THE EVALUATION OF ADMINISTERING A FIXED BOLUS OF UNFRACTIONATED HEPARIN PRIOR TO PRIMARY PERCUTANEOUS CORONARY INTERVENTION

ACC Moderated Poster Contributions
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Background: In many centers, patients presenting with a ST elevation myocardial infarction (STEMI) receive an initial bolus of 5000 units of unfractionated heparin (UFH) prior to primary percutaneous coronary intervention (PCI). The exact dosage for UFH remains controversial and low activated clotting time (ACT) has been associated with adverse ischemic outcomes. We sought to evaluate the effectiveness of this initial anticoagulation regimen through examining the first ACT and to determine baseline factors associated with non-therapeutic ACT.

Methods: We performed a retrospective analysis of patients who underwent primary PCI at our institution from 2009 to 2011. Demographics, clinical data and ACT values were retrieved through chart review. Patients were divided according to therapeutic ACT (≥ 250 seconds) or non-therapeutic ACT (<250 seconds) upon arrival to the catheterization laboratory. The 2 groups were compared in an attempt to determine factors that might influence the ACT.

Results: All 154 cases included in the study received an initial bolus of 5000 units of UFH. Upon arrival to the catheterization laboratory, 99 (64%) patients had a non-therapeutic ACT and 55 (36%) patients had a therapeutic ACT. Higher mean weight was associated with a lower likelihood of having a therapeutic ACT, 81 kg in the non-therapeutic group versus 73 kg in the therapeutic group (p=0.01). Higher mean age was associated with a higher likelihood of having a therapeutic ACT, 68 years versus 62 years in the non-therapeutic group (p=0.003). Additional heparin was administered in 77 patients in the non-therapeutic group versus 19 patients in the therapeutic group (p<0.0001). There was a trend for a longer door-to-balloon time being associated with a lower likelihood of having a therapeutic ACT. No significant differences were found between on- and off-hour presentations, the presence of thrombus or TIMI flow between the 2 groups.

Conclusion: An initial bolus of 5000 units of unfractionated heparin was not sufficient to achieve a therapeutic ACT in two thirds of our study population. A weight-based approach may be preferable to a standard heparin dose to achieve a therapeutic ACT in patients undergoing primary PCI.