Acute Coronary Syndromes

ASSOCIATION BETWEEN CORONARY CALCIFICATION AND BLEEDING AFTER PCI IN ACS: POOLED ANALYSIS FROM HORIZONS-AMI AND ACUITY TRIALS

Moderated Poster Contributions
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Background: PCI of calcified compared to non-calcified coronary lesions have been associated with higher rates of adverse ischemic events. However, the potential association between coronary calcification and bleeding events has not been examined.

Methods: Data from 6,855 pts with UA-NSTEMI or STEMI treated by PCI were pooled from 2 large-scale randomized controlled trials, ACUITY and HORIZONS-AMI. Angiographic assessment was done by an independent core laboratory. Patients were divided into 2 groups according to whether PCI lesions were vs. were not moderately/severely (M/S) calcified. Thirty-day bleeding event rates were assessed.

Results: Among the total cohort, 31.9% (2,190/6,855) underwent PCI of M/S calcified lesions. At 30 days, the unadjusted rates of major CABG bleeding, non-CABG bleeding, and blood transfusions were significantly increased in the group with M/S calcified lesions (Table). Specifically, non-access site bleeding, but not access-site bleeding, was associated with the severity of coronary calcification. By multivariable analysis, the PCI of M/S calcified lesions was a strong independent predictor of non-CABG major bleeding, CABG major bleeding, and TIMI major bleeding, with a strong trend for any blood product transfusion.

Conclusions: In pts with acute coronary syndromes undergoing PCI, target lesion coronary calcification is strongly predictive of non-access site related major bleeding. Further studies are needed to elucidate the mechanisms underlying this finding.

Table 1. Bleeding Rates Within 30-days After PCI Stratified by Severity of Target Lesion Coronary Calcification

	Moderate/Severe N=2,190	None/Mild N=4,655	Unadjusted p value	Adjusted Hazard Ratio [95% CI]	p value
Non-CABG major bleed	7.9% (171)	5.9% (273)	0.002	1.26 [1.03,1.54]	0.03
Non-CABG major bleed (excluding hematoma ≥ 5cm)	7.4% (159)	5.2% (239)	0.0004	1.38 [1.12,1.71]	0.002
CABG major bleed	5.5% (120)	3.2% (149)	<0.0001	1.53 [1.18,1.98]	0.001
Access site related bleed	14.6% (317)	14.8% (687)	0.80	0.94 [0.82,1.08]	0.39
Retroperitoneal bleed	0.8% (15)	0.7% (34)	0.86	-	-
Access site hemorrhage	0.4% (8)	0.4% (19)	0.81	-	-
Hematoma ≥ 5cm at puncture site	2.0% (44)	1.8% (86)	0.62	-	-
Hematoma < 5cm at puncture site	6.9% (151)	7.4% (345)	0.48	-	-
Prolonged bleed at puncture site (>30min)	0.7% (16)	0.7% (31)	0.75	-	-
Oozing at puncture site	7.3% (157)	7.1% (331)	0.90	-	-
TIMI major/minor bleed	8.1% (175)	6.0% (280)	0.002	1.25 [1.02,1.53]	0.03
TIMI major bleed	2.9% (63)	1.8% (84)	0.003	1.54 [1.10,2.16]	0.01
Hgb drop ≥ 4g/dL w/o overt bleed	3.1% (66)	1.8% (82)	0.0008	1.54 [1.09,2.18]	0.01
Blood product transfusion	4.0% (86)	2.9% (136)	0.024	1.29 [0.97,1.72]	0.08