P4619

Comparison of the CRUSADE, ACUITY-HORIZONS, and ACTION bleeding risk scores for predicting in-hospital bleeding in acute myocardial infarction patients undergoing primary PCI

Z. Mehmedbegovic[1], D. Milasinovic[1], D. Jelic[1], V. Zobenica[1], D. Matic[1], V. Dedovic[1], M. Radomirovic[2], A. Pavlovic[3], I. Veljic[1], S. Zaharijev[1], M. Asanin[1], V. Vukcevic[1], G. Stankovic[1]

[1]Clinical center of Serbia, Department of cardiology, Belgrade, Serbia; [2]University of Belgrade, School of Medicine, Belgrade, Serbia; [3]University Children's Hospital of Belgrade, Belgrade, Serbia

Background: Considering clinical importance of bleeding complications in patients with acute myocardial infarction (AMI), bleeding risk stratification is a key part of the management of these patients. CRUSADE, ACTION and ACUITY-HORIZONS bleeding risk scores are available for predicting in-hospital major bleeding events in patients with acute myocardial infarction.

Purpose: We aimed to evaluate performance of the three above mentioned risk scores for predicting in-hospital bleeding events defined according to The Bleeding Academic Research Consortium (BARC) criteria.

Methods: From a prospective electronic registry of a high-volume catheterization laboratory in a period from January 2009 to December 2017, a total of 6505 consecutive patients with acute myocardial infarction who underwent pPCI were included in analysis. Calibration and discrimination of the three risk models were evaluated by the Hosmer-Lemeshow (H-L) goodness-of-fit test and C-statistic, respectively.

Results: Overall there were 372 (5.7%) bleeding events out of which 117 (1.8%) fulfilled stage BARC 3 or higher bleeding criteria. All three scores showed good model calibration as assessed by the H-Ls test and very good discriminative power for BARC 3 of higher bleeding events detection as assessed by C-statistics (Table 1 & Figure 1):

Bleeding events stage BARC 3 or higher were statistically highly related with higher in-hospital mortality (13.7% vs. 3.5%; $p<0.000$).

Conclusions: All three evaluated scores showed very good discriminative capacity for predicting BARC 3 or higher bleeding events in patients undergoing pPCI for AMI.

Table 1

Risk score	H-L	H-L p	AUC	95% CI	p
CRUSADE	11.46	0.177	0.761	0.750–0.771	vs. ACUITY = ns vs. ACTION <0.000
ACUITY-HORIZONS	10.47	0.236	0735	0.724–0.745	vs. ACTION = ns
ACTION	5.74	0.677	0.701	0.698–0.712	

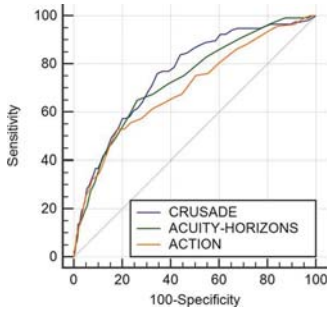

Figure 1