

Supplementary material

Morawiec R, Matuszewska-Brycht O, Maeser P, et al. Are in-hospital mortality predictors based on complete blood count useful in patients with infective endocarditis? A retrospective tertiary center perspective (2015–2022). *Pol Arch Intern Med.* 2023; 133: 16617. doi:10.20452/pamw.16617

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Table S1. Mortality analysis results.

Number of deaths and mortality over the analyzed period					
Number of cases [N]	Patients Treated with Cardiac Surgery [N / %]	Overall Deaths [N]	Overall Mortality [%]	Preoperative Deaths [N]	Perioperative Deaths [N]
194	126 / 64.9%	54	27.8%	28	26

Table S2. Results of laboratory tests at admission.

Results of laboratory tests		
Parameter	Median	Range
WBC [$\times 10^3/\mu\text{L}$]	9.61	(2.6 - 29.2)
Lym [$\times 10^3/\mu\text{L}$]	1.405	(0.13 - 6.34)
RDW [%]	15.5	(11.5 - 30.5)
Plt [$\times 10^3/\mu\text{L}$]	246.5	(23 - 628)
CRP [mg/l]	50.4	(0.7 - 454.9)
PCT [$\mu\text{g/L}$]	0.24	(0.03 - 80.36)
NT-proBNP [pg/ml]	4743	(49.6 - 70000)
e-GFR [ml/min/1.73m ²]	67.45	(5.1 - 152.7)
Crea [$\mu\text{mol/l}$]	95	(40.7 - 986)
UR [mmol/l]	7.59	(1.53 - 45.78)
Parameter	Mean	Standard deviation
Hgb [g/dl]	10.63	1.74

Data are shown as median with range and mean with standard deviation, depending on normality distribution of a certain parameter.

WBC – white blood count; Lym – Lymphocytes count; RDW – Red blood cell distribution width; Plt - Platelet count; Hgb - Hemoglobin; CRP - C-reactive protein; PCT - Procalcitonin; NT-proBNP - N-terminal prohormone of brain natriuretic peptide; eGFR - Estimated Glomerular Filtration Rate; Crea - Creatinine; UR – Urea

Table S3. Logistic regression analysis results (univariate analysis)

Logistic regression analysis results				
Overall Deaths*	OR (odds ratio)	Lower 95% Confidence interval	Upper 95% Confidence interval	p
WBC [$\times 10^3/\mu\text{L}$]	1.07	0.999	1.15	0.052
Lym [$\times 10^3/\mu\text{L}$]	0.70	0.44	1.13	0.14
RDW [%]	1.31	1.14	1.50	<0.001
Plt [$\times 10^3/\mu\text{L}$]	0.996	0.99	0.999	0.006
NLR	1.07	1.02	1.12	0.009
PLR	1.0002	0.998	1.003	0.87
PNR	0.98	0.97	0.997	0.02
Hgb [g/dl]	0.82	0.68	0.995	0.04
CRP [mg/l]	1.0028	0.999	1.007	0.17
PCT [$\mu\text{g/L}$]	1.21	1.04	1.40	0.01
NT-proBNP [pg/ml]	1.000058	1.00004	1.00008	<0.001
NT-proBNP [1000pg/ml]	1.06	1.035	1.08	<0.001
NT-proBNP/PLT-R	1.0018	0.9998	1.004	0.07
NT-proBNP/RDW-R	1.0009	1.0005	1.001	<0.001
e-GFR [ml/min/1,73m ²]	0.98	0.97	0.99	<0.001
Crea [$\mu\text{mol/l}$]	1.004	1.0015	1.007	0.002
UR [mmol/l]	1.10	1.05	1.15	<0.001
Preoperative Deaths*	OR (odds ratio)	Lower 95% Confidence interval	Upper 95% Confidence interval	p
WBC [$\times 10^3/\mu\text{L}$]	1.06	0.98	1.15	0.16
Lym [$\times 10^3/\mu\text{L}$]	0.48	0.24	0.94	0.03
RDW [%]	1.26	1.08	1.46	0.003
Plt [$\times 10^3/\mu\text{L}$]	0.99	0.99	0.997	<0.001
NLR	1.06	1.01	1.11	0.01
PLR	0.999	0.996	1.003	0.76
PNR	0.97	0.94	0.99	0.008
Hgb [g/dl]	0.94	0.74	1.19	0.6
CRP [mg/l]	1.004	0.999	1.01	0.15
PCT [$\mu\text{g/L}$]	1.21	1.05	1.39	0.01
NT-proBNP [pg/ml]	1.00004	1.00002	1.0001	<0.001
NT-proBNP/PLT-R	1.0015	0.9999	1.003	0.07
NT-proBNP/RDW-R	1.0006	1.0003	1.001	<0.001
Crea [$\mu\text{mol/l}$]	1.003	1.001	1.006	0.01
e-GFR [ml/min/1,73m ²]	0.97	0.96	0.99	<0.001
UR [mmol/l]	1.08	1.03	1.13	0.001
Perioperative Deaths*	OR (odds ratio)	Lower 95% Confidence interval	Upper 95% Confidence interval	p

WBC [$\times 10^3/\mu\text{L}$]	1.05	0.96	1.15	0.26
Lym [$\times 10^3/\mu\text{L}$]	1.06	0.63	1.81	0.82
RDW [%]	1.16	1.003	1.33	0.045
Plt [$\times 10^3/\mu\text{L}$]	0.9997	0.996	1.003	0.86
NLR	1.02	0.97	1.07	0.45
PLR	1.0008	0.998	1.004	0.6
PNR	0.996	0.98	1.01	0.6
Hgb [g/dl]	0.76	0.58	0.98	0.04
CRP [mg/l]	1.0008	0.995	1.006	0.77
PCT [$\mu\text{g/L}$]	0.995	0.92	1.07	0.9
NT-proBNP [pg/ml]	1.00003	1.00001	1.00006	0.002
NT-proBNP/PLT-R	1.0002	0.999	1.002	0.77
NT-proBNP/RDW-R	1.0006	1.0002	1.0009	0.002
e-GFR [ml/min/1,73m ²]	0.99	0.98	1.002	0.11
Crea [$\mu\text{mol/l}$]	1.002	0.9996	1.004	0.11
UR [mmol/l]	1.06	1.01	1.11	0.02

WBC – white blood count; Lym – Lymphocytes count; RDW – Red blood cell distribution width; Plt - Platelet count; NLR - Neutrophils/Lymphocytes Ratio; PLR - Platelets/Lymphocytes Ratio; PNR - Platelets/Neutrophils Ratio; Hgb - Hemoglobin; CRP - C-reactive protein; PCT - Procalcitonin; NT-proBNP - N-terminal prohormone of brain natriuretic peptide; NT-proBNP/PLT-R - N-terminal prohormone of brain natriuretic peptide/Platelets Ratio; NT-proBNP/RDW-R - N-terminal prohormone of brain natriuretic peptide/ Red blood cell distribution width Ratio; eGFR - Estimated Glomerular Filtration Rate; Crea - Creatinine; UR – Urea

Table S4. Receiver operating characteristic (ROC) and Youden's index results.

Overall deaths	AUC	95% Confidence interval	Cut-off value	Sensitivity	Specificity	P (for AUC)
RDW [%]	0.69	0.60-0.78	15.8	0.722	0.621	< 0.001
NT-ProBNP [pg/ml]	0.79	0.72-0.86	4149	0.863	0.605	< 0.001
NLR	0.62	0.52-0.71	5.27	0.593	0.629	0.006
Preoperative deaths	AUC	95% Confidence interval	Cutoff value	Sensitivity	Specificity	
RDW [%]	0.72	0.62-0.82	16.8	0.607	0.771	< 0.001
NT-proBNP [pg/ml]	0.75	0.66-85	7006	0.808	0.631	< 0.001
NLR	0.66	0.54-0.78	8.86	0.429	0.861	0.0034
Perioperative deaths	AUC	95% Confidence interval	Cut-off value	Sensitivity	Specificity	
RDW [%]	0.59	0.47-0.72	16	0.654	0.589	0.06

NT-proBNP [pg/ml]	0.72	0.62-0.82	4698	0.84	0.547	<0.001
NLR	0.53	0.41-0.65	5.19	0.577	0.565	0.3

RDW – Red blood cell distribution width; NLR - Neutrophils/Lymphocytes Ratio; PNR - Platelets/Neutrophils Ratio; NT-proBNP - N-terminal prohormone of brain natriuretic peptide; AUC – area under the curve

Table S5. Comparison of assorted studies focusing on RDW, NLR and NTpro-BNP as predictors of mortality in patients with infective endocarditis.

Authors	Sample size	AUC	Cut-off value	Additional information
RDW [%]				
Morawiec et al.	194	0.69	15.8	(authors of this report)
Buburuz et al. [9]	126	0.653	-	-
Wei et al. [10]	158	0.913	15.45	Postoperative deaths only
Guray et al. [11]	100	0.7	15.3	1-year mortality
NLR				
Morawiec et al.	194	0.62	5.27	(authors of this report)
Meshaal [13]	142	0.72	8.08	-
NT-proBNP [pg/ml]				
Morawiec et al.	194	0.79	4149	(authors of this report)
Bertolino et al. [18]	337	0.744	2926.5	-
Wei et al. [19]	703	0.79	2260	-

RDW – Red blood cell distribution width; NLR - Neutrophils/Lymphocytes Ratio; NT-proBNP - N-terminal prohormone of brain natriuretic peptide;