Code 247
STEMI, Medical Therapies and Complications

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Relief of Hypoxemia & Symptoms

Hypoxia		
Oxygen is indicated in patients with hypoxaemia (SaO_2 < 90% or PaO_2 < 60 mmHg).	I	C
Routine oxygen is not recommended in patients with $SaO_2 \geq 90\%$.[64–66]	III	B
Symptoms		
Titrated i.v. opioids should be considered to relieve pain.	IIa	C
A mild tranquillizer (usually a benzodiazepine) should be considered in very anxious patients.	IIa	C

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Peri & post-procedural antithrombotic therapy in patients undergoing primary PCI

Antiplatelet therapy		
A potent $P2Y_{12}$ inhibitor (prasugrel or ticagrelor), or clopidogrel if these are not available or are contraindicated, is recommended before (or at latest at the time of) PCI and maintained over 12 months, unless there are contraindications such as excessive risk of bleeding.[186,187]	I	A
Aspirin (oral or i.v. if unable to swallow) is recommended as soon as possible for all patients without contraindications.[213,214]	I	B
GP IIb/IIIa inhibitors should be considered for bailout if there is evidence of no-reflow or a thrombotic complication.	IIa	C
Cangrelor may be considered in patients who have not received $P2Y_{12}$ receptor inhibitors.[192–194]	IIb	A

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Peri & post-procedural antithrombotic therapy in patients undergoin primary PCI (continued)

Anticoagulant therapy		
Anticoagulation is recommended for all patients in addition to antiplatelet therapy during primary PCI.	I	C
Routine use of UFH is recommended.	I	C
In patients with heparin-induced thrombo-cytopenia, bivalirudin is recommended as the anticoagulant agent during primary PCI.	I	C
Routine use of enoxaparin i.v. should be considered.[200–202]	IIa	A
Routine use of bivalirudin should be considered.[209,215]	IIa	A
Fondaparinux is not recommended for primary PCI.[199]	III	B

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Doses of Antiplatelet & Anticoagulant Co-Therapies in Primary PCI

Antiplatelet therapies	
Aspirin	Loading dose of 150–300 mg orally or of 75–250 mg i.v. if oral ingestion is not possible, followed by a maintenance dose of 75–100 mg/day
Clopidogrel	Loading dose of 600 mg orally, followed by a maintenance dose of 75 mg/day
Prasugrel	Loading dose of 60 mg orally, followed by a maintenance dose of 10 mg/day In patients with body weight ≤60 kg, a maintenance dose of 5 mg/day is recommended Prasugrel is contra-indicated in patients with previous stroke. In patients ≥75 years, prasugrel is generally not recommended, but a dose of 5 mg/day should be used if treatment is deemed necessary
Ticagrelor	Loading dose of 180 mg orally, followed by a maintenance dose of 90 mg *b.i.d.*
Abciximab	Bolus of 0.25 mg/kg i.v. and 0.125 μg/kg/min infusion (maximum 10 μg/min) for 12 hours
Eptifibatide	Double bolus of 180 μg/kg i.v. (given at a 10-min interval) followed by an infusion of 2.0 μg/kg/min for up to 18 hours
Tirofiban	25 μg/kg over 3 min i.v., followed by a maintenance infusion of 0.15 μg/kg/min for up to 18 hours

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Doses of Antiplatelet & Anticoagulant Co-Therapies in Primary PCI (continued)

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Parenteral anticoagulant therapies	
UFH	70–100 IU/kg i.v. bolus when no GP IIb/IIIa inhibitor is planned 50–70 IU/kg i.v. bolus with GP IIb/IIIa inhibitors
Enoxaparin	0.5 mg/kg i.v. bolus
Bivalirudin	0.75 mg/kg i.v. bolus followed by i.v. infusion of 1.75 mg/kg/hour for up to 4 hours after the procedure

Doses of Antiplatelet & Anticoagulant co- therapies in not reperfused patients

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Antiplatelet therapies	
Aspirin	Loading dose of 150–300 mg orally followed by a maintenance dose of 75–100 mg/day
Clopidogrel	Loading dose of 300 mg orally, followed by a maintenance dose of 75 mg/day orally
Parenteral anticoagulant therapies	
UFH	Same dose as with fibrinolytic therapy (see Table 7)
Enoxaparin	Same dose as with fibrinolytic therapy (see Table 7)
Fondaparinux	Same dose as with fibrinolytic therapy (see Table 7)

Fibrinolytic Therapy

Recommendations	Class[a]	Level[b]
When fibrinolysis is the reperfusion strategy, it is recommended to initiate this treatment as soon as possible after STEMI diagnosis, preferably in the pre-hospital setting.[96,98,123,222]	I	A
A fibrin-specific agent (i.e. tenecteplase, alteplase, or reteplase) is recommended.[223,224]	I	B
A half-dose of tenecteplase should be considered in patients ≥75 years of age.[121]	IIa	B

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Fibrinolytic therapy(continued)

Antiplatelet co-therapy with fibrinolysis		
Oral or i.v. aspirin is indicated.[213]	I	B
Clopidogrel is indicated in addition to aspirin.[225,226]	I	A
DAPT (in the form of aspirin plus a $P2Y_{12}$ inhibitor[c]) is indicated for up to 1 year in patients undergoing fibrinolysis and subsequent PCI.	I	C
Anticoagulation co-therapy with fibrinolysis		
Anticoagulation is recommended in patients treated with lytics until revascularization (if performed) or for the duration of hospital stay up to 8 days.[199,224,227–233] The anticoagulant can be:	I	A
• Enoxaparin i.v. followed by s.c. (preferred over UFH).[227–232]	I	A
• UFH given as a weight-adjusted i.v. bolus followed by infusion.[224]	I	B
• In patients treated with streptokinase: fondaparinux i.v. bolus followed by an s.c. dose 24 h later.[199,233]	IIa	B

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Fibrinolytic therapy(continued)

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Transfer after fibrinolysis		
Transfer to a PCI-capable centre following fibrinolysis is indicated in all patients immediately after fibrinolysis.[121,124,126–130,234]	I	A
Interventions following fibrinolysis		
Emergency angiography and PCI if indicated is recommended in patients with heart failure/shock.[124, 235]	I	A
Rescue PCI is indicated immediately when fibrinolysis has failed (<50% ST-segment resolution at 60–90 min) or at any time in the presence of haemodynamic or electrical instability, or worsening ischaemia.[121,124,236]	I	A
Angiography and PCI of the IRA, if indicated, is recommended between 2 and 24 h after successful fibrinolysis.[125–128,234]	I	A
Emergency angiography and PCI if needed is indicated in the case of recurrent ischaemia or evidence of reocclusion after initial successful fibrinolysis.[124]	I	B

Doses of fibrinolytic agents and antithrombotic co-therspies

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Drug	Initial treatment	Specific contra-indications
Doses of fibrinolytic therapy		
Streptokinase	1.5 million units over 30–60 min i.v.	Previous treatment with streptokinase or anistreplase
Alteplase (tPA)	15 mg i.v. bolus 0.75 mg/kg i.v. over 30 min (up to 50 mg) then 0.5 mg/kg i.v. over 60 min (up to 35 mg)	
Reteplase (rPA)	10 units + 10 units i.v. bolus given 30 min apart	
Tenecteplase (TNK-tPA)	Single i.v. bolus: 30 mg (6000 IU) if <60 kg 35 mg (7000 IU) if 60 to <70 kg 40 mg (8000 IU) if 70 to <80 kg 45 mg (9000 IU) if 80 to <90 kg 50 mg (10000 IU) if ≥90 kg It is recommended to reduce to half-dose in patients ≥75 years of age.[121]	

Doses of fibrinolytic agents and antithrombotic co-therapies (Continued)

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Doses of antiplatelet co-therapies	
Aspirin	Starting dose of 150–300 mg orally (or 75–250 mg intravenously if oral ingestion is not possible), followed by a maintenance dose of 75–100 mg/day
Clopidogrel	Loading dose of 300 mg orally, followed by a maintenance dose of 75 mg/day. In patients ≥75 years of age: loading dose of 75 mg, followed by a maintenance dose of 75 mg/day.
Doses of anticoagulant co-therapies	
Enoxaparin	In patients <75 years of age: 30 mg i.v. bolus followed 15 min later by 1 mg/kg s.c. every 12 hours until revascularization or hospital discharge for a maximum of 8 days. The first two s.c. doses should not exceed 100 mg per injection. In patients ≥75 years of age: no i.v. bolus; start with first s.c. dose of 0.75 mg/kg with a maximum of 75 mg per injection for the first two s.c. doses. In patients with eGFR <30 mL/min/1.73 m^2, regardless of age, the s.c. doses are given once every 24 hours.
UFH	60 IU/kg i.v. bolus with a maximum of 4000 IU followed by an i.v. infusion of 12 IU/kg with a maximum of 1000 IU/hour for 24–48 hours. Target aPTT: 50–70 s or 1.5 to 2.0 times that of control to be monitored at 3, 6, 12 and 24 hours.
Fondaparinux (only with streptokinase)	2.5 mg i.v. bolus followed by a s.c. dose of 2.5 mg once daily up to 8 days or hospital discharge.

Contraindications of Fibrinolytic Therapy

Absolute
Previous intracranial haemorrhage or stroke of unknown origin at anytime
Ischaemic stroke in the preceding 6 months
Central nervous system damage or neoplasms or arteriovenous malformation
Recent major trauma/surgery/head injury (within the preceding month)
Gastrointestinal bleeding within the past month
Known bleeding disorder (excluding menses)
Aortic dissection
Non-compressible punctures in the past 24 hours (e.g. liver biopsy, lumbar puncture)

Relative
Transient ischaemic attack in the preceding 6 months
Oral anticoagulant therapy
Pregnancy or within 1 week postpartum
Refractory hypertension (SBP >180 mmHg and/or DBP >110 mmHg)
Advanced liver disease
Infective endocarditis
Active peptic ulcer
Prolonged or traumatic resuscitation

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Logistical Issues for Hospital Stay

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It is indicated that all hospitals participating in the care of STEMI patients have a CCU/ICCU equipped to provide all aspects of care for STEMI patients, including treatment of ischaemia, severe heart failure, arrhythmias, and common comorbidities.	I	C
Transfer back to a referring non-PCI hospital		
Same day transfer should be considered appropriate in selected patients after successful primary PCI, i.e. those without ongoing myocardial ischaemia, arrhythmia, or haemodynamic instability, not requiring vasoactive or mechanical support, and not needing further early revascularization.[263]	IIa	C
Monitoring		
It is indicated that all STEMI patients have ECG monitoring for a minimum of 24 h.	I	C

Length of stay in the CCU		
It is indicated that patients with successful reperfusion therapy and an uncomplicated clinical course are kept in the CCU/ICCU for a minimum of 24 h whenever possible, after which they may be moved to a step-down monitored bed for an additional 24–48 h.	I	C
Hospital discharge		
Early discharge (within 48–72 h) should be considered appropriate in selected low-risk patients[c] if early rehabilitation and adequate follow-up are arranged.[257,259–262,264,265]	IIa	A

Doses of antithrombotic agents in CKD

Agent	Normal renal function and stage 1–3 CKD (eGFR ≥30 mL/min/1.73 m²)	Stage 4 CKD (eGFR 15 to <30 mL/min/1.73 m²)	Stage 5 CKD (eGFR <15 mL/min/1.73 m²)
Aspirin	Loading dose of 150–300 mg orally followed by a maintenance dose of 75–100 mg/day	No dose adjustment	No dose adjustment
Clopidogrel	Loading dose of 300–600 mg orally followed by 75 mg/day	No dose adjustment	No information available
Ticagrelor	Loading dose of 180 mg orally followed 90 mg twice a day	No dose adjustment	Not recommended
Prasugrel	Loading dose of 60 mg orally followed by 10 mg/day	No dose adjustment	Not recommended
Enoxaparin	1 mg/kg s.c. twice a day, 0.75 mg/kg s.c. twice daily in patients ≥75 years old	1 mg/kg s.c. once a day	Not recommended
UFH	*Before coronary angiography:* Bolus 60–70 IU/kg i.v. (maximum 5000 IU) and infusion (12–15 IU/kg/hour, maximum 1000 IU/hour), target aPTT 1.5–2.5 x control *During PCI:* 70-100 IU/kg i.v. (50-70 IU/kg if concomitant with GP IIb/IIIa inhibitors)	No dose adjustment	No dose adjustment
Fondaparinux	2.5 mg s.c. once a day	Not recommended if eGFR <20 mL/min/1.73 m² or dialysis	Not recommended
Bivalirudin	Bolus 0.75 mg/kg i.v., infusion 1.75 mg/kg/hour *If eGFR ≥30 and ≤60 mL/min/1.73m² reduce infusion dose to 1.4 mg/kg/hour*	Not recommended	Not recommended
Abciximab	Bolus of 0.25 mg/kg i.v. followed by 0.125 µg/kg/min infusion (maximum 10 µg/min)	Careful consideration of bleeding risk	Careful consideration of bleeding risk
Eptifibatide	Bolus[a] of 180 µg/kg i.v. followed by an infusion of 2.0 µg/kg/min for up to 18 hours If eGFR <50 mL/min/1.73 m² reduce infusion dose to 1.0 µg/kg/min	Not recommended	Not recommended
Tirofiban	Bolus 25 µg/kg i.v. followed by 0.15 µg/kg/min	Reduce infusion rate to 50%	Not recommended

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Management of hyperglycaemia

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It is recommended to measure glycaemic status at initial evaluation in all patients, and perform frequent monitoring in patients with known diabetes or hyperglycaemia (defined as glucose levels ≥11.1 mmol/L or ≥ 200 mg/dL)	I	C
In patients on metformin and/or SGLT2 inhibitors, renal function should be carefully monitored for at least 3 days after coronary angiography/PCI.[c]	I	C
Glucose-lowering therapy should be considered in ACS patients with glucose levels >10 mmol/L (>180 mg/dL), while episodes of hypoglycaemia (defined as glucose levels ≤3.9 mmol/L or ≤ 70 mg/dL) should be avoided.	IIa	C
Less stringent glucose control should be considered in the acute phase in patients with more advanced cardiovascular disease, older age, longer diabetes duration, and more comorbidities.	IIa	C

Summary of Indications for imaging and stress testing in STEMI patients

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Summary of Indications for imaging and stress testing in STEMI

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At presentation		
Emergency echocardiography is indicated in patients with cardiogenic shock and/or haemodynamic instability or suspected mechanical complications without delaying angiography.[295]	I	C
Emergency echocardiography before coronary angiography should be considered if the diagnosis is uncertain.[295]	IIa	C
Routine echocardiography that delays emergency angiography is not recommended.[295]	III	C
Coronary CT angiography is not recommended	III	C

During hospital stay (after primary PCI)		
Routine echocardiography to assess resting LV and RV function, detect early post-MI mechanical complications, and exclude LV thrombus is recommended in all patients.[296,297]	I	B
Emergency echocardiography is indicated in haemodynamically unstable patients.[295]	I	C
When echocardiography is suboptimal/inconclusive, an alternative imaging method (CMR preferably) should be considered.	IIa	C
Either stress echo, CMR, SPECT, or PET may be used to assess myocardial ischaemia and viability, including in multivessel CAD.[1,298–300]	IIb	C

Summary of Indications for imaging and stress testing in STEMI

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After discharge		
In patients with pre-discharge LVEF ≤40%, repeat echocardiography 6–12 weeks after MI, and after complete revascularization and optimal medical therapy, is recommended to assess the potential need for primary prevention ICD implantation.[3,296]	I	C
When echo is suboptimal or inconclusive, alternative imaging methods (CMR preferably) should be considered to assess LV function.	IIa	C

Long-term therapies for STEMI

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Behavioural aspects after STEMI

Recommendations	Class[a]	Level[b]
It is recommended to identify smokers and provide repeated advice on stopping, with offers to help with the use of follow-up support, nicotine replacement therapies, varenicline, and bupropion individually or in combination.[4,302,303,325–327]	I	A
Participation in a cardiac rehabilitation programme is recommended.[4,309,328]	I	A
A smoking cessation protocol is indicated for each hospital participating in the care of STEMI patients.	I	C
The use of the polypill and combination therapy to increase adherence to drug therapy may be considered.[4,322,323]	IIb	B

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Maintenance antithrombotic strategy after STEMI

Antiplatelet therapy with low-dose aspirin (75–100 mg) is indicated.[329]	I	A
DAPT in the form of aspirin plus ticagrelor or prasugrel (or clopidogrel if ticagrelor or prasugrel are not available or are contraindicated), is recommended for 12 months after PCI, unless there are contraindications such as excessive risk of bleeding.[186,187]	I	A
A PPI in combination with DAPT is recommended in patients at high risk of gastrointestinal bleeding[c].[335–337]	I	B
In patients with an indication for oral anticoagulation, oral anticoagulants are indicated in addition to antiplatelet therapy.[5]	I	C
In patients who are at high risk of severe bleeding complications, discontinuation of $P2Y_{12}$ inhibitor therapy after 6 months should be considered.[332,339,340]	IIa	B
In STEMI patients with stent implantation and an indication for oral anticoagulation, triple therapy[d] should be considered for 1–6 months (according to a balance between the estimated risk of recurrent coronary events and bleeding).[5]	IIa	C
DAPT for 12 months in patients who did not undergo PCI should be considered unless there are contraindications such as excessive risk of bleeding.	IIa	C
In patients with LV thrombus, anticoagulation should be administered for up to 6 months guided by repeated imaging.[341–343]	IIa	C
In high ischaemic-risk patients[e] who have tolerated DAPT without a bleeding complication, treatment with DAPT in the form of ticagrelor 60 mg twice a day on top of aspirin for longer than 12 months may be considered for up to 3 years.[333]	IIb	B
In low bleeding-risk patients who receive aspirin and clopidogrel, low-dose rivaroxaban (2.5 mg twice daily) may be considered.[338]	IIb	B
The use of ticagrelor or prasugrel is not recommended as part of triple antithrombotic therapy with aspirin and oral anticoagulation.	III	C

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Routine therapies in the acute, subacute,and long-term phases

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Beta-Blockers

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Oral treatment with beta-blockers is indicated in patients with heart failure and/or LVEF ≤40% unless contraindicated.[357–361]	I	A
Intravenous beta-blockers should be considered at the time of presentation in patients undergoing primary PCI without contraindications, with no signs of acute heart failure, and with an SBP >120 mmHg.[346–348,350,403]	IIa	A
Routine oral treatment with beta-blockers should be considered during hospital stay and continued thereafter in all patients without contraindications.[344,354–356,404,405]	IIa	B
Intravenous beta-blockers must be avoided in patients with hypotension, acute heart failure or AV block, or severe bradycardia.[344]	III	B

Lipid Lowering Therapies

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It is recommended to start high-intensity statin therapy[c] as early as possible, unless contraindicated, and maintain it long-term.[364,366,368]	I	A
An LDL-C goal of < 1.8 mmol/L (70 mg/dL) or a reduction of at least 50% if the baseline LDL-C is between 1.8–3.5 mmol/L (70–135 mg/dL) is recommended.[367,369,376,382]	I	B
It is recommended to obtain a lipid profile in all STEMI patients as soon as possible after presentation.[369,406]	I	C
In patients with LDL-C ≥1.8 mmol/L (≥70 mg/dL) despite a maximally tolerated statin dose who remain at high risk, further therapy to reduce LDL-C should be considered.[376,382]	IIa	A

ACE-Inhibitors / ARBs & MRAs

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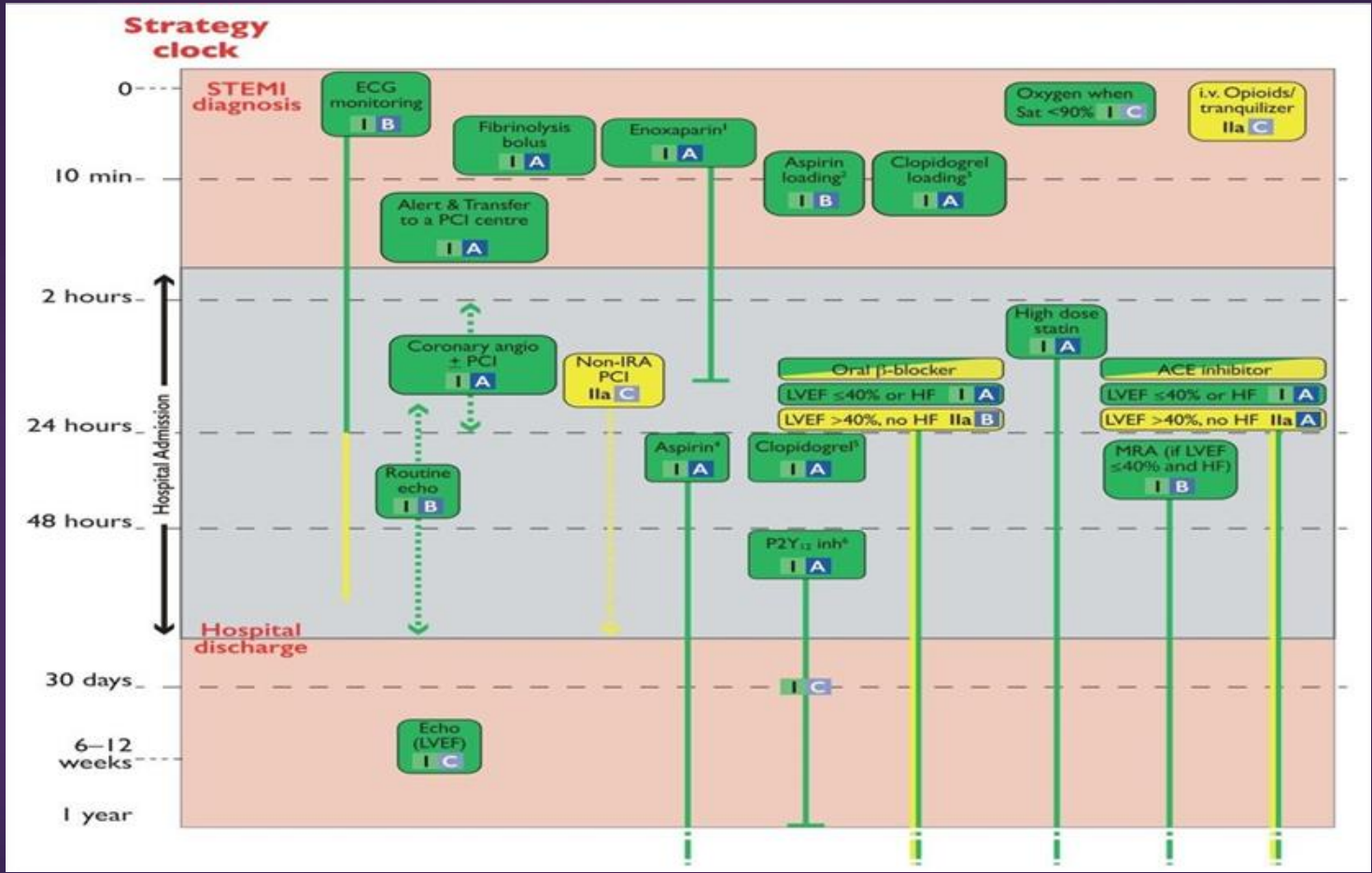
ACE inhibitors are recommended, starting within the first 24 h of STEMI in patients with evidence of heart failure, LV systolic dysfunction, diabetes, or an anterior infarct.[383]	I	A
An ARB, preferably valsartan, is an alternative to ACE inhibitors in patients with heart failure and/or LV systolic dysfunction, particularly those who are intolerant of ACE inhibitors.[396,407]	I	B
ACE inhibitors should be considered in all patients in the absence of contraindications.[394,395]	IIa	A

MRAs are recommended in patients with an LVEF ≤40% and heart failure or diabetes, who are already receiving an ACE inhibitor and a beta-blocker, provided there is no renal failure or hyperkalaemia.[397]	I	B

SUMMARY



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Complications following STEMI

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Management of left ventricular dysfunction and acute heart failure in STEMI

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ACE inhibitor (or if not tolerated, ARB) therapy is indicated as soon as haemodynamically stable for all patients with evidence of LVEF ≤40% and/or heart failure to reduce the risk of hospitalization and death.[390,396,412,413]	I	A
Beta-blocker therapy is recommended in patients with LVEF ≤40% and/or heart failure after stabilization, to reduce the risk of death, recurrent MI, and hospitalization for heart failure.[358–361,414–416]	I	A
An MRA is recommended in patients with heart failure and LVEF ≤40% with no severe renal failure or hyperkalaemia to reduce the risk of cardiovascular hospitalization and death.[397]	I	B
Loop diuretics are recommended in patients with acute heart failure with symptoms/signs of fluid overload to improve symptoms.	I	C
Nitrates are recommended in patients with symptomatic heart failure with SBP >90 mmHg to improve symptoms and reduce congestion.	I	C
Oxygen is indicated in patients with pulmonary oedema with SaO_2 <90% to maintain a saturation >95%.	I	C
Patient intubation is indicated in patients with respiratory failure or exhaustion, leading to hypoxaemia, hypercapnia, or acidosis, and if non-invasive ventilation is not tolerated.	I	C

Management of left ventricular dysfunction and acute heart failure in STEMI

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Non-invasive positive pressure ventilation (continuous positive airway pressure, biphasic positive airway pressure) should be considered in patients with respiratory distress (respiratory rate >25 breaths/min, SaO_2 <90%) without hypotension.[410,411,417–419]	IIa	B
Intravenous nitrates or sodium nitroprusside should be considered in patients with heart failure and elevated SBP to control blood pressure and improve symptoms.	IIa	C
Opiates may be considered to relieve dyspnoea and anxiety in patients with pulmonary oedema and severe dyspnoea. Respiration should be monitored.[6,408]	IIb	B
Inotropic agents may be considered in patients with severe heart failure with hypotension refractory to standard medical treatment.	IIb	C

Recommendations for the management of cardiogenic shock in STEMI

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Immediate PCI is indicated for patients with cardiogenic shock if coronary anatomy is suitable. If coronary anatomy is not suitable for PCI, or PCI has failed, emergency CABG is recommended.[248]	I	B
Invasive blood pressure monitoring with an arterial line is recommended.	I	C
Immediate Doppler echocardiography is indicated to assess ventricular and valvular functions, loading conditions, and to detect mechanical complications.	I	C
It is indicated that mechanical complications are treated as early as possible after discussion by the Heart Team.	I	C
Oxygen/mechanical respiratory support is indicated according to blood gases.	I	C

Fibrinolysis should be considered in patients presenting with cardiogenic shock if a primary PCI strategy is not available within 120 min from STEMI diagnosis and mechanical complications have been ruled out.	IIa	C
Complete revascularization during the index procedure should be considered in patients presenting with cardiogenic shock.	IIa	C
Intra-aortic balloon pumping should be considered in patients with haemodynamic instability/cardiogenic shock due to mechanical complications.	IIa	C

Recommendations for the management of cardiogenic shock in STEMI (continued)

Haemodynamic assessment with pulmonary artery catheter may be considered for confirming diagnosis or guiding therapy.[433]	IIb	B
Ultrafiltration may be considered for patients with refractory congestion, who failed to respond to diuretic-based strategies.[434–436]	IIb	B
Inotropic/vasopressor agents may be considered for haemodynamic stabilization.	IIb	C
Short-term mechanical support[c] may be considered in patients in refractory shock.	IIb	C
Routine intra-aortic balloon pumping is not indicated.[177,437]	III	B

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Managemet of atrial fibrillation

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Acute rate control of AF		
Intravenous beta-blockers are indicated for rate control if necessary and there are no clinical signs of acute heart failure or hypotension.[449]	I	C
Intravenous amiodarone is indicated for rate control if necessary in the presence of concomitant acute heart failure and no hypotension.[450]	I	C
Intravenous digitalis should be considered for rate control if necessary in the presence of concomitant acute heart failure and hypotension.[451]	IIa	B

Management of atrial fibrillation (continued)

Cardioversion		
Immediate electrical cardioversion is indicated when adequate rate control cannot be achieved promptly with pharmacological agents in patients with AF and ongoing ischaemia, severe haemodynamic compromise, or heart failure.	I	C
Intravenous amiodarone is indicated to promote electrical cardioversion and/or decrease risk for early recurrence of AF after electrical cardioversion in unstable patients with recent onset AF.	I	C
In patients with documented *de novo* AF during the acute phase of STEMI, long-term oral anticoagulation should be considered depending on CHA_2DS_2-VASc score and taking concomitant antithrombotic therapy into account.[5,444]	IIa	C
Digoxin is ineffective in converting recent onset AF to sinus rhythm and is not indicated for rhythm control.[452,453]	III	A
Calcium channel blockers and beta-blockers including sotalol are ineffective in converting recent onset AF to sinus rhythm.[453]	III	B
Prophylactic treatment with antiarrhythmic drugs to prevent AF is not indicated.[438,444]	III	B

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Management of ventricular arrhythmias and conduction disturbances in the acute phase

Intravenous beta-blocker treatment is indicated for patients with polymorphic VT and/or VF unless contraindicated.[462,463]	I	B
Prompt and complete revascularization is recommended to treat myocardial ischaemia that may be present in patients with recurrent VT and/or VF[71,72]	I	C
Intravenous amiodarone is recommended for treatment of recurrent polymorphic VT.[3]	I	C
Correction of electrolyte imbalances (especially hypokalaemia and hypomagnesemia) is recommended in patients with VT and/or VF.[3]	I	C
In cases of sinus bradycardia with haemodynamic intolerance or high degree AV block without stable escape rhythm:		
• i.v. positive chronotropic medication (epinephrine, vasopressin, and/or atropine) is indicated	I	C
• temporary pacing is indicated in cases of failure to respond to positive chronotropic medication	I	C
• urgent angiography with a view to revascularization is indicated if the patient has not received previous reperfusion therapy	I	C

Intravenous amiodarone should be considered for recurrent VT with haemodynamic intolerance despite repetitive electrical cardioversion.[438]	IIa	C
Transvenous catheter pace termination and/or overdrive pacing should be considered if VT cannot be controlled by repetitive electrical cardioversion.	IIa	C
Radiofrequency catheter ablation at a specialized ablation centre followed by ICD implantation should be considered in patients with recurrent VT, VF, or electrical storm despite complete revascularization and optimal medical therapy.	IIa	C
Recurrent VT with haemodynamic repercussion despite repetitive electrical cardioversion may be treated with lidocaine if beta-blockers, amiodarone, and overdrive stimulation are not effective/applicable.[438]	IIb	C
Prophylactic treatment with antiarrhythmic drugs is not indicated and may be harmful.[464,465]	III	B
Asymptomatic and haemodynamically irrelevant ventricular arrhythmias should not be treated with antiarrhythmic drugs.	III	C

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Long-term management of ventricular arrhythmias and risk evaluation for sudden death

ICD therapy is recommended to reduce sudden cardiac death in patients with symptomatic heart failure (NYHA class II–III) and LVEF ≤35% despite optimal medical therapy for >3 months and ≥6 weeks after MI, who are expected to survive for at least 1 year with good functional status.[3,466,467]	I	A
ICD implantation or temporary use of a wearable cardioverter defibrillator may be considered <40 days after MI in selected patients (incomplete revascularization, pre-existing LVEF dysfunction, occurrence of arrhythmias >48 h after STEMI onset, polymorphic VT or VF).	IIb	C

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Thank you for your attention

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