ACC.17™

1203
JACC March 21, 2017
Volume 69, Issue 11

Interventional Cardiology

COMPLIANCE AND BLEEDING USING UPDATED AHA AND ACC HEPARIN DOSING GUIDELINES FOR NON-ST ELEVATION MYOCARDIAL INFARCTION PATIENTS

Poster Contributions
Poster Hall, Hall C
Saturday, March 18, 2017, 9:45 a.m.-10:30 a.m.

Session Title: Novel Developments in Acute Coronary Syndromes
Abstract Category: 15. Interventional Cardiology: ACS/AMI/Hemodynamics and Pharmacology
Presentation Number: 1194-165

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Background: In 2015, we implemented updated AHA/ACC heparin dosing guidelines for Non-ST elevation myocardial infarction (NSTEMI) patients to decrease the maximum initial bolus from 7500 units(u) to 4000 u, and the initial infusion rate from 1500 u/hour to 1000 u/hour. As part of the National Cardiovascular Data Registry (NCDR) quality assurance process, compliance and the rates of bleeding were recorded.

Methods: The study was conducted in a 546 bed tertiary care center. NCDR defines bleeding events as any of the following within 72 hours of starting heparin: 1) Hemoglobin (Hgb) drop >=3 g/dl; 2) Transfusion of red blood cells with Hgb > 8g/dl; 3) Procedural site intervention to address bleeding.

Results: In 2014, 62% (78/125) received a heparin bolus >4000 u vs. 22% (23/105) in 2015: Relative Risk (RR) 2.8 (95% CI [1.9,4.2]). In 2014, 9.6% received a bolus >7500 u vs. 8.6% in 2015 (chi2 p=0.79). The average drop in Hgb was similar: 1.9 +/- 1.6 in 2014 vs. 1.9 +/- 1.7 in 2015. The NCDR bleeding rate in 2014 (2.5%) was not significantly different from 2015 (5%), (Wilcoxon rank-sum p=0.20), and in 2014 the RR of a Hgb drop>=3 g/dl for the entire admission was 1.05 (95% CI [0.6,1.9]).

Conclusions: Implementation of the new recommendations was associated with a 40% decline in excessive heparin dosing for NSTEMI patients at our institution, but the rate of NCDR defined bleeding did not change significantly. The stable bleeding rate could be explained by the presence of confounders that were not recorded as part of the nursing quality assurance process, or possibly a threshold effect in that the risk of bleeding does not directly correlate with the degree of activated partial thromboplastin time elevation, or an effect size too small to be detected by 230 patients. We are now conducting a detailed chart review to describe the demographics of all NSTEMI patients to compare those with a NCDR bleeding event and to patients who had a Hgb drop >=3 during hospitalization but did not meet NCDR criteria.