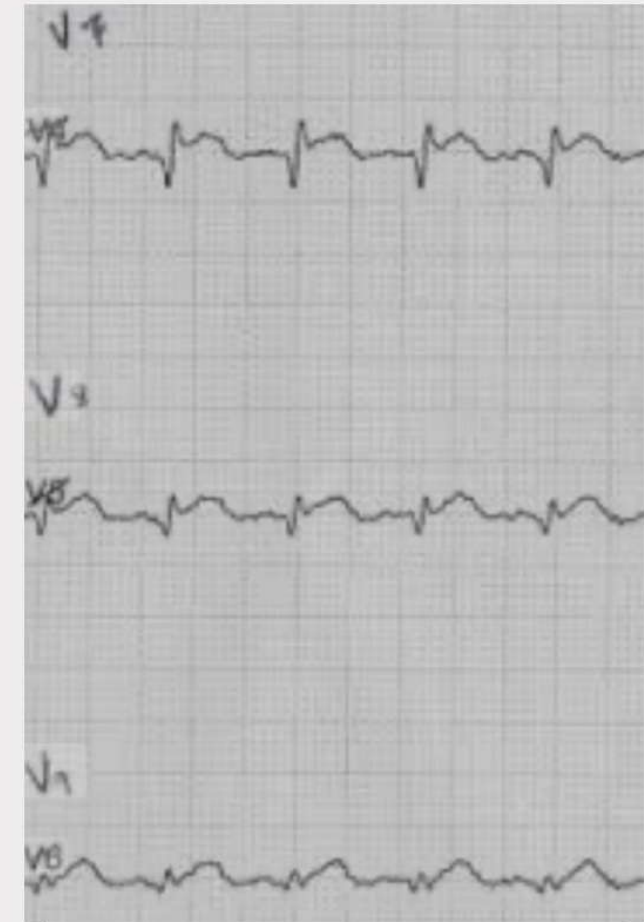
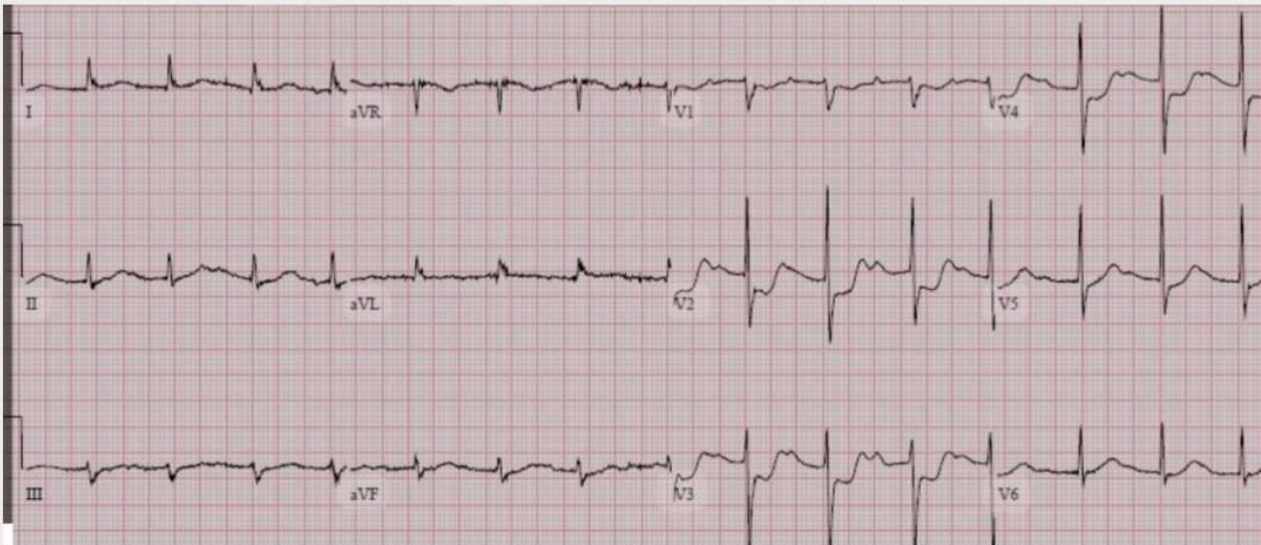
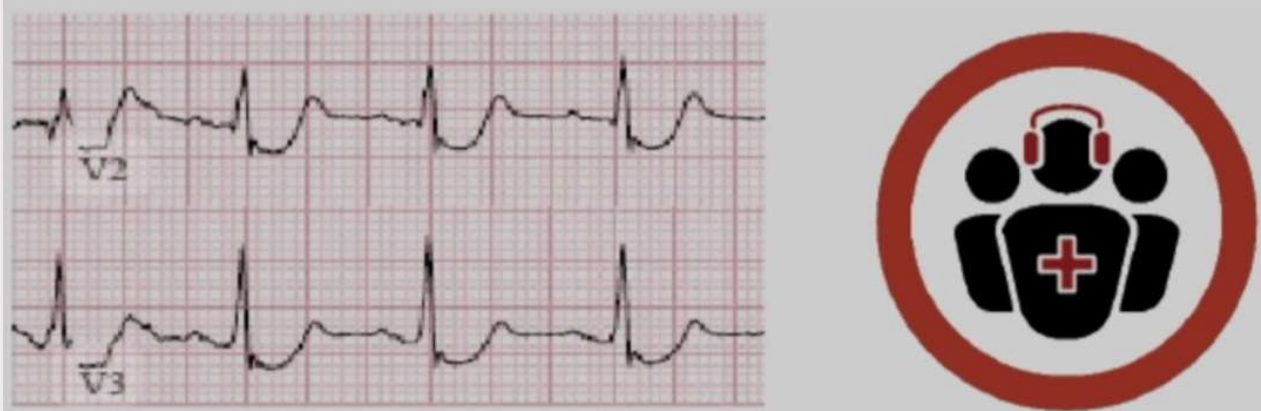


	Male < 40	Male > 40	Female (any age)
V2 or V3	2.5 mm Or more	2.0 mm or more	1.5 mm or more
All Other Leads	> 1 mm	> 1 mm	> 1 mm

Hyperacute T



Posterior MI

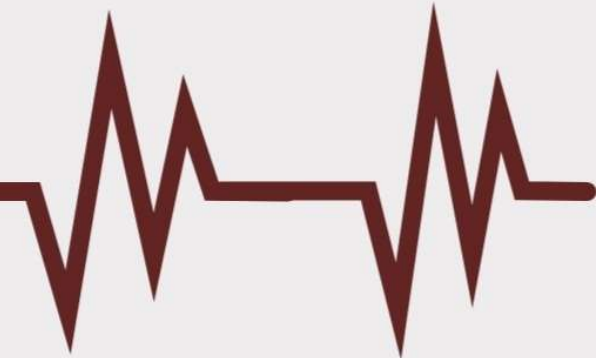




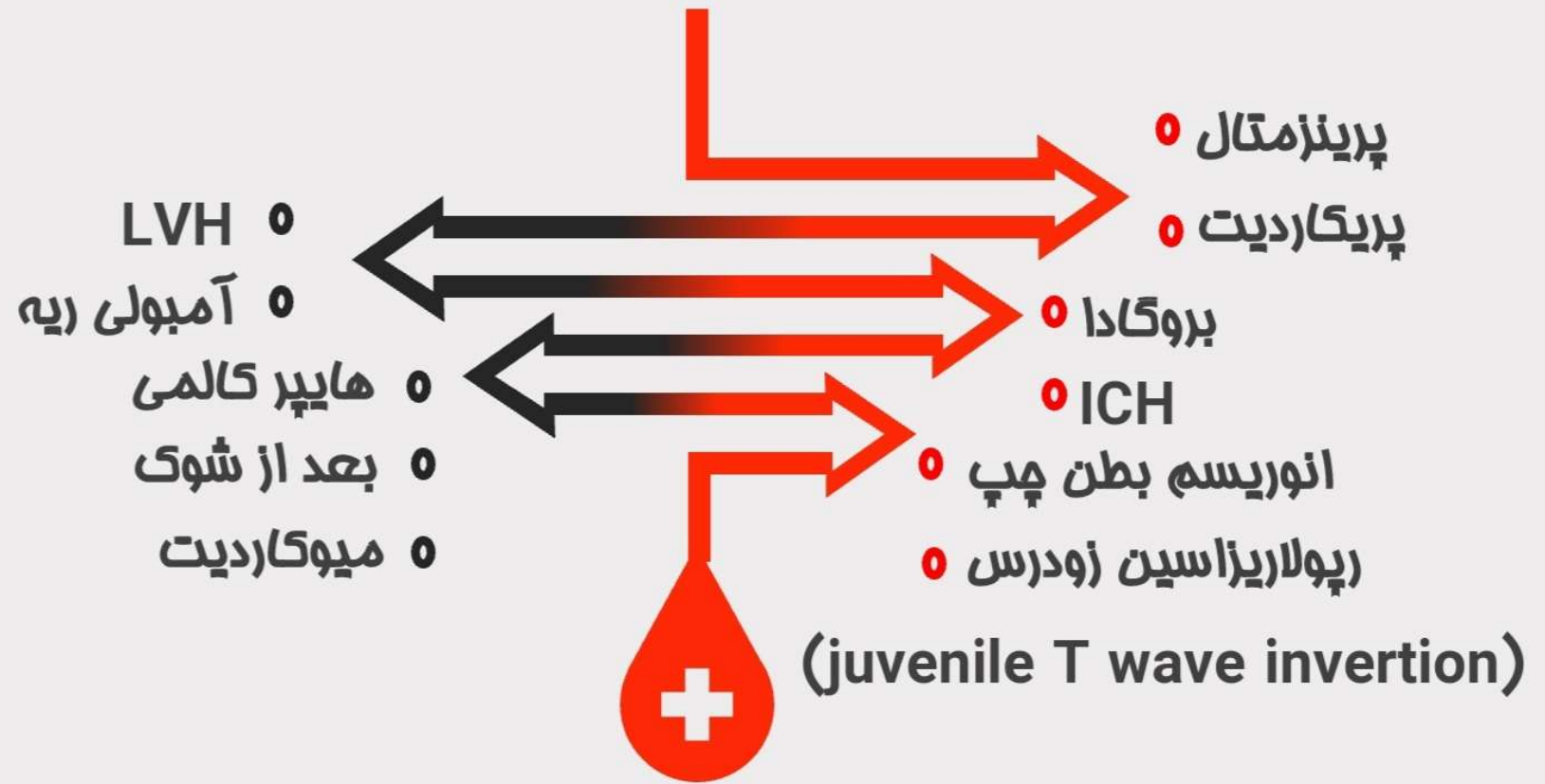
شک قوی به MI و نبود STE:

ECG هر ۱۵ دقیقه تکرار شود.

(V1 → V2 ↓) Post ECG



تشخیص افتراقی ST elevation



Pericarditis

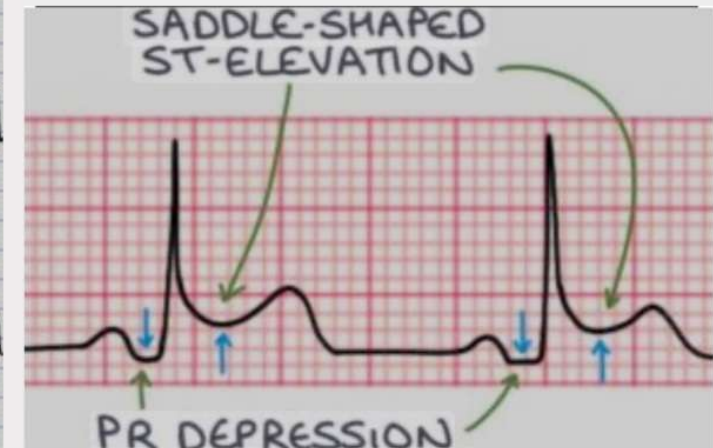
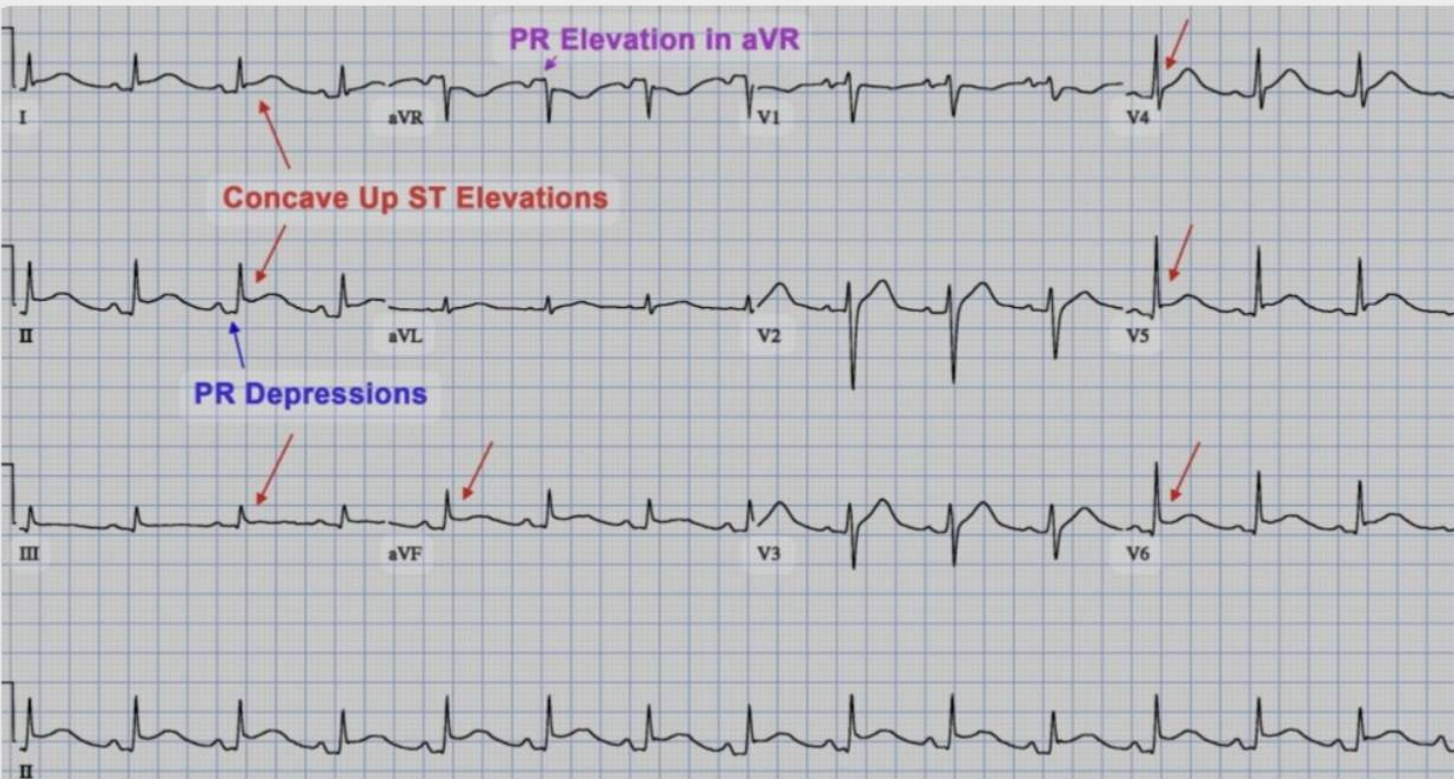
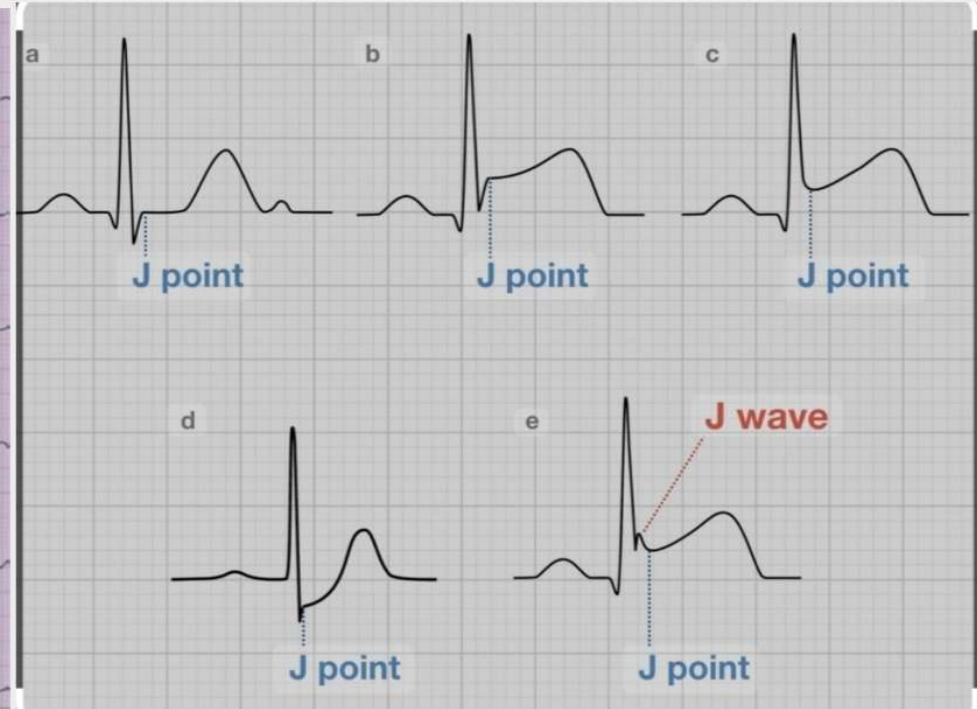
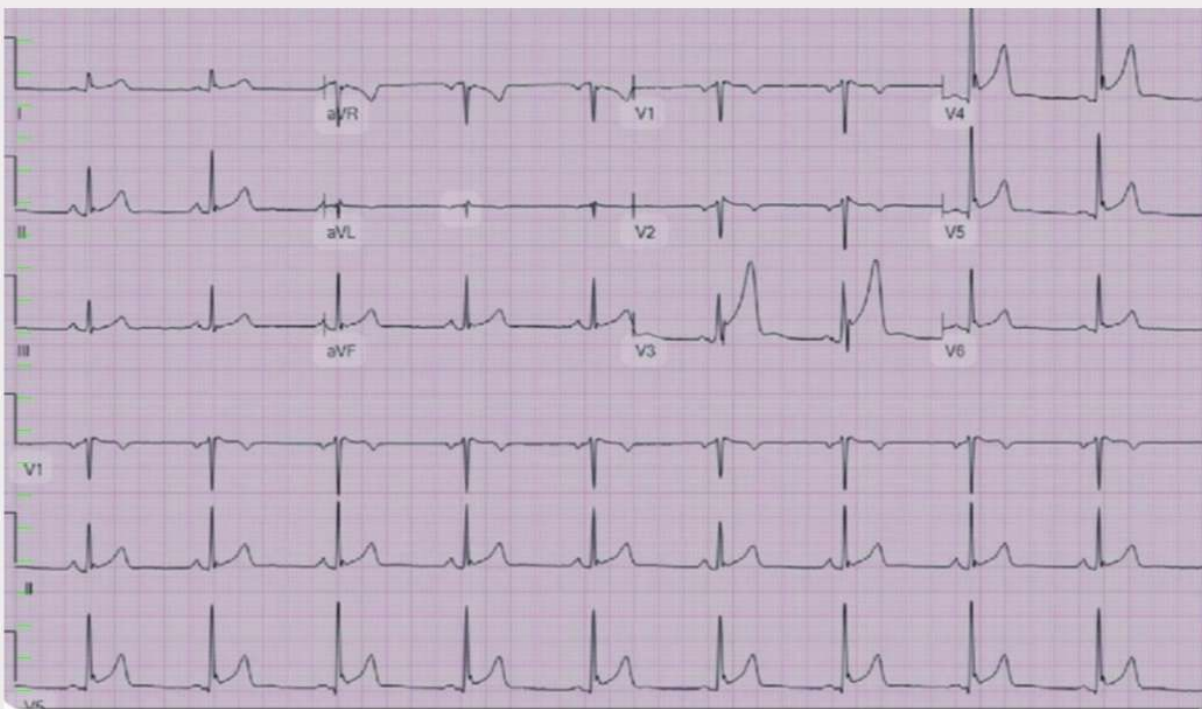


TABLE 14.11 Differential Diagnosis of ST-Segment Elevation

Myocardial ischemia or infarction
Noninfarction, transmural ischemia (e.g., Prinzmetal angina pattern, takotsubo syndrome)
Acute myocardial infarction (caused by obstructive coronary occlusion or other causes)
Post-myocardial infarction (ventricular aneurysm pattern)
Acute pericarditis
Normal variants (including the classic "early repolarization" pattern)
LVH, LBBB (V_1, V_2 or V_3 only)
Other (rarer) causes
Acute pulmonary embolism (right to mid-chest leads)
Brugada pattern (RBBB-like pattern and ST-segment elevations in right precordial leads)*
Class IC antiarrhythmic drugs*
Hypercalcemia*
DC cardioversion (immediately after procedure)
Hyperkalemia*
Hypothermia (J or Osborn wave)
Intracranial hemorrhage
Myocardial injury (e.g., caused by trauma)
Myocarditis (may resemble myocardial infarction or pericarditis)
"Spiked-helmet" sign†
Tumor invading the left ventricle

Early repolarization



مدیریت سکنه های قلبی



هدف ← برقراری جریان خون

به روشهای:

مکانیکی

دارویی





Time is muscle

TABLE 38.3 Contraindications to and Cautions in the Use of Fibrinolytics for Treating ST-Elevation Myocardial Infarction*

Absolute Contraindications

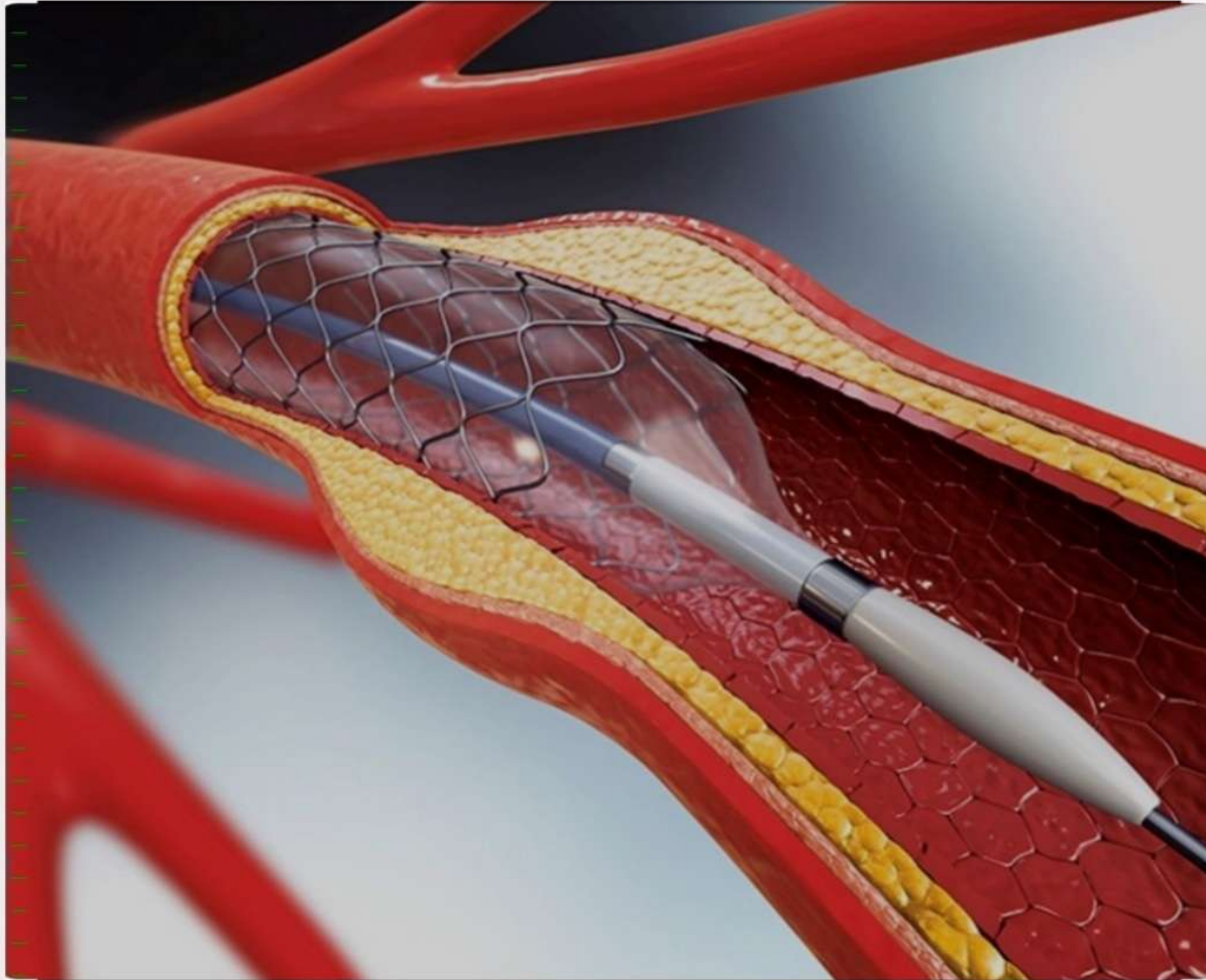
- Any previous intracranial hemorrhage
- Known structural cerebral vascular lesion (e.g., arteriovenous malformation)
- Known malignant intracranial neoplasm (primary or metastatic)
- Ischemic stroke within 3 months *except* acute ischemic stroke within 4.5 hr
- Suspected aortic dissection
- Active bleeding or bleeding diathesis (excluding menses)
- Significant closed-head or facial trauma within 3 months
- Intracranial or intraspinal surgery within 2 months
- Severe uncontrolled hypertension (unresponsive to emergency therapy)
- For streptokinase, previous treatment within the previous 6 months

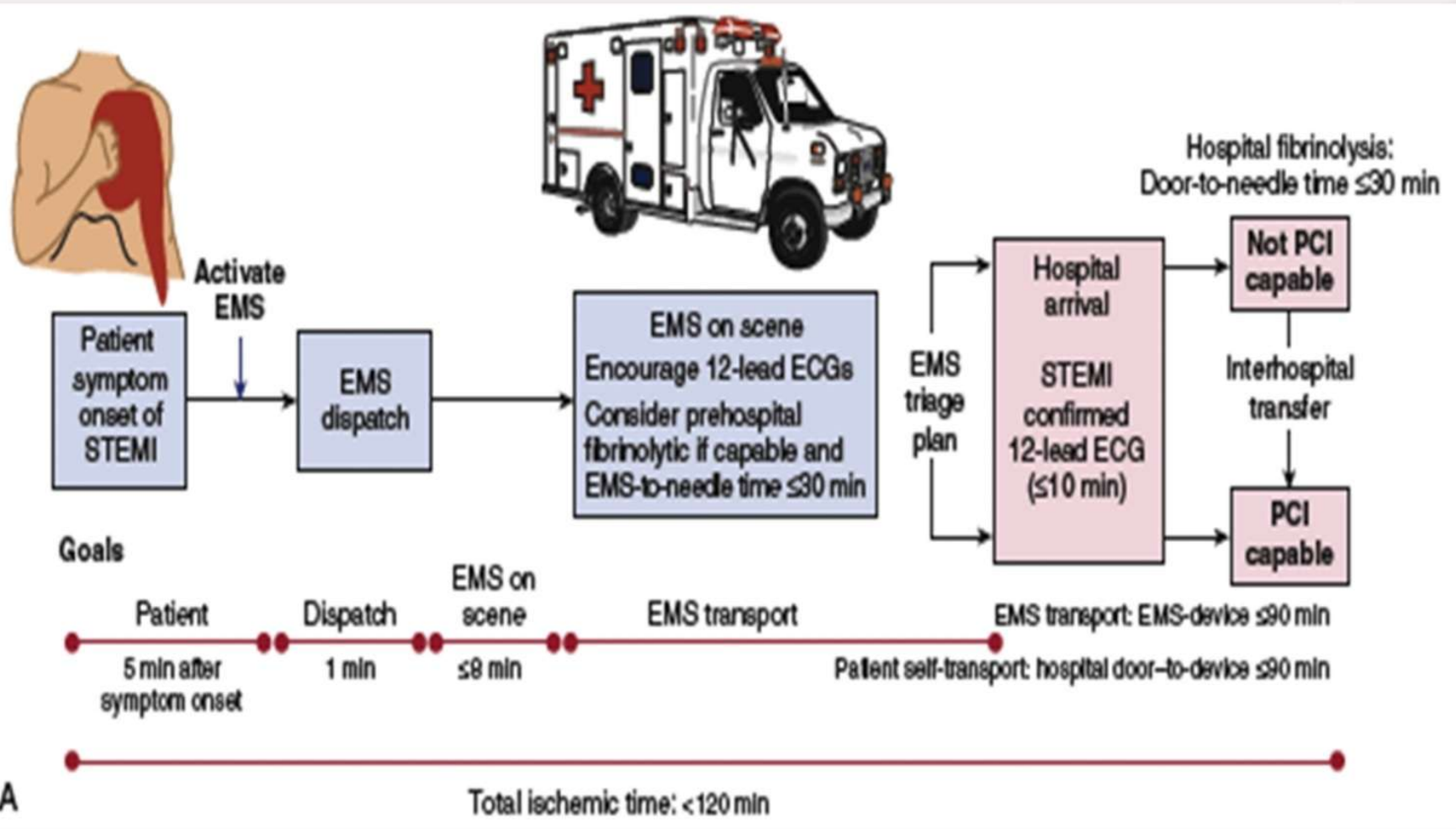
Relative Contraindications

- History of chronic, severe, poorly controlled hypertension
- Significant hypertension at initial evaluation (SBP >180 mm Hg or DBP >110 mm Hg)[†]
- History of previous ischemic stroke >3 months
- Dementia
- Known intracranial pathology not covered in Absolute Contraindications
- Traumatic or prolonged (>10 min) cardiopulmonary resuscitation
- Major surgery (<3 weeks)
- Recent (within 2 to 4 weeks) internal bleeding
- Noncompressible vascular punctures
- Pregnancy
- Active peptic ulcer
- Oral anticoagulant therapy



Primary PCI





A

A, Patient transported by the emergency medical services (EMS).

The STEMI systems goal is to maintain a **network of transportation** and destination hospitals so that **the total ischemic time is kept to less than 120 minutes.**

In addition to this overall goal, **3 additional time objectives** exist.

(1) If the EMS has fibrinolytic capability and the patient qualifies for therapy, prehospital fibrinolysis may be considered and, if used, should be started within **30 minutes** of arrival of the EMS on scene. (**AtN**)

(2) For patients transported to a **non-PCI-capable** hospital where a fibrinolytic is to be administered, the hospital **door-to-needle time should be 30 minutes or less**

(3) If the patient is transported to a **PCI-capable hospital**, the time from first medical contact (FMC) to deployment of the first PCI device (**FMC-to-device time**) should be **90 minutes or less**.



Patient self-transportation is discouraged.

Consideration of emergency interhospital transfer of the patient to a PCI-capable hospital for mechanical revascularization is also appropriate :

- ❖ if the use of a fibrinolytic is **contraindicated** or
- ❖ PCI can be **initiated promptly** (anticipated FMC-to- device time ≤ 120 minutes) or
- ❖ if fibrinolysis is unsuccessful (i.e., “**rescue PCI**”). نشانه های موفقیت

Secondary nonemergency interhospital transfer can be considered for :

- ❖ recurrent ischemia or
- ❖ routine invasive evaluation 3 to 24 hours after fibrinolysis. (**successful**)



1. Total ischemic time : 120

2. EMS fibrinolysis : 30

3. Door to Needle : 30 (30+60)

4. FMC to Device (Door to Bed 60) : 90

5. Emergent Interhospital : ? <120

6. Non-emergent interhospital : 3-24 hr



NURSING MNEMONICS & TIPS

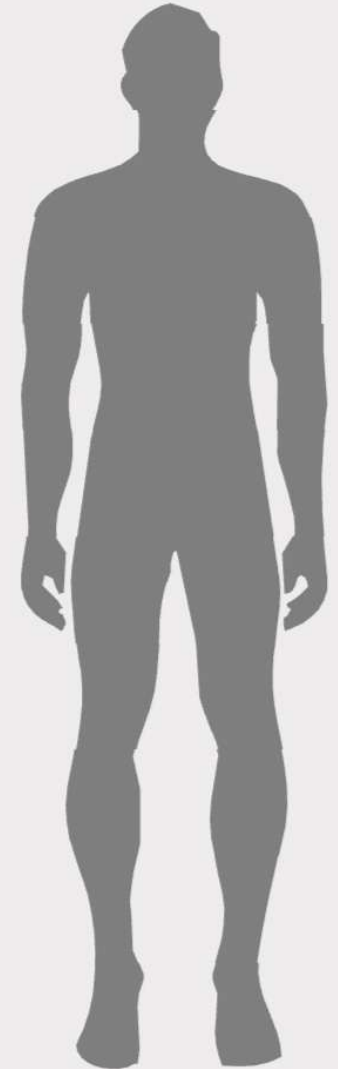
MYOCARDIAL INFARCTION MEDICAL MANAGEMENT


"INFARCTIONS"

I	IV ACCESS Two IV lines are placed usually to ensure that access is available for administering emergency medications.
N	NARCOTIC ANALGESICS Reduce pain and anxiety; reduces preload and afterload and relaxes bronchioles to enhance oxygenation.
F	FACILITIES FOR DEFIBRILLATION Have the crash cart available and ready.
A	ASPIRIN Inhibits platelet aggregation. Treatment should be initiated immediately and continued for years.
R	REST Bed rest promotes comfort and healing.
C	CONVERTING ENZYME INHIBITORS ACE-inhibitors lowers the blood pressure and the kidneys excrete sodium and fluid.
T	THROMBOLYTICS Administered via IV to dissolve the thrombus in a coronary artery, allowing blood reperfusion.
I	IV BETA BLOCKERS IV given during admission. Long-term therapy with beta-blockers decreases the future incidences of cardiac events.
O	OXYGEN Administer at a modest flow rate for 2-3 LPM.
N	NITRATES To increase cardiac output and reduce myocardial workload.
S	STOOL SOFTENERS To prevent straining during defecation, which causes vagal stimulation and may slow the heart rate.

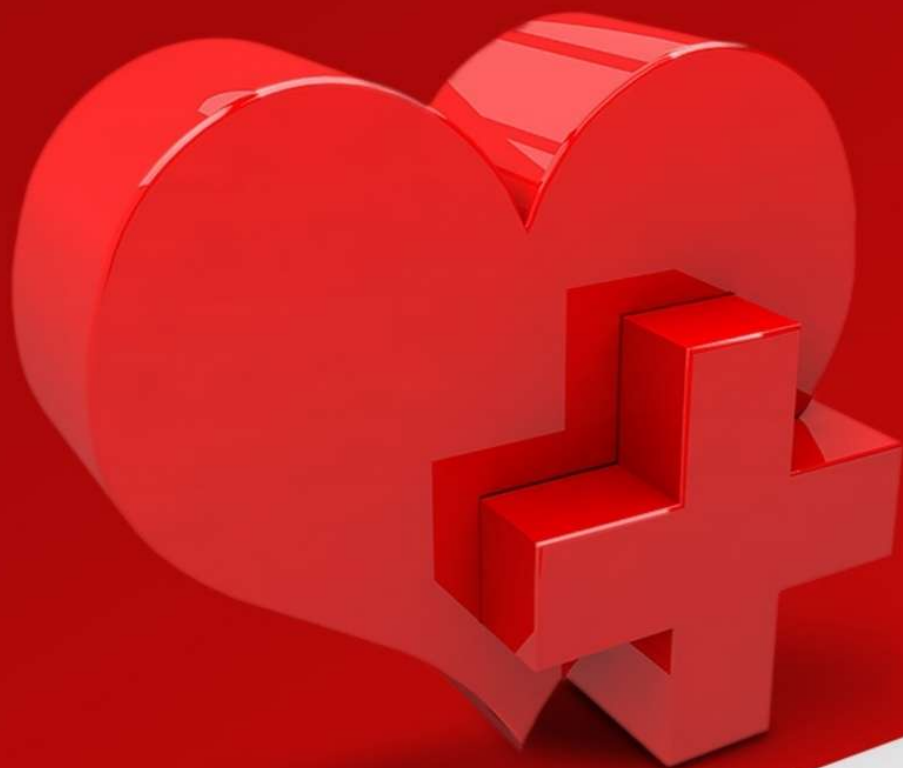


- ASA (chew) ???
 - Plavix 600mg (ticagrelor 180mg)
 - Amp pantazol
 - Morphin: 4-8 mg q5-15 min
- ➔ painless/complication(hypotension-N/V-respiratory depression)



- 
- TNG RVMi / 150 mcg/min
(trendelenburg / atropine)
 - Oxygen sat
 - Heparin 5000 stat (50-70/70-100u/kg) 2b3a
 - Plasil / onda PRN





سپاس از نگاه گرمتان