PCI and Lytics for STEMI

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PPCI and Lytics for AMI

• STEMI occurs as a result of total occlusion of a coronary artery with red clot.

• Tissue necrosis occurs in a wave front manner, the longer the occlusion time the more muscle is damaged and lost and ultimately worst outcomes for mortality and morbidity.

• Treatment is to reestablish flow to the infarct related artery.
Guidelines- PCI

- Reperfusion therapy should be administered to all eligible patients with symptom onset within the prior 12 hours. I

- Primary PCI is the recommended method of reperfusion when it can be performed in a timely fashion by experienced operators. I

- PCI in patients with STEMI and symptom onset within the prior 12 to 24 hours who have clinical and/or ECG evidence of ongoing ischemia. II
PCI

- Immediate angiography and PCI should be performed in resuscitated out-of-hospital cardiac arrest patients whose initial ECG shows STEMI.
- PPCI for patients with STEMI and ischemic symptoms of less than 12 hours duration who have C/I to lytic therapy, irrespective of the time delay from FMC.
- PPCI in STEMI with cardiogenic shock or acute severe CHF, irrespective of time delay from MI onset.
PCI

• Reasonable in patients with STEMI if there is clinical and/or ECG evidence of ongoing ischemia between 12 and 24 hours after symptom onset. II
• Aspiration Thrombectomy. II
• Stents, BMS or DES. I
• Aspirin, Plavix, Prasugrel or Brillinta. I
• Use of GPI precath is reasonable. IIb
• Anticoagulant therapy should be started immediately prior to transfer for PPCI.
Absolute C/I for Lytic Therapy

- ANY hx of prior intracranial hemorrhage.
- Known structural cerebral VASCULAR lesion (AV malformation)
- Known MALIGNANT intracranial neoplasm (Primary or metastatic)
- Ischemic stroke within 3 months except acute ischemic stroke within 3 hours.
- Suspected aortic dissection.
- Active bleeding or bleeding diathesis (excluding Menses)
- Significant closed-head or facial trauma within 3 months.
Relative C/I of Lytics

- History of chronic, severe, poorly controlled HTN.
- SBP>180 or DBP>110 on presentation.
- Prior ischemic stroke>3 months.
- Dementia.
- Known other intracranial pathology.
- Traumatic or prolonged>10 minutes CPR.
- Major surgery<3 weeks.
- Recent internal bleeding( within 2-4 weeks).
- Noncompressible vascular punctures.
- Pregnancy.
Relative C/I for Lytics

- Active peptic ulcer.
- Current use of anticoagulants, the higher the INR the higher the risk of bleeding. Other NOAG.
- For STK: Prior exposure > 5 days ago or prior allergic reaction to this agent.
Reperfusion at a Non-PCI-Capable Hospital

- Fibrinolytic therapy for STEMI with symptoms within previous 12 hours if PCI cannot be performed within 120 minutes of FMC. I
- Reasonable if there is clinical and/or ECG evidence of ongoing ischemia within 12 to 24 of symptom onset and a large area of myocardium at risk or hemodynamic instability. Ila
- C/I for ST depression.
Adjunctive therapy with lytics

- Aspirin 325 mg. I
- Plavix 300 mg for age<75 years, 75 mg only for older patients. I
- May use lower dose aspirin. IIa
- All patients receiving lytic therapy should receive anticoagulant therapy for at least 48 hours or until PCI. I
Adjunctive anticoagulants

- UFH, weight-adjusted IV bolus and infusion to obtain aPTT of 1.5-2.0 times control for 48 hours or tell PCI.
- 60 U/kg max 4000 u IV bolus followed by infusion of 12U/kg/h with max 1000U/hr, adjusted for aPTT.
Adjunctive anticoagulant

- Enoxaparin. I
  - Age<75 y: 30 mg IV bolus followed in 15 minutes by 1 mg/kg SQ every 12 h (max 100 mg for the first 2 doses)
  - Age>75 y: NO bolus, 0.75 mg/kg SQ every 12 h (max 75 mg for the first 2 doses).
- Regardless of age, if CrCl<30ml/min, 1mg/kg SQ every 24 h.
- Fondaparinux. I
Transfer after Lysis for PCI

• Immediate transfer for suitable patients with STEMI who develop cardiogenic shock or acute severe HF, irrespective of the time of delay from MI onset. I

• Urgent transfer for angiography is reasonable for patients with STEMI who failed reperfusion or reocclusion after lytic therapy. IIa.
Transfer of stable patients

• Is reasonable for patients with STEMI after successful lysis and hemodynamically stable and with clinical evidence of successful reperfusion. Ila

• Angiography should be performed between 7 to 23 hours after successful lysis. Ila
Times

PCI capable hospital, FMC-device time < 90 min.
Non-PCI capable hospital, DIDO < 30 min.
Transfer for primary PCI only if FMC-device time < 120 min. Otherwise lytics within 30 min of arrival time followed by transfer.