

Points to Remember from the
ESC,ACC/AHA Guidelines of
NSTEMI in 2007

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Anticoagulant therapy

- In patients treated with *conservative* therapy, the preferred anticoagulant may be:
fondaparinux, enoxaparin (for 8 days or duration of hospitalization) **unfractionated heparin** (UFH) (for 48 hours) (in that order).
- In patients treated with *invasive* therapy, **enoxaparin** or **UFH**-based regimens have the most supporting evidence.
- For patients *undergoing CABG*, **ASA** should be continued while **clopidogrel** should be stopped 5-7 days before, and **low-molecule GP IIb/IIIa inhibitors** stopped 4 hours before the surgery. **Enoxaparin** should be stopped 12-24 hours prior and **fondaparinux** stopped 24 hours prior to CABG, and UFH started.
- All patients receiving intravenous **GP IIb/IIIa inhibitors** must also receive concomitant **UFH** or another **antithrombotic** agent.

- *Early invasive* therapy is preferable in the high-risk patients with ongoing symptoms or hemodynamic instability,
- whereas *either early invasive or conservative* therapy can be used in other patients based on physician and patient preference.
- In patients who are stable for 12-24 hours on conservative therapy, noninvasive stress testing should be performed prior to discharge.

- Choice of *surgical versus percutaneous* revascularization (similar to that in a patient with stable disease) should be determined by a patient's anatomy, left ventricular function, and presence or absence of diabetes and other comorbidities.

- Patients with non-ST-elevation myocardial infarction (NSTEMI) who had *totally occluded* vessels on angiography did not benefit from PCI in the OAT trial (similar to those with STEMI) and should not be intervened upon.

Antiplatelet therapy

- a) *ASA* should be administered to patients with ACS as soon as possible (unless contraindicated) and continued lifelong. Patients with ASA allergy or intolerance should be treated with clopidogrel.
- b) *Clopidogrel*, in addition to ASA, should be initiated in patients in whom either a conservative or an early invasive therapy is considered, but the likelihood of surgical disease requiring early coronary artery bypass grafting (CABG) is low.
- c) *Upstream use of eptifibatide or tirofiban* should be considered in high-risk patients and those with troponin elevation, especially if an invasive therapy is contemplated. *Abciximab* should not be used unless there is no appreciable delay to percutaneous coronary intervention (PCI). *Abciximab* can be used safely for PCI in patients who have not received upstream glycoprotein (GP) IIb/IIIa inhibitors and may be better than *tirofiban* in this population. *GP IIb/IIIa inhibitors* provide incremental benefit in patients with elevated troponin undergoing PCI even among those pretreated with clopidogrel.

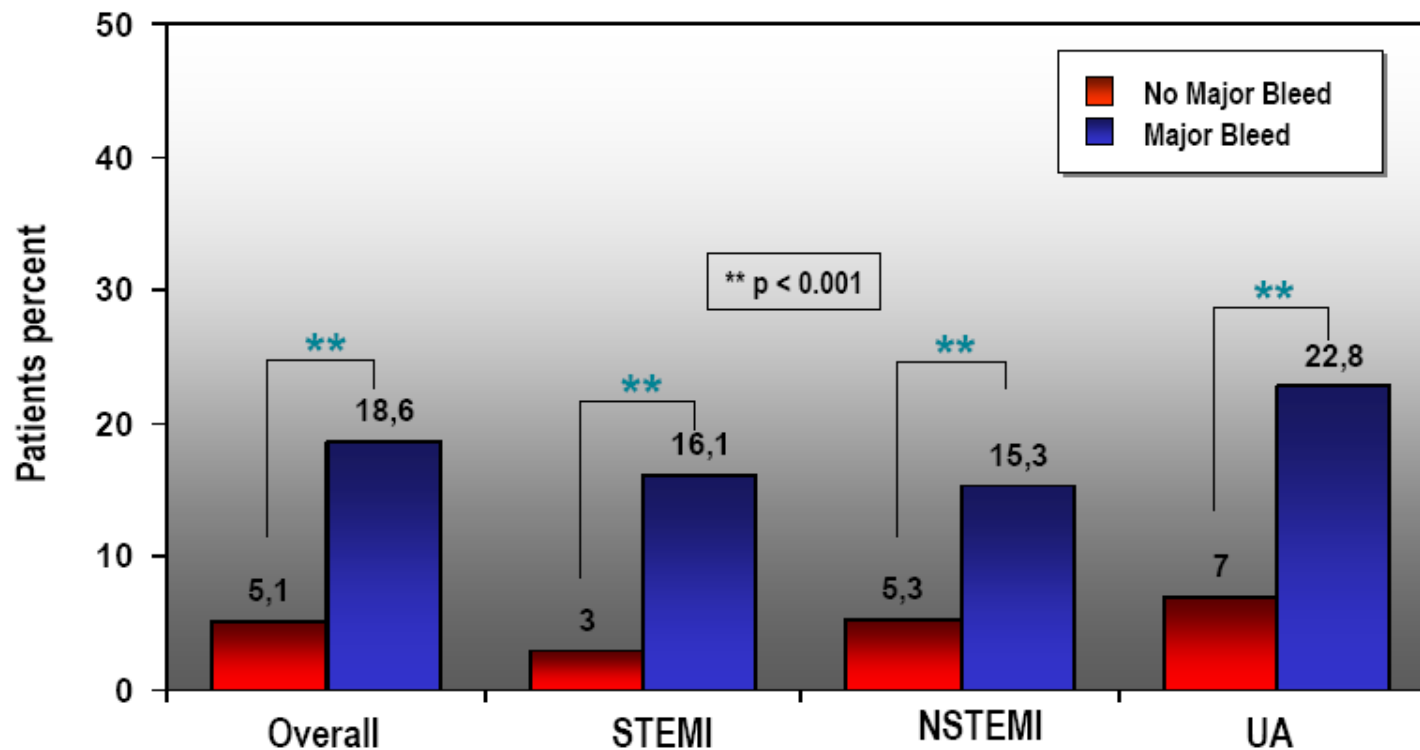
A New Concept is Born

1. Bleeding carries a high risk of death, MI and stroke
2. Rate of major bleeding is as high as the rate of death at the acute phase of NSTEMI-ACS
3. Prevention of bleeding is equally as important as prevention of ischemic events and results in a significant risk reduction for death, MI and stroke
4. Risk stratification for bleeding should be part of the decision making process

Recommendations for Resistance to Antiplatelet Treatment/Drugs Interactions

- Routine assessment of platelet aggregation inhibition in patients submitted to either aspirin or clopidogrel therapy, or both, is not recommended (IIb-C).
- NSAID (selective COX 2 inhibitors and non-selective NSAID) should not be administered in combination with either aspirin or clopidogrel (III-C).
- Clopidogrel can be administered with all statins (I-B).
- The triple association of aspirin, clopidogrel and VKA should only be given if compelling indication exists, in which case, the lowest efficacious INR and shortest duration for the triple association should be targeted (IIa-C).

In-Hospital Death Rates in Patients According to Major Bleeding

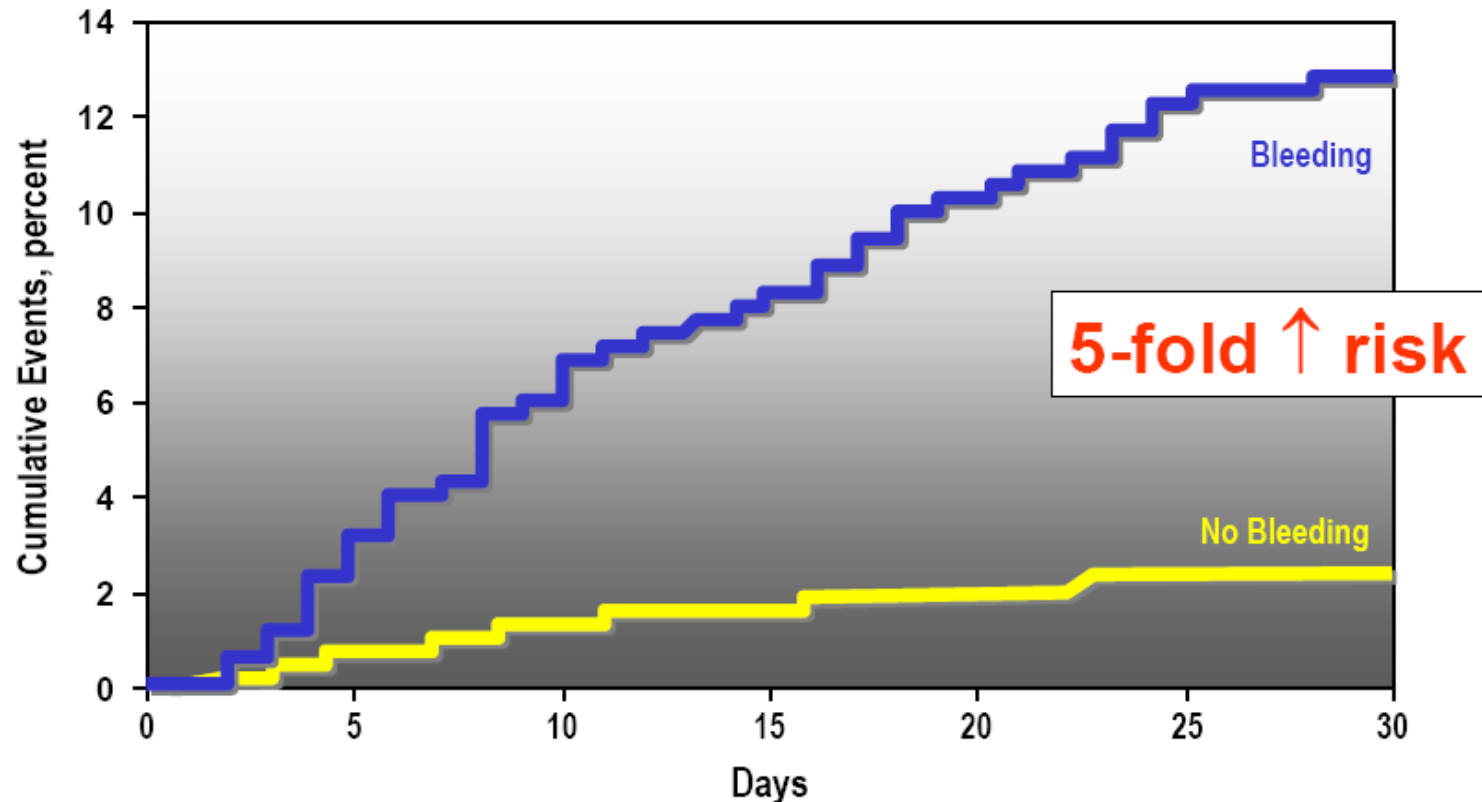


Moscucci M et al. *Eur Heart J* 2003;24:1815-23.

ESC Guidelines for the Management of NSTEMI-ACS (99)



30 Day Death According to Bleeding OASIS Registry, OASIS-2, CURE

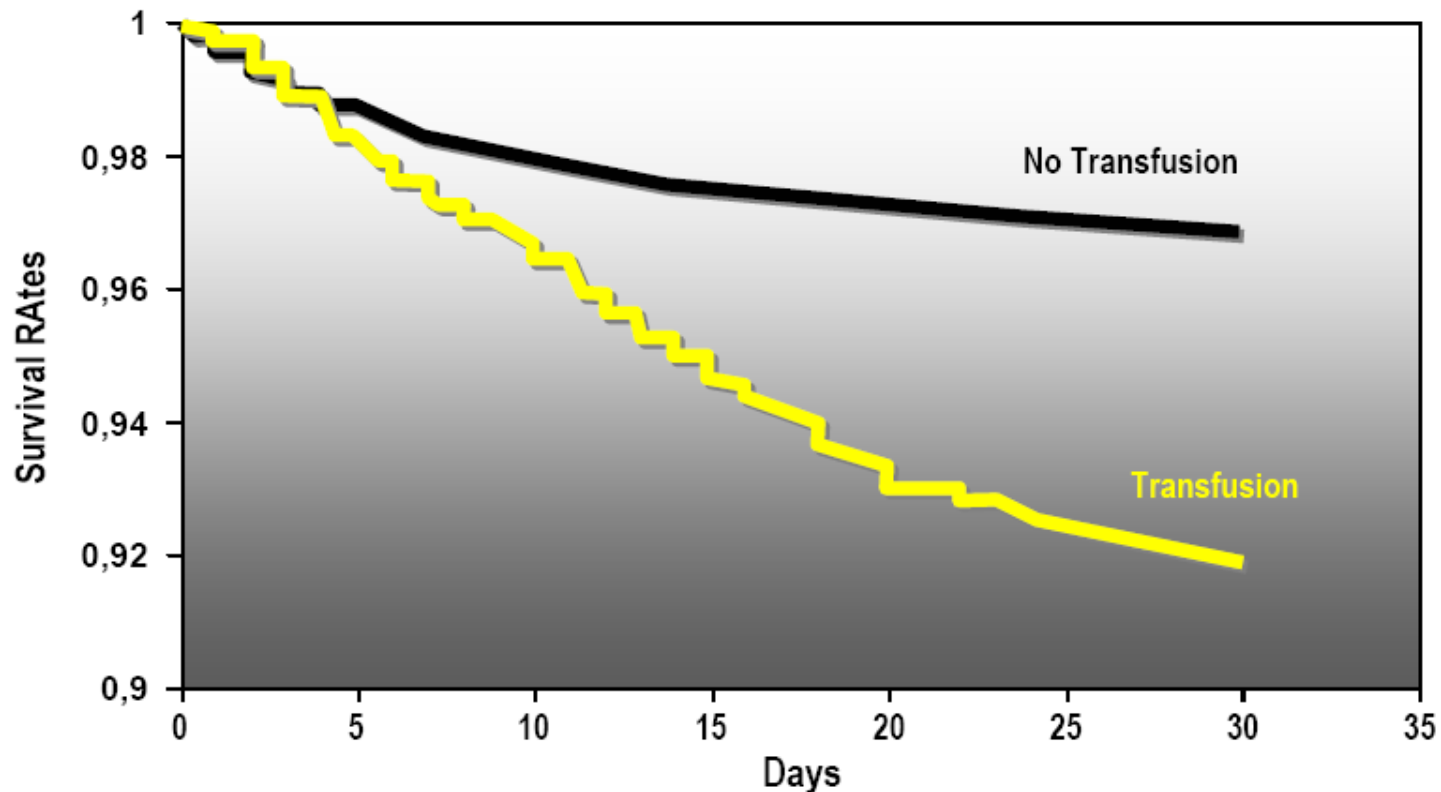


Eikelboom *Circulation* 2006;114: 774 - 782

ESC Guidelines for the Management of NSTEMI-ACS (100)



30 Day Survival by Transfusion Group GUSTO IIb, PURSUIT, PARAGON B (n=24,000 10% transfused)



Rao SV, JAMA 2004;292:1555

ESC Guidelines for the Management of NSTEMI-ACS (103)



Recommendations for GP IIb/IIIa Inhibitors (2)

- In high risk patients not pretreated with GP IIb/IIIa inhibitors and proceeding to PCI, abciximab is recommended immediately following angiography. (I-A) The use of eptifibatide or tirofiban in this setting is less well established (IIa-B).
- GP IIb/IIIa inhibitors must be combined with an anticoagulant (I-A).
- Bivalirudin may be used as an alternative to GP IIb/IIIa inhibitors plus UFH/LMWH. (IIa-B)
- When anatomy is known and PCI planned to be performed within 24 hours with GP IIb/IIIa inhibitors, most secure evidence is for abciximab (IIa-B)

What's New with Anti-coagulants

1 - Pharmacological Treatment

- Superior efficacy with equivalent safety of enoxaparin over UFH (Petersen meta-analysis)
- Fondaparinux non-inferior to enoxaparin in OASIS-5
- Fondaparinux reduced bleeding rate by ~ 50% in OASIS-5
- Reduction in bleeding impacts on outcome (significant risk reduction for death, MI and stroke)

2 - Anti-coagulants in the Setting of PCI

- Enoxaparin is not superior to UFH in SYNERGY
- Bivalirudin superior to UFH/LMWH + GPIIb/IIIa inhibitors in ACUITY

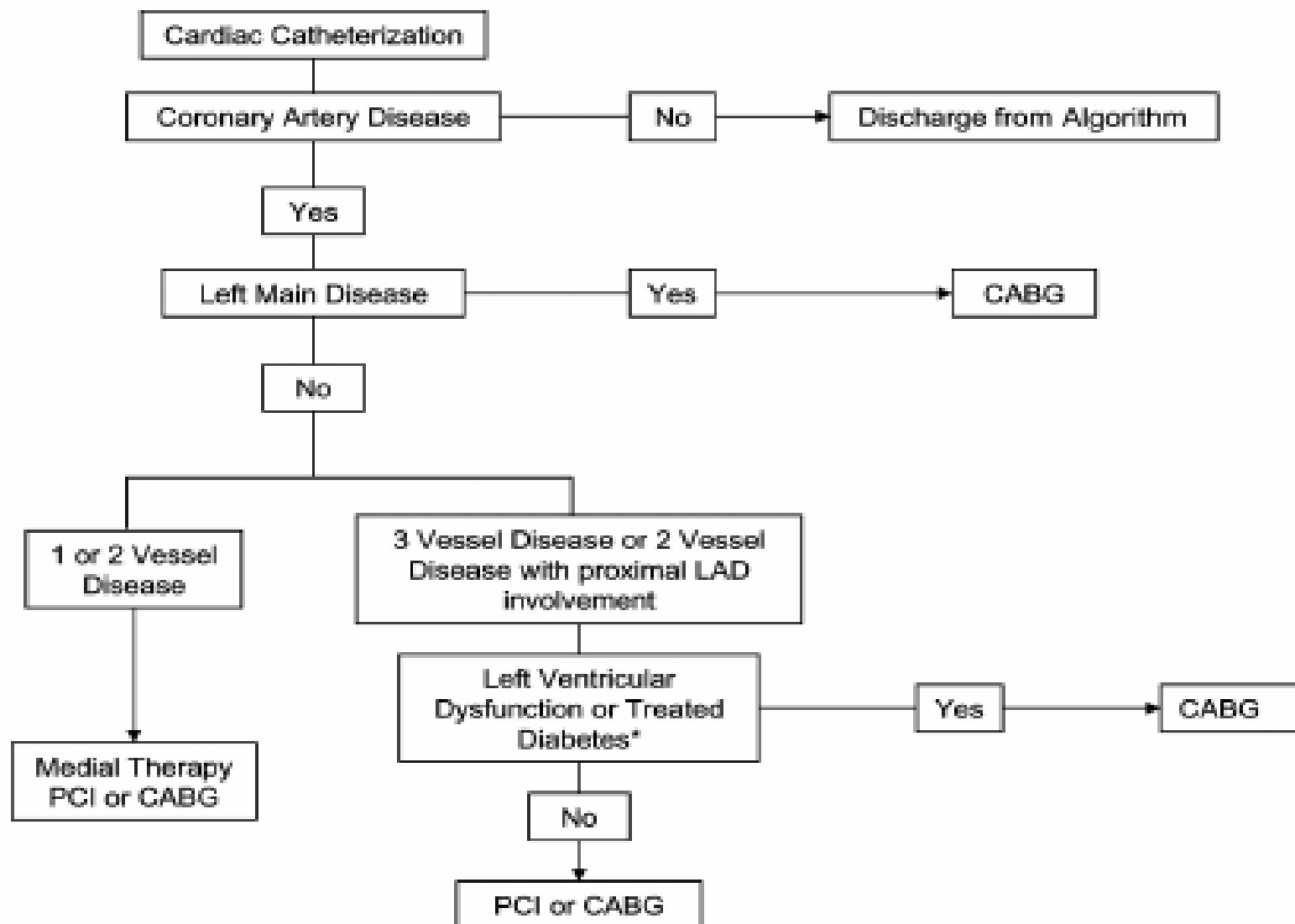


Figure 15. Revascularization Strategy in UA/NSTEMI

*There is conflicting information about these patients. Most consider CABG to be preferable to PCI. CABG = coronary artery bypass graft; LAD = left anterior descending coronary artery; PCI = percutaneous coronary intervention UA/NSTEMI = unstable angina/non-ST-elevation myocardial infarction.

