

The High-Grade Oxidative Profile (OXpr), Aortic Stiffness Parameters, and Hemogram-Derived Indices (HDI) as Predictors of Long-Term Major Adverse Cardiovascular Events (MACEs) Following Percutaneous Coronary Intervention (PCI) in Patients with Non-ST-Elevation Acute Coronary Syndrome (NSTEMI-ACS) and Chronic Coronary Syndrome (CCS)

Lominadze Zaza, Chelidze Kakhaber, Chelidze Levan, Lominadze Ekaterine

SUPPLEMENTARY MATERIALS

TABLE S1. Demographic characteristics and medical history of study patients

	NSTEMI-ACS N=100	CCS N=90	p-value
Age (years), M±SD	51.8 ± 0.78	49.1 ± 1.02	0.236
Male gender, n (%)	74 (74)	52 (57)	0.874
BMI, M± SD	27.76 ± 0.35	27.81 ± 0.36	0.924
Hypertension, n (%)	51 (51)	41 (45)	0.413
Dyslipidemia, n (%)	62 (62)	56 (61.5)	0.948
Smoking, n (%)	52 (52)	45 (49.5)	0.726
Type 2 DM, n (%)	44 (44)	38 (41.8)	0.755
CrCl, mL/min	90.03±13.44	88.70±15.61	0.619
LVEF(%)	52.14 ± 4.67	51.58±6.39	0.943
COPD (%)	11(11)	12.1(11)	0.815
PAD (%)	11(11)	13.2(12)	0.805
BB, n (%)	31 (31)	27 (29.7)	0.842
CCB, n (%)	36 (36)	28 (30.8)	0.446
ACEIs/ARBs, n (%)	42 (42)	38 (41.8)	0.973
Statins, n (%)	42 (42)	45 (49.5)	0.238
Nitrates, n (%)	22 (22)	42 (46.2)	<0.0001

Abbreviations: ACEIs: angiotensin-converting enzyme inhibitors; ARBs: angiotensin receptor blockers; BB: beta-blockers; BMI: body mass index; CCB: calcium channel blockers; CCS: chronic coronary syndrome; NSTEMI-ACS: non-ST-elevation acute coronary syndrome.

TABLE S2. Univariate linear regression analysis coefficients of correlation between Z-scores of periprocedural oxidative profile, arterial stiffness parameters, hemogram-derived indices, and postprocedural PCI SYNTAX score II \*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.198±0.071	0.058, 0.339	0.006
Zscore(SBPao)	0.362±0.068	0.228, 0.496	0.000
Zscore(PPao)	0.244±0.071	0.105, 0.383	0.001
Zscore(Aix)	0.283±0.070	0.146, 0.421	0.000
Zscore(PWVao)	0.245±0.071	0.106, 0.384	0.001
Zscore(RT)	-0.241±0.071	-0.380, -0.102	0.001
Zscore(NLR)	0.276±0.070	0.138, 0.414	0.000
Zscore(MLR)	-0.035±0.073	-0.178, 0.109	0.632
Zscore(PLR)	0.279±0.070	0.141, 0.417	0.000
Zscore(MPV)	0.073±0.073	-0.071, 0.216	0.319

\*R=0.459

Abbreviations: Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S3.** Multiple linear regression analysis coefficients of correlation between Z-scores of periprocedural oxidative profile, arterial stiffness parameters, hemogram-derived indices, and postprocedural PCI SYNTAX score II \*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.063±0.073	-0.082, 0.208	0.392
Zscore(SBPao)	0.230±0.078	0.075, 0.384	<b>0.004</b>
Zscore(PPao)	0.055±0.081	-0.105, 0.215	0.500
Zscore(Aix)	0.083±0.084	-0.083, 0.248	0.325
Zscore(PWVao)	-0.021±0.103	-0.225, 0.183	0.838
Zscore(RT)	-0.047±0.095	-0.234, 0.140	0.619
Zscore(NLR)	0.083±0.080	-0.074, 0.240	0.298
Zscore(MLR)	-0.056±0.067	-0.188, 0.077	0.408
Zscore(PLR)	0.141±0.078	-0.013, 0.294	0.072
Zscore(MPV)	0.106±0.070	-0.033, 0.244	0.133

\*R=0.459

Abbreviations: Aix: augmentation index; MACES: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S4.** Univariate linear regression analysis coefficients of correlation between Z-scores of postprocedural PCI SYNTAX score II and 36-month cumulative mortality\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(SYNTAXscore)	0.852±0.038	0.777, 0.927	<b>0.000</b>

\*R=0.852

**TABLE S5.** Univariate linear regression analysis coefficients of correlation between Z-scores of postprocedural PCI SYNTAX score II and 36-month cumulative frequency of MACE\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(SYNTAXscore)	0.318±0.069	0.182, 0.454	<b>0.000</b>

\*R=0.318

**TABLE S6.** Multiple linear regression analysis coefficients of correlation between Z-scores of average values of oxidative profile (OXpr), arterial stiffness parameters, hemogram-derived indices (HDI), baseline PCI SYNTAX score II, and 36-month cumulative mortality\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.017±0.036	-0.105, 0.139	0.782
Zscore(SBPao)	0.011±0.062	-0.111, 0.133	0.859
Zscore(PPao)	-0.027±0.049	-0.124, 0.071	0.133
Zscore(Aix)	0.065±0.052	-0.037, 0.168	0.208
Zscore(PWV)	-0.111±0.063	-0.111, -1,760	0.080
Zscore(RT)	-0.018±0.055	-0.125, 0.090	0.749
Zscore(NLR)	0.149±0.056	0.039, 0.259	<b>0.008</b>
Zscore(MLR)	-0.090±0.048	-0.185, 0.005	0.063
Zscore(PLR)	0.103±0.046	-0.1994, 0.113	<b>0.025</b>
Zscore(MPV)	0.018±0.039	-0.059, 0.95	0.641
Zscore(SYNTAXscore)	0.854±0.042	0.772, 0,937	<b>0.000</b>

\*R=0.874

**Abbreviations:** Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S7.** Multiple linear regression analysis coefficients of correlation between Z-scores of average values of oxidative profile (OXpr), arterial stiffness parameters, hemogram-derived indices (HDI), and 36-month cumulative incidence of myocardial infarction\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.216±0.092	0.033, 0.398	<b>0.021</b>
Zscore(SBPao)	0.199±0.092	0.017, 0.381	<b>0.032</b>
Zscore(PPao)	0.048±0.074	-0.097, 0.194	0.514
Zscore(Aix)	-0.059±0.078	-0.212, 0.094	0.448
Zscore(PWV)	0.073±0.094	-0.113, 0.259	0.438
Zscore(RT)	0.088±0.082	-0.073, 0.250	0.281
Zscore(NLR)	0.401±0.08	0.235, 0.566	<b>0.000</b>
Zscore(MLR)	-0.048±0.072	-0.191, 0.094	0.505
Zscore(PLR)	0.175±0.069	0.0139, 0.311	<b>0.012</b>
Zscore(MPV)	0.071±0.058	-0.044, 0.186	0.227

\*R=0.685

**Abbreviations:** Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S8.** Multiple linear regression analysis coefficients of correlation between Z-scores of average values of oxidative profile (OXpr), arterial stiffness parameters, hemogram-derived indices (HDI), and 36-month cumulative frequency of stroke\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.087±0.116	-0.143, 0.317	0.445
Zscore(SBPao)	0.147±0.116	-0.082, 0.376	0.208
Zscore(PPao)	-0.061±0.093	-0.245, 0.122	0.509
Zscore(Aix)	0.045±0.098	-0.148, 0.238	0.645
Zscore(PWV)	0.047±0.119	-0.188, 0.281	0.696
Zscore(RT)	0.063±0.103	-0.140, 0.266	0.541
Zscore(NLR)	0.220±0.105	0.012, 0.428	<b>0.038</b>
Zscore(MLR)	-0.123±0.091	-0.303, 0.057	0.179
Zscore(PLR)	0.148±0.087	-0.022, 0.319	0.088
Zscore(MPV)	0.071±0.074	-0.075, 0.216	0.338

\*R=0.396

**Abbreviations:** Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S9.** Multiple linear regression analysis coefficients of correlation between Z-scores of average values of oxidative profile (OXpr), arterial stiffness parameters, hemogram-derived indices (HDI), and 36-month cumulative frequency of hospitalization because of heart failure\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.095±0.106	-0.113, 0.303	0.370
Zscore(SBPao)	0.024±0.105	-0.184, 0.232	0.820
Zscore(PPao)	0.076±0.084	-0.90, 0.242	0.370
Zscore(Aix)	-0.018±0.089	-0.193, 0.157	0.842
Zscore(PWV)	0.181±0.108	-0.031, 0.394	0.094
Zscore(RT)	0.086±0.093	-0.099, 0.270	0.359
Zscore(NLR)	0.247±0.096	0.059, 0.436	<b>0.010</b>
Zscore(MLR)	0.074±0.083	-0.089, 0.237	0.369
Zscore(PLR)	0.192±0.079	0.037, 0.347	<b>0.015</b>
Zscore(MPV)	0.051±0.067	-0.081, 0.183	0.445

\*R=0.554

**Abbreviations:** Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S10.** Multiple linear regression analysis coefficients of correlation between Z-scores of average values of oxidative profile (OXpr), arterial stiffness parameters, hemogram-derived indices (HDI), and 36-month cumulative frequency of revascularization\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.178±0.093	-0.113, 0.303	0.059
Zscore(SBPao)	0.085±0.093	-0.184, 0.232	0.366
Zscore(Ppao)	0.060±0.075	-0.90, 0.242	0.425
Zscore(Aix)	-0.041±0.079	-0.193, 0.157	0.605
Zscore(PWV)	0.052±0.095	-0.031, 0.394	0.587
Zscore(RT)	0.052±0.083	-0.099, 0.270	0.531
Zscore(NLR)	0.538±0.085	0.059, 0.436	<b>0.000</b>
Zscore(MLR)	-0.047±0.073	-0.089, 0.237	0.523
Zscore(PLR)	0.070±0.070	0.037, 0.347	0.318
Zscore(MPV)	0.043±0.059	-0.081, 0.183	0.465

\*R=0.676

**Abbreviations:** Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.

**TABLE S11.** Multiple linear regression analysis coefficients of correlation between Z-scores of average values of oxidative profile (OXpr), arterial stiffness parameters, hemogram-derived indices (HDI), and 36-month cumulative frequency of atrial fibrillation\*

Model	Unstandardized/Standardized Coefficients Beta ± SE	95% Confidential Interval	p-value
Zscore(OXpr)	0.027±0.106	-0.182, 0.236	0.798
Zscore(SBPao)	0.267±0.106	0.058, 0.476	<b>0.013</b>
Zscore(Ppao)	-0.076±0.085	-0.243, 0.091	0.369
Zscore(Aix)	0.106±0.089	-0.080, 0.282	0.235
Zscore(PWV)	-0.066±0.108	-0.280, 0.148	0.543
Zscore(RT)	-0.022±0.094	-0.207, 0.163	0.816
Zscore(NLR)	0.230±0.096	0.040, 0.419	<b>0.018</b>
Zscore(MLR)	0.003±0.083	-0.161, 0.167	0.973
Zscore(PLR)	0.173±0.079	0.017, 0.328	<b>0.030</b>
Zscore(MPV)	0.147±0.067	0.015, 0.279	<b>0.030</b>

\*R=0.548

**Abbreviations:** Aix: augmentation index; MACEs: major adverse cardiovascular events; MLR: monocyte-to-lymphocyte ratio; MPV: mean platelet volume; NLR: neutrophil-to-lymphocyte ratio; OXpr: oxidative profile; PLR: platelet-to-lymphocyte ratio; PPao: aortic (central) pulse pressure; PWVao: aortic pulse wave velocity; RT: return time of the aortic pulse wave; SBPao: central systolic blood pressure; SE: standard error.