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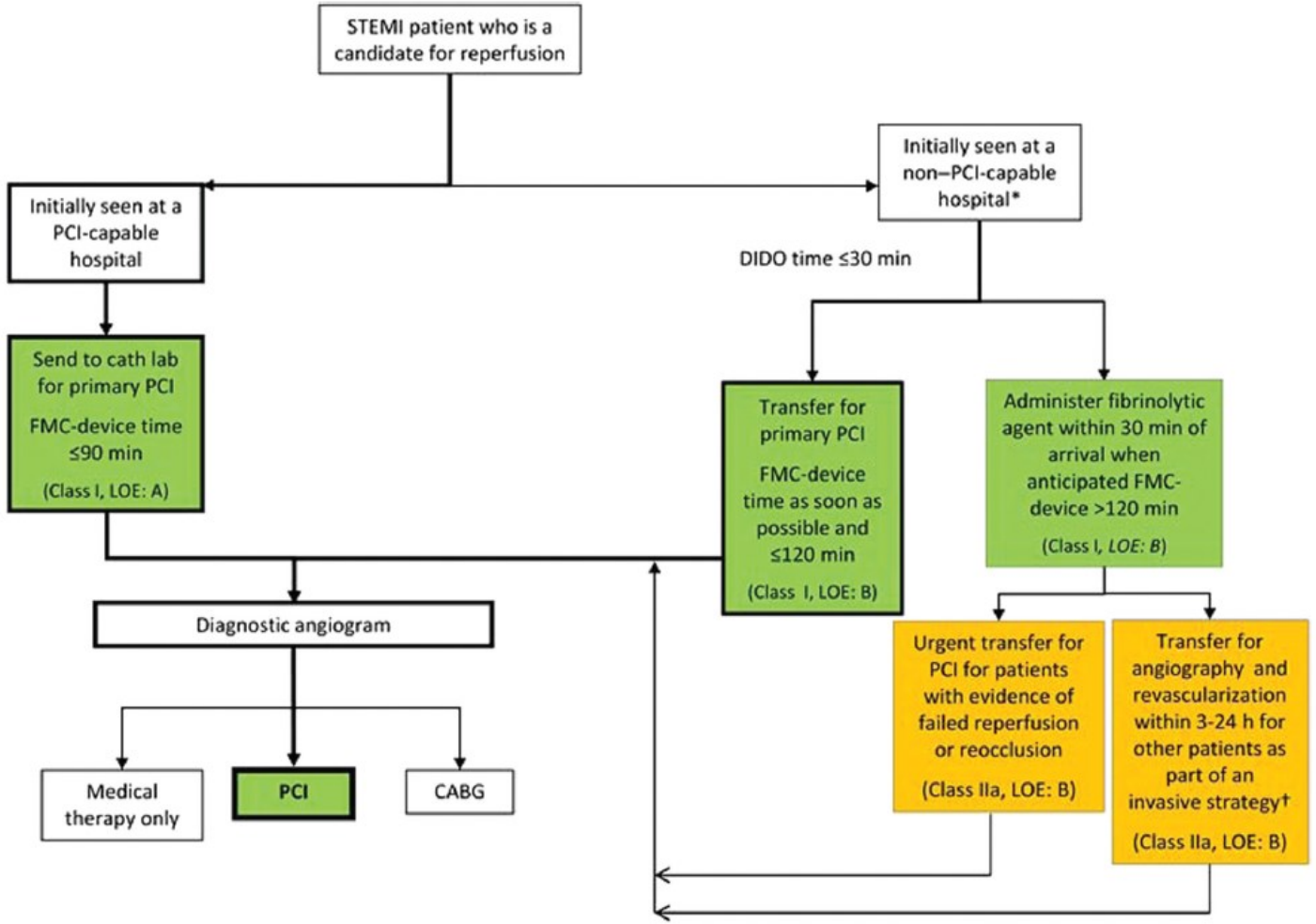
Reperfusion at a PCI-Capable Hospital


Mahmoud Yossof
MANSOURA 2015

Reperfusion Therapy for Patients with STEMI



*Patients with cardiogenic shock or severe heart failure initially seen at a non–PCI-capable hospital should be transferred for cardiac catheterization and revascularization as soon as possible, irrespective of time delay from MI onset (*Class I, LOE: B*). †Angiography and revascularization should not be performed within the first 2 to 3 hours after administration of fibrinolytic therapy.

Reperfusion at a PCI-Capable Hospital

Primary PCI in STEMI

Mr.STUPID

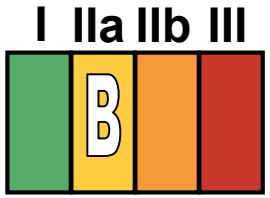
Primary PCI in STEMI

Primary PCI should be performed in patients with STEMI and ischemic symptoms of less than 12 hours' duration.

Primary PCI should be performed in patients with STEMI and ischemic symptoms of less than 12 hours' duration who have contraindications to fibrinolytic therapy, irrespective of the time delay from FMC.

Primary PCI should be performed in patients with STEMI and cardiogenic shock or acute severe HF, irrespective of time delay from MI onset.

Primary PCI in STEMI



Primary PCI is reasonable in patients with STEMI if there is clinical and/or ECG evidence of ongoing ischemia between 12 and 24 hours after symptom onset.

Harm

PCI should not be performed in a noninfarct artery at the time of primary PCI in patients with STEMI who are hemodynamically stable

Primary PCI in STEMI

	COR	LOE
Ischemic symptoms <12 h	I	A
Ischemic symptoms <12 h and contraindications to fibrinolytic therapy irrespective of time delay from FMC	I	B
Cardiogenic shock or acute severe HF irrespective of time delay from MI onset	I	B
Evidence of ongoing ischemia 12 to 24 h after symptom onset	IIa	B
PCI of a noninfarct artery at the time of primary PCI in patients without hemodynamic compromise	III: Harm	B

Reperfusion at a PCI-Capable Hospital

Aspiration Thrombectomy

Aspiration Thrombectomy

Manual aspiration thrombectomy is reasonable for patients undergoing primary PCI.

Reperfusion at a PCI-Capable Hospital

Use of Stents in Primary PCI

Reperfusion at a PCI-Capable Hospital

Use of Stents in Patients With STEMI

Use of Stents in Patients With STEMI

Placement of a stent (BMS or DES) is useful in primary PCI for patients with STEMI.

BMS* should be used in patients with high bleeding risk, inability to comply with 1 year of DAPT, or anticipated invasive or surgical procedures in the next year.

Harm

DES should not be used in primary PCI for patients with STEMI who are unable to tolerate or comply with a prolonged course of DAPT because of the increased risk of stent thrombosis with premature discontinuation of one or both agents.

*Balloon angioplasty without stent placement may be used in selected patients.

Reperfusion at a PCI-Capable Hospital

Adjunctive Antithrombotic Therapy for Primary PCI

Reperfusion at a PCI-Capable Hospital

Antiplatelet Therapy to Support Primary PCI for STEMI

Antiplatelet Therapy to Support Primary PCI for STEMI

Aspirin 162 to 325 mg should be given before primary PCI.

After PCI, aspirin should be continued indefinitely.

Antiplatelet Therapy to Support Primary PCI for STEMI

A loading dose of a $P2Y_{12}$ receptor inhibitor should be given as early as possible or at time of primary PCI to patients with STEMI. Options include:

- Clopidogrel 600 mg; or
- Prasugrel 60 mg; or
- Ticagrelor 180 mg

Antiplatelet Therapy to Support Primary PCI for STEMI

$P2Y_{12}$ inhibitor therapy should be given for 1 year to patients with STEMI who receive a stent (BMS or DES) during primary PCI using the following maintenance doses:

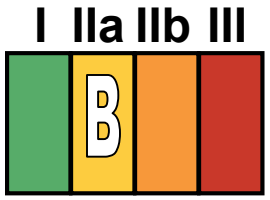
- Clopidogrel 75 mg daily; or
- Prasugrel 10 mg daily; or
- Ticagrelor 90 mg twice a day*

*The recommended maintenance dose of aspirin to be used with ticagrelor is 81 mg daily.

Antiplatelet Therapy to Support Primary PCI for STEMI

It is reasonable to use 81 mg of aspirin per day in preference to higher maintenance doses after primary PCI.

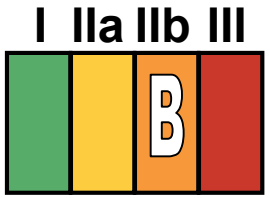
Antiplatelet Therapy to Support Primary PCI for STEMI



It is reasonable to start treatment with an intravenous GP IIb/IIIa receptor antagonist at the time of primary PCI (with or without stenting or clopidogrel pretreatment) in selected patients with STEMI who are receiving UFH.

- Abciximab: 0.25 mg/kg IV bolus, then 0.125 mcg/kg/min (maximum 10 mcg/min); or
- High-bolus-dose tirofiban: 25 mcg/kg IV bolus, then 0.15 mcg/kg/min; or
- Double-bolus eptifibatide: 180 mcg/kg IV bolus, then 2 mcg/kg/min; a 2nd 180-mcg/kg bolus is administered 10 min after the 1st bolus.

Antiplatelet Therapy to Support Primary PCI for STEMI

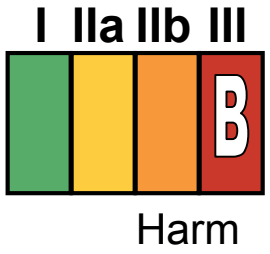


It may be reasonable to administer intravenous GP IIb/IIIa receptor antagonist in the precatheterization laboratory setting (e.g., ambulance, ED) to patients with STEMI for whom primary PCI is intended.

It may be reasonable to administer intracoronary abciximab to patients with STEMI undergoing primary PCI.

Continuation of a $P2Y_{12}$ inhibitor beyond 1 year may be considered in patients undergoing DES placement.

Antiplatelet Therapy to Support Primary PCI for STEMI



Prasugrel should not be administered to patients with a history of prior stroke or transient ischemic attack.

Reperfusion at a PCI-Capable Hospital

Anticoagulant Therapy to Support Primary PCI

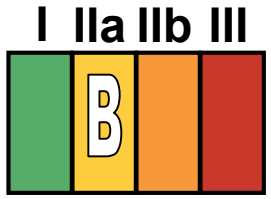
Anticoagulant Therapy to Support Primary PCI

For patients with STEMI undergoing primary PCI, the following supportive anticoagulant regimens are recommended:

- UFH, with additional boluses administered as needed to maintain therapeutic activated clotting time levels, taking into account whether a GP IIb/IIIa receptor antagonist has been administered; or

- Bivalirudin with or without prior treatment with UFH.

Anticoagulant Therapy to Support Primary PCI



In patients with STEMI undergoing PCI who are at high risk of bleeding, it is reasonable to use bivalirudin monotherapy in preference to the combination of UFH and a GP IIb/IIIa receptor antagonist.

Fondaparinux should not be used as the sole anticoagulant to support primary PCI because of the risk of catheter thrombosis.

Adjunctive Antithrombotic Therapy to Support Reperfusion With Primary PCI

	COR	LOE
Antiplatelet therapy		
Aspirin		
• 162- to 325-mg load before procedure	I	B
• 81- to 325-mg daily maintenance dose (indefinite)*	I	A
• 81 mg daily is the preferred maintenance dose*	IIa	B
$P2Y_{12}$ inhibitors		
Loading doses		
• Clopidogrel: 600 mg as early as possible or at time of PCI	I	B
• Prasugrel: 60 mg as early as possible or at time of PCI	I	B
• Ticagrelor: 180 mg as early as possible or at time of PCI	I	B

*The recommended maintenance dose of aspirin to be used with ticagrelor is 81 mg daily.

Adjunctive Antithrombotic Therapy to Support Reperfusion With Primary PCI (cont.)

	COR	LOE
P2Y$_{12}$ inhibitors		
Maintenance doses and duration of therapy		
DES placed: Continue therapy for 1 y with:		
• Clopidogrel: 75 mg daily	I	B
• Prasugrel: 10 mg daily	I	B
• Ticagrelor: 90 mg twice a day*	I	B
BMS† placed: Continue therapy for 1 y with:		
• Clopidogrel: 75 mg daily	I	B
• Prasugrel: 10 mg daily	I	B
• Ticagrelor: 90 mg twice a day*	I	B
DES placed:		
• Clopidogrel, prasugrel, or ticagrelor* continued beyond 1 y	IIb	C
• Patients with STEMI with prior stroke or TIA: prasugrel	III: Harm	B

*The recommended maintenance dose of aspirin to be used with ticagrelor is 81 mg daily.
†Balloon angioplasty without stent placement may be used in selected patients. It might be reasonable to provide P2Y$_{12}$ inhibitor therapy to patients with STEMI undergoing balloon angioplasty alone according to the recommendations listed for BMS. (*LOE: C*).

Adjunctive Antithrombotic Therapy to Support Reperfusion With Primary PCI (cont.)

	COR	LOE
IV GP IIb/IIIa receptor antagonists in conjunction with UFH or bivalirudin in selected patients		
• Abciximab: 0.25-mg/kg IV bolus, then 0.125 mcg/kg/min (maximum 10 mcg/min)	IIa	A
• Tirofiban: (high-bolus dose): 25-mcg/kg IV bolus, then 0.15 mcg/kg/min • In patients with CrCl <30 mL/min, reduce infusion by 50%	IIa	B

• Eptifibatide: (double bolus): 180-mcg/kg IV bolus, then 2 mcg/kg/min; a second 180-mcg/kg bolus is administered 10 min after the first bolus
  • In patients with CrCl <50 mL/min, reduce infusion by 50%
  • Avoid in patients on hemodialysis
	IIa	B

• Pre–catheterization laboratory administration of IV GP IIb/IIIa receptor antagonist	IIb	B
• Intracoronary abciximab 0.25-mg/kg bolus	IIb	B

Adjunctive Antithrombotic Therapy to Support Reperfusion With Primary PCI (cont.)

	COR	LOE
Anticoagulant therapy		
• UFH:	I	C
◦ With GP IIb/IIIa receptor antagonist planned: 50- to 70-U/kg IV bolus to achieve therapeutic ACT‡		
◦ With no GP IIb/IIIa receptor antagonist planned: 70- to 100-U/kg bolus to achieve therapeutic ACT§	I	C
• Bivalirudin: 0.75-mg/kg IV bolus, then 1.75–mg/kg/h infusion with or without prior treatment with UFH. An additional bolus of 0.3 mg/kg may be given if needed.	I	B
◦ Reduce infusion to 1 mg/kg/h with estimated CrCl <30 mL/min		
◦ Preferred over UFH with GP IIb/IIIa receptor antagonist in patients at high risk of bleeding	IIa	B
• Fondaparinux: not recommended as sole anticoagulant for primary PCI	III: Harm	B

‡The recommended ACT with planned GP IIb/IIIa receptor antagonist treatment is 200 to 250 s.
§ The recommended ACT with no planned GP IIb/IIIa receptor antagonist treatment is 250 to 300 s (HemoTec device) or 300 to 350 s (Hemochron device).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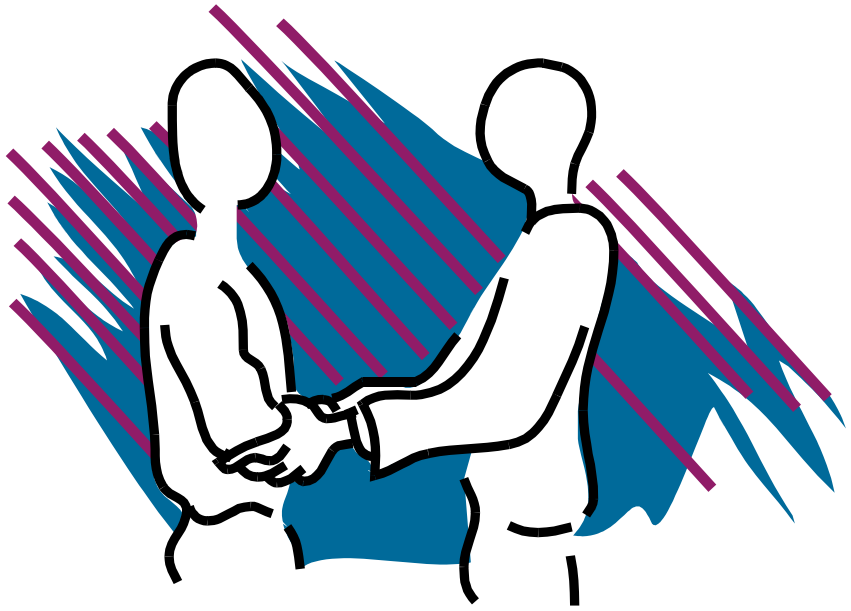

Thank You