Editorial Comment

Acute coronary syndromes: more or less antithrombotic medication for the elderly?

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The treatment of elderly patients with acute coronary syndromes (ACS) remains challenging. About two thirds of patients with ACS and four fifth of patients who died from ACS are older than 65 years.1 In spite of the tremendous advances in our understanding of its pathophysiology during the past decades and multiple treatment options we now have, ACS is still a leading cause of death., both in developed countries and in many developing countries, including China. ACS result from the disruption of the atherosclerotic plaque, leading to intracoronary thrombus formation with aggregated platelets within a fibrin mesh. In light of this, fibrinolitics, antiplatelet and anticoagulant agents, together with revascularizations and beta blockers, are currently major components of therapy for ACS. Because of the shift of risk benefit ratio among different age groups, it is extremely complex to evaluate the potential risk and benefit for each of these intervention. For example, there has been considerable controversy around whether the results of thrombolysis trials, conducted mainly in younger patients, can be applied to elderly patients. Frequently the excellent evaluation should be performed on an individualized basis at the treating physician’s discretion.

Platelet glycoprotein (GP) IIb/IIIa blockers are powerful antiplatelet agents that block the final common pathway leading to platelet aggregation.2 In patients undergoing percutaneous coronary intervention (PCI) for various indications, including acute ST-elevated myocardial infarction (STEMI) and unstable angina/non-ST-elevated myocardial infarction (UA/NSTEMI), GP IIb/IIIa blockers have been shown to reduce cardiac complications, and their use in this setting is indicated clearly.3 For patients with ACS not routinely scheduled for early revascularization, a recent meta-analysis of six large trials also showed GP IIb/IIIa blockers associated with reduced death or MI. It was also found that the event reduction is greatest in patients at high risk of thrombotic complications.4 Because elderly patients were at higher risk of adverse events, it seems reasonable that they should be treated more aggressively with respect to antithrombotic medication, as in the case of primary percutaneous transluminal coronary angioplasty (PTCA), from which the elderly can derive the most benefit.5

However, it should be recognized that the risk of bleeding complications increases with age. A review of deaths reported to the US Food and Drug Administration between November 1997 and December 2000 found the average age of the death patients to be 69 years.6 In an analysis of over 30,000 patients, major bleeding occurred in 2.4% of patients who received GP IIb/IIIa blockers, compared 1.4% of patients who did not.7 This raises the question: should the elderly patients with ACS be given more or less antithrombotic medications such as the GP IIb/IIIa inhibitors?

In this issue of the Journal, Dr. Booker et al.7 provide some hints to the answer of this question. In 90 ACS patients with an average age of 74 years, of whom 40 (44) underwent PCI, the use of tirofiban was associated with lower incidence of a composite endpoint of death, reinfarction and major bleeding. More interestingly, only one out of 47 patients who received tirofiban had major bleeding, whereas it occurred in 4 out of 43 patients who did not receive GP IIb/IIIa blockers. Although it is noteworthy that the mean dose of unfractionated heparin (UFH) was higher in the GP IIb/IIIa blockers treatment group (912±112 units vs. 695±142), and patients in the non-treatment group had a lower baseline creatinine clearance, which may, at least in part, explain the worse outcome and the unexpected higher incidence of major bleeding in the non-treatment group.

This is not a randomized study, only a retrospective analysis of relatively a small number of patients in a single medical center. Despite of all these limitations, this study provides some more to the much needed data on the effect and safety of GP IIb/IIIa inhibitors in elderly patients with ACS, which is especially useful for physicians in China where the use of GP IIb/IIIa inhibitors is only at the beginning and only in a few patients.

References