Editorial

Recent Update to the ACC/AHA Guidelines for the Management of Patients with Unstable Angina and Non-ST-Segment Elevation Myocardial Infarction: Role of Antiplatelet Therapy

RICHARD C. BECKER, M.D.

Division of Cardiology, Duke University Medical Center, Durham, North Carolina, USA

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Introduction

In March 2002, the American College of Cardiology/American Heart Association (ACC/AHA) updated their 2000 guidelines for managing patients with unstable angina (UA) and non-ST-segment elevation myocardial infarction (NSTEMI)¹ based on data from recently published studies. Several reviews summarizing the revised guidelines and additional data have since been published.² The guidelines address the use of evidence-based standards for risk stratification, prognostic role of biological markers, and use of antithrombotic therapy.

While initial triage of patients occurs in the emergency department (ED), the decision of whether to use medical or invasive treatment in the acute setting often rests with the cardiologist, as does the selection of long-term therapy. Cardiologists therefore represent a vital component to ensuring that the new guidelines are part of their hospital's management pathways, and that their emergency medicine and family practice colleagues are familiar with the current cardiovascular (CV) information. Beyond the establishment of hospital and/or system-wide management pathways, in-servicing, and education-based initiatives, strong considerations should be given to developing patient-specific care plans (provided to the patients at the time of hospital discharge) that outline medications and specific objectives of therapy. This approach not only empow-

ers the patient, but provides a summary that remains in the patient's possession, breaking down barriers in care arising from having multiple health care professionals involved with prescribing of medication.

Decisions regarding early management revolve around risk stratification into high, intermediate, and low risk for CV death and nonfatal cardiac ischemic events. Substantiated by several studies, the Thrombolysis in Myocardial Infarction (TIMI) 7-point risk score developed by Antman *et al.* is a helpful risk stratification tool,³ with a higher score predicting greater incidence of adverse cardiac events. Use of a standardized risk protocol improves outcomes and allows emergency physicians and cardiologists a better coordination of the evaluation and treatment of patients presenting with UA/NSTEMI.

The Underlying Evidence for Guideline Changes

In developing the revised guidelines, evidence from recent studies was classified on a spectrum from Class I (treatment is useful and effective) to Class III (evidence or general agreement that a treatment is useless or harmful). In between, evidence could be classified as Class IIa if it suggested usefulness, or as IIb if efficacy was less well established. Evidence was also assigned a weighting or level: A (highest) if based on multiple, large-scale, randomized clinical trials (RCTs); B (intermediate) for smaller RCTs and other studies; and C (lowest) for expert consensus recommendations.

Early Management

Anti-Ischemic Therapy

According to the revised guidelines, high-risk patients should receive anti-ischemic, antiplatelet, and anticoagulant (antithrombin) therapy.^{1,2} Nitroglycerin and/or morphine sulfate are recommended to relieve chest discomfort (Class I, level C).⁴ Unless contraindicated, beta blockers should be started if chest pain is ongoing (Class I, level B).⁴ For ongoing or recurring ischemia, a calcium antagonist may be added if there is

Address for reprints:

Richard C. Becker, M.D.
Duke Clinical Research Institute
P.O. Box 7969, Room 7006
Durham, NC 27715, USA

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no evidence of significant left ventricular dysfunction (Class I, level B). An angiotensin-converting enzyme inhibitor should be used to control persistent hypertension that is unresponsive to beta blockers and nitrates in patients with left ventricular systolic dysfunction or congestive heart failure and in diabetics with acute coronary syndromes (Class I, level B).^{2,4}

Antiplatelet Therapy

Antiplatelet therapy, including aspirin (ASA) combined with adenosine diphosphate (ADP)-receptor antagonists (e.g., thienopyridines such as clopidogrel) and/or glycoprotein (GP) IIb/IIIa antagonists, is critical in the treatment of patients with UA/NSTEMI.² Aspirin and clopidogrel have demonstrated a beneficial effect in low-, intermediate-, and high-risk patients.⁵ Unless contraindicated, ASA (162 or 325 mg) should be initiated as quickly as possible after presentation and continued indefinitely (Class I, level A).¹ Clopidogrel (300 mg loading dose, then 75 mg/day), which is recommended over ticlopidine given its more rapid onset of action and better safety profile,^{1,2} should be administered to patients unable to take ASA. In patients for whom an early noninterventional approach is planned, clopidogrel should be added to ASA as quickly as possible and continued for at least 1 month (Class I, level A), and then for up to 9 months (Class I, level B).¹ In patients for whom an interventional approach such as percutaneous coronary intervention (PCI) is anticipated and who are not at high risk for bleeding, clopidogrel should be administered and continued for at least 1 month (Class I, level A) and for up to 9 months (Class I, level B).¹ If a patient is receiving clopidogrel and elective coronary artery bypass graft (CABG) is planned, clopidogrel should be withheld for 5 to 7 days prior to surgery (Class I, level B).¹ A GP IIb/IIIa inhibitor should be administered, in addition to ASA and heparin, in patients for whom PCI is planned (Class I, level A).^{1,2}

Each institution should develop a specific protocol and/or clinical pathway that defines which patients should receive these drugs, which physician(s) will make the decision to initiate therapy, and where the drugs will be initiated (e.g., emergency department, coronary care unit, or catheterization laboratory). The protocol should be agreed on and supported by emergency physicians, cardiologists, interventionalists, and cardiovascular surgeons.

Antithrombin Therapy

Anticoagulation with intravenous unfractionated heparin (UFH) or subcutaneous low-molecular-weight heparin should be added to ASA and/or clopidogrel (Class I, level

A).² Enoxaparin is preferable to UFH unless the patient has evidence of renal failure or CABG is planned within 24 h (Class IIa, level A).²

Risk Factor Modification

In patients with high-density lipoprotein levels < 40 mg/dl, occurring independently or in combination with other lipid abnormalities, a fibrate or niacin is recommended (Class I, level B).² The use of a hydroxy-methylglutaryl-coenzyme A reductase inhibitor ("statin") and dietary alteration is recommended when low-density lipoprotein levels exceed 100 mg/dl. Therapy should begin 24 to 96 h after admission and be continued upon discharge (Class IIa, level B).²

Conclusions

The recently updated ACC/AHA guidelines for the management of patients with UA/NSTEMI provide an important resource for practicing clinicians that essentially translates randomized trials, expert opinion, and existing level of evidence into multidisciplinary pathways for achieving optimal care. Early risk stratification, administration of anti-ischemic, antiplatelet, and antithrombin therapy, and carefully selected employment of PCI represent readily attainable and vital elements of best practices for these commonly encountered patients. The combined effects of aspirin and clopidogrel offer both early and long-term benefit and should be considered the standard of care in the absence of prohibitive bleeding risk.

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