

Diagnosis and Treatment of Non-ST-Segment Elevation Acute Coronary

First contact

Diagnosis/risk assessment

invasive strategy

Definition : Patients with acute chest pain but without persistent ST-segment elevation. They have rather persistent or transient ST-segment depression or T-wave inversion, flat T-waves, pseudo-normalization of T-waves, or no ECG changes at presentation.

Initial evaluation

- Quality of chest pain
- Symptom-oriented physical examination
- Likelihood of CAD
- Electrocardiogram (STelevation or other abnormalities)

Chest pain

- Prolonged (>20 min) anginal pain at rest, New onset (de novo) severe angina or recent destabilization of previously stable angina
- However, atypical presentations of NSTEMI-ACS are not uncommon : these include epigastric pain, recent-onset indigestion, stabbing chest pain, chest pain with some pleuritic features, or increasing dyspnoea. Atypical complaints are often observed in younger (25-40 years) and older (>75 years) patients, in women, and in patients with diabetes, chronic renal failure, or dementia.

Assessment of bleeding risk is an important component of the decision-making process.

Bleeding risk is increased with higher or excessive doses of antithrombotic agents, length of treatment, combinations of several antithrombotic drugs, switch between different anticoagulant drugs, as well as with older age, reduced renal function, low body weight, female gender, baseline haemoglobin, and invasive procedures.

ACS possible

Validation

- Response to antianginal treatment
- Routine biochemistry, including troponins (on presentation and after 6-12 h, poss. special markers (e.g. D-dimers, BNP/NT-pro-BNP)).
- Repeat or continuous ST-segment monitoring.
- Risk score assessment.
- Bleeding risk assessment.
- Differential diagnosis exclusion: echocardiogram, CT, MRI, nuclear imaging.

The probability of a diagnosis of NSTEMI-ACS increase if these include older age, male gender, and known atherosclerosis in non-coronary territories, such as peripheral or carotid artery disease. of risk factors, in particular diabetes mellitus and renal insufficiency as well as prior manifestation of CAD, i.e. previous MI, percutaneous coronary intervention or coronary bypass graft surgery

Primary therapeutic measures

Oxygen	Insufflation (4-8 L/min) if oxygen saturation is <90%
Nitrate	Sublingually or intravenously (caution if systolic blood pressure <90 mmHg).
Aspirin	Initial dose of 160-325 mg non-enteric formulation (intravenous administration is acceptable)
Clopidogrel	300 mg (or 600 mg for rapid onset of action)
Anticoagulation	UFH intravenous bolus 60-70 IU/kg (maximum 5000 IU) followed by infusion of 12-15IU/kg/h (maximum 1000 IU/h) titrated to aPTT 1.5-2.5 times control
Morphine	3-5 mg intravenously or subcutaneously depending on pain severity
Oral beta-blocker	Particularly if tachycardia or hypertension without sign of heart failure
Atropine	0.5-1 mg intravenously if bradycardia or vagal reaction

Urgent

- Persistent or recurrent angina with/without STchanges (≥2mm) or deep neg. T resistant to anti-anginal treatment.
- Clinical symptoms of heart failure or progressing haemodynamic instability.
- Life-threatening arrhythmias (VF, VT)

Early (<72 H)

- Elevated troponin levels.
- Dynamic ST- or T -wave changes (symptomatic or silent)
- Diabetes mellitus
- Renal dysfunction (GFR < 60 mL/min/1.73 m²).
- Reduced left ventricular function (EF < 40%).
- Early post-infarction angina.
- Prior MI.
- PCI within 6 months.
- Prior CABG.
- Intermediate to high GRACE risk score <http://www.outcomes.org/grace>.

No elective

- No recurrence of chest pain.
- No signs of heart failure.
- No new ECG changes (arrival and at 6 –12 h)
- No elevation of troponins (arrival and at 6 –12 h).

Références : The Task Force for the Diagnosis and Treatment of Non-ST-Segment Elevation Acute Coronary Syndromes of the European Society of Cardiology/ European Heart Journal (2007) 28, 1598-1660

TIMI Risk score for NTSE-ACS

Pronostic Factors	Points
Age 65 years or older	1
Use of aspirin in prior 7 days	1
Prior known coronary stenosis of 50% or more	1
Elevated serum cardiac markers	1
At least 3 risk factors for CAD : family history, diabetes, hypertension, hypercholesterolemia, current smoking	1
Recent (≤24H) severe angina	1
ST deviation ≥ 0.5 mm	1
Score	: 7