

Medical treatment

Myocardial infarction

Emergency treatment

Anti platelet strategy

pain relief strategy

reperfusion strategy

Pain RELIEF STRATEGY

- 1:o₂
2:nitroglycerin(sublingual-IV)
3:betablockers
4:analgesics(morphin-pethedin)

nitroglycerin

- 1:coronary vasodilation
- 2:decreasing ventricular preload
- 3:antiplatelet effect
- 4:reduction of pcwp- BP- lvchamber volume- infarct size
- 5:reduction of mechanical complication of infarction
- 6:nitrates don't alter survival
- 7:titration necessary to avoid hypotension-reflex tachycardia

precautions

- 1:BP monitoring
- 2:inf mi-RV mi
- 3:methemoglobinemia:rare –unusually large doses
- 4:ventilation-perfusion mismatch
- 5:tolerance to iv nitrates:need to large doses often after 12 hours

Precaution and contraindication of bbs

- 1:increased risk for cardiogenic shock:age>70-sbp<90mmg-rate>120-rate<60-increased time since the onset of sympyoms of stemi
- 2:pr interval longer than 0.24second
- 3:2nd or third degree heart block
- 4:active asthma or reactive airway disease
- 5:bbs with intrinsic sympathomimetic activity like pindolol and oxprenolol should not be chosen

Recommendations

- Nitrates are indicated for relief of persistent pain and as a vasodilator in pts with mi associated with lv failure or hypertension
in the absence of recurrent angina or HF we don't prescribe nitrates for pts with stemi beyond 48 hours

BETABLOCKERS

- 1:relief of ischemic pain reduce the need for analgesics
- 2:reduce infarct size and life-threatening arrhythmias
- 3:routine use of iv BB is no longer recommended in pts with stemi but iv injection of BB at initial evaluation of pts with stemi who are hypertensive and ongoing chest pain and ischemia is reasonable
- 4:BBs should be administered during and after hospitalization with stemi and no contraindication to their use

ACE INHIBITORS OR ARBS

- 1:PREVENTING REMODELING
2:BEGINNING FROM LOW DOSE
3:LARGE MI WITH DECREASING EF
4:ATTENTION TO CONTRAINDICATION

STATINS

- 1:anti inflammatory plaque stabilizer
2:80 mg stat
3:attention to contraindication

Reperfusion strategy medical treatment

- Thrombolytics
 - 1:recanalization of occluded thrombotic related artery
 - 2:restoration of coronary flow
 - 3:reduction of infarct size
 - 4:improvement of myocardial function and survival over short and long term
 - 5:pts treated within the first 1to2hours after the onset of sympyoms have the greatest potential for long term improvements in survival

Absolute contraindication

- 1: any previous intracranial hemorrhage
- 2: known structural cerebral vascular lesion
- 3: known malignant intracranial neoplasm (primary metastasis)
- 4: ischemic stroke within 3 months except acute stroke within 4.5 hours
- 5: suspected aortic dissection
- 6: active bleeding excluding menses
- 7: significant head or facial trauma within 3 months
- 8: intra cranial or intra spinal surgery within 2 months
- 9: severe uncontrolled htn {unresponsive to emergency treatment}
- 10: for sk: previous treatment within previous 6 months

Relative contraindication

- 1: history of chronic severe poorly controlled htn
- 2: sbp>180 dbp>110
- 3: ischemic stroke>3months
- 4: dementia
- 5: traumatic or prolonged CPR>10 minutes
- 6: major surgery<3week
- 7: recent internal bleeding within 2 to 4 weeks
- 8: pregnancy
- 9: active peptic ulcer
- 10: oral anticoagulant therapy

Choice of agent

- Fibrin specific regimen:t-PA reteplase tenecteplase:preferable
bolus fibrinolytic:easy to administer-lower chance of medication error
(and associated increase in mortality when such errors occur)
less noncerebral bleeding
fibrin nonspecific:SK
in pts whose risk for death is low(young pt small inf mi) and whose
risk for intracranial hemorrhage is increased{acute htn}
administration of sk is reasonable but rarely done in USA
best time :up to first 12 hours

Anticoagulant therapy

- 1:rational:establishing maintaining patency of infarct related artery **regardless** of thrombolytic
- 2:preventing DVT
- 3:preventing PTE and cerebral emboli and REMI
- 4:decreasing clot formation in lv
- 5:use of heparin for 48hours after fibrinolytic :prudent
- bleeding complication:low body weight** –female sex-advanced age
- PTT>90-100 second-performance of invasive procedure
- regular monitoring of PTT leads to decreasing complication
- 5:PTT can be prolonged till 12hours after fibrinolytic

DOSES OF ANTICOAGULANTS

- HEPARIN:IV BOLUS 60U/kg(max 4000)followed by infusion 12u/kg
ptt=50-70
- 2:enoxaparin age<75 30mg ivbolus followed by1mg/kg Q12hour sc
if age>75 no bolus 0.75mg/kgQ12 hour sc
- 3:regardless of age if crCL<30cc/min:1mg/kg SC every 24hour
- 4:Hirudin bivalirudin:direct thrombin inhibitors
- 5:Fondaparinux:parenteral factor Xantagonist

ANTIPLATELET THERAPY

- Plt play major role in response to disruption of coronary plaque especially in **the** early phase of thrombin formation. plts also activated in response to fibrinolysis than erythrocyte-rich thrombi. SO a scientific basis exists for inhibiting plt aggregation in ALL pts with STEMI **regardless of re1perfusion strategy management**
 - 1: aspirin: COX INHIBITOR AND inhibition of thromboxane synthesis
 - 2: **thienopyridins**: target p2y12: a key on ADP receptor on plt
 - 3: aspirin must be chewed
 - 4: the first drug 325 mg stat and 80 mg daily
 - 5: clopidogrel: 300-600 mg stat and 75 mg daily
 - 6: prasugrel: 60 mg stat and 10 mg daily
 - 7: ticlopidine: rarely used

Anti platelets

- 1:TICAGRELOL:180 MG STAT 90 MG BD
2:RIVERSIBLE
3:It doesn't require metabolic activation