

2. Acute Myocardial Infarction Therapy

I. Reperfusion Therapy Criteria:

A. ECG ST Elevation MI:

- >1 mm ST segment elevation in > 2 limb leads or 2 mm contiguous precordial leads
- New or presumed new LBBB
- ST depression with prominent R wave in V2 & V3 **could** represent Posterior MI do V7 V8 V9

B. Time from Onset of Symptoms:

- < 6 hours--most beneficial, 6-12 hours--less benefit, but still worthwhile > 12 hours---little benefit unless ongoing chest pain or a "stuttering" course

C. Primary PTCA: Strongly consider during duty hours when cath lab is available

D. Thrombolytics:

1. TNK t-PA (Tenecteplase-TNKase®)

- <60 Kg=30mg, 60-70 Kg=35mg, 70-80 Kg=40mg, 80-90 Kg=45mg, >90 Kg=50mg
- Eptifibatide 180/2/180, ½ the dose of TNK-tPA (INTEGRITI, JACC 2003)

2. Streptokinase (SK) 1.5 million U IV over 1 hour.

II. Contraindications and Cautions for Thrombolytic Use

A. Contraindications:

1. Hemorrhagic stroke at any time; other stroke or cerebrovascular events within 1 year
2. Known intracranial neoplasm, cerebral aneurysm, AV malformations
3. Intracranial or spinal surgery-2 months, major surgery 10 days.
4. Active internal bleeding (does not include menses)
5. Suspected aortic dissection

B. Cautions/Relative Contraindications:

1. Severe uncontrolled HTN on presentation (Unable to rapidly obtain BP < 180/110 mm Hg)
2. Prior cerebrovascular accident or known intracerebral pathology.
3. Trauma (within 2-4 wks), or traumatic or prolonged (> 10 min) CPR or major surgery (< 3 wks)
4. Noncompressible vascular punctures
5. Recent (within 2-4 weeks) internal bleeding, peptic ulcers
6. For SK/anistreplase: prior exposure (especially within 5 days to 2 yrs) or prior allergy
7. Pregnancy
8. AGE: no upper age limit, more complication age > 80
9. Just use caution in those on Coumadin

III. Treatment of all MI's (with and without ST elevation)

A. General Measures:

1. ASA (160-325 mg--chew and swallow)
2. SL NTG: test for Prinzmetal's angina, reversible spasm; anti-ischemic, anti-hypertensive
3. Oxygen (at least first)
4. Analgesia: small doses of morphine (2-4 mg) PRN
5. Beta blockers: such as Metoprolol 5 mg IV x 3
6. Integrelin/Eptifibatide (For any dynamic EKG changes or Troponin elevations)

B. Specific Measures:

1. Reperfusion Goal Tx: door to needle time < 30 min; door to PTCA dilatation time < 60 min
2. Lovenox preferred. Defer heparin with SK at least 12 hrs.
3. Others Options: IV NTG, ACE-I (especially with large AMI, CHF without hypotension).
4. Uncertain role of Magnesium, antiarrhythmics, Calcium Channel Blockers.
5. Recommendations for temporary transvenous pacing

IV. RV Infarctions:

1. IWMI with RV infarctions have 30% mortality compared with 6% mortality for pts having IWMI's alone. A high-risk subgroup and "considered high-priority candidates for reperfusion."
2. Treat hypotension with normal saline volume, can require 6 L, only secondarily Dobutamine.
3. Atropine first then pacing for symptomatic bradycardia