Figure S1

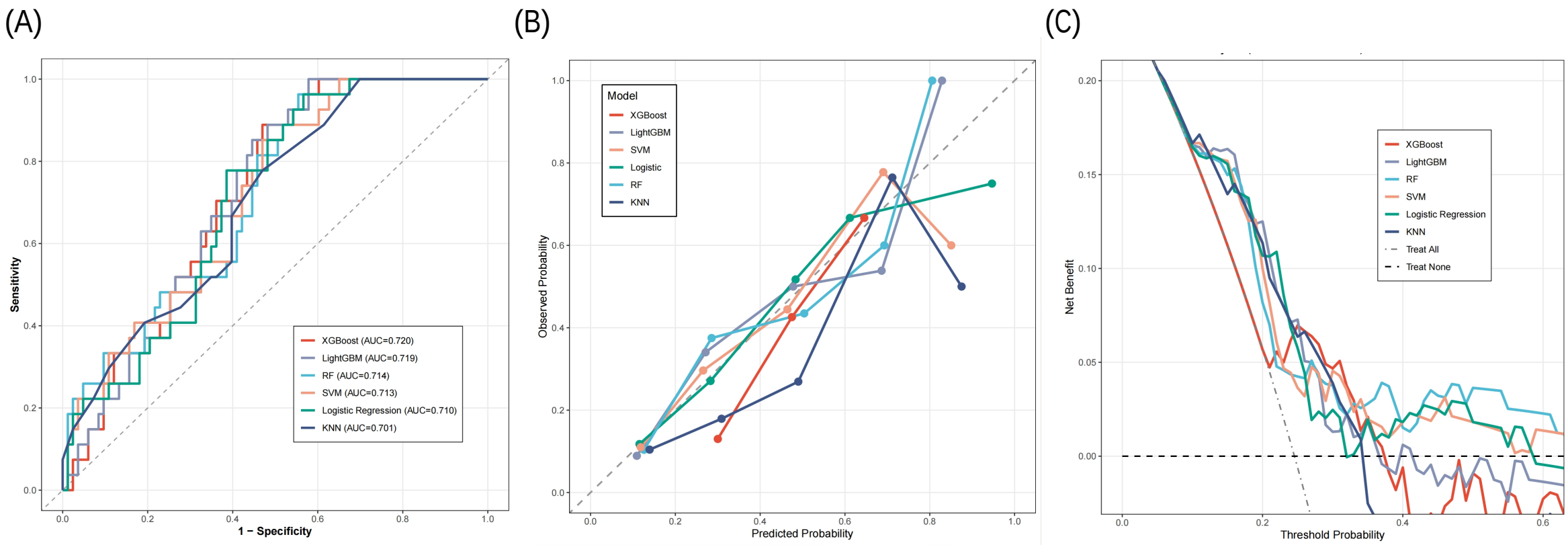
(A)
Sensitivity
1 − Specificity
XGBoost (AUC=0.720)
LightGBM (AUC=0.719)
RF (AUC=0.714)
SVM (AUC=0.713)
Logistic Regression (AUC=0.710)
KNN (AUC=0.701)
(B)
Model
XGBoost
LightGBM
SVM
Logistic
RF
KNN
Observed Probability
Predicted Probability
(C)
Net Benefit
Threshold Probability
XGBoost
LightGBM
RF
SVM
Logistic Regression
KNN
Treat All
Treat None

Table S1. TRIPOD+AI checklist

Section/Topic	Item	Development / evaluation[1]	Checklist item	Reported on page
TITLE				
Title	1	D;E	Identify the study as developing or evaluating the performance of a multivariable prediction model, the target population, and the outcome to be predicted	Title
ABSTRACT				
Abstract	2	D;E	See TRIPOD+AI for Abstracts checklist	Abstract
INTRODUCTION				
Background	3a	D;E	Explain the healthcare context (including whether diagnostic or prognostic) and rationale for developing or evaluating the prediction model, including references to existing models	Paragraph 1-3
	3b	D;E	Describe the target population and the intended purpose of the prediction model in the context of the care pathway, including its intended users (e.g., healthcare professionals, patients, public)	Paragraph 2-4
	3c	D;E	Describe any known health inequalities between sociodemographic groups	Paragraph 4
Objectives	4	D;E	Specify the study objectives, including whether the study describes the development or validation of a prediction model (or both)	Paragraph 4
METHODS				
Data	5a	D;E	Describe the sources of data separately for the development and evaluation datasets (e.g., randomised trial, cohort, routine care or registry data), the rationale for using these data, and representativeness of the data	Study population
	5b	D;E	Specify the dates of the collected participant data, including start and end of participant accrual; and, if applicable, end of follow-up	Study population
Participants	6a	D;E	Specify key elements of the study setting (e.g., primary care, secondary care, general population) including the number and location of centres	Study population
	6b	D;E	Describe the eligibility criteria for study participants	Study population
	6c	D;E	Give details of any treatments received, and how they were handled during model development or evaluation, if relevant	Data collection
Data preparation	7	D;E	Describe any data pre-processing and quality checking, including whether this was similar across relevant sociodemographic groups	preprocessing of data
Outcome	8a	D;E	Clearly define the outcome that is being predicted and the time horizon, including how and when assessed, the rationale for choosing this outcome, and whether the method of outcome assessment is consistent across sociodemographic groups	Outcome Measures
	8b	D;E	If outcome assessment requires subjective interpretation, describe the qualifications and demographic characteristics of the outcome assessors	
	8c	D;E	Report any actions to blind assessment of the outcome to be predicted	
Predictors	9a	D	Describe the choice of initial predictors (e.g., literature, previous models, all available predictors) and any pre-selection of predictors before model building	Feature Selection
	9b	D;E	Clearly define all predictors, including how and when they were measured (and any actions to blind assessment of predictors for the outcome and other predictors)	Feature Selection
	9c	D;E	If predictor measurement requires subjective interpretation, describe the qualifications and demographic characteristics of the predictor assessors	
Sample size	10	D;E	Explain how the study size was arrived at (separately for development and evaluation), and justify that the study size was sufficient to answer the research question. Include details of any sample size calculation	Patient characteristics
Missing data	11	D;E	Describe how missing data were handled. Provide reasons for omitting any data	Data collection
Analytical methods	12a	D	Describe how the data were used (e.g., for development and evaluation of model performance) in the analysis, including whether the data were partitioned, considering any sample size requirements	Model development
	12b	D	Depending on the type of model, describe how predictors were handled in the analyses (functional form, rescaling, transformation, or any standardisation).	Model development
	12c	D	Specify the type of model, rationale[2], all model-building steps, including any hyperparameter tuning, and method for internal validation	Model development
	12d	D;E	Describe if and how any heterogeneity in estimates of model parameter values and model performance was handled and quantified across clusters (e.g., hospitals, countries). See TRIPOD-Cluster for additional considerations[3]	
	12e	D;E	Specify all measures and plots used (and their rationale) to evaluate model performance (e.g., discrimination, calibration, clinical utility) and, if relevant, to compare multiple models	Model performance
	12f	E	Describe any model updating (e.g., recalibration) arising from the model evaluation, either overall or for particular sociodemographic groups or settings	
	12g	E	For model evaluation, describe how the model predictions were calculated (e.g., formula, code, object, application programming interface)	Model performance
Class imbalance	13	D;E	If class imbalance methods were used, state why and how this was done, and any subsequent methods to recalibrate the model or the model predictions	
Fairness	14	D;E	Describe any approaches that were used to address model fairness and their rationale	
Model output	15	D	Specify the output of the prediction model (e.g., probabilities, classification). Provide details and rationale for any classification and how the thresholds were identified	Model performance

Training versus evaluation	16	D;E	Identify any differences between the development and evaluation data in healthcare setting, eligibility criteria, outcome, and predictors	
Ethical approval	17	D;E	Name the institutional research board or ethics committee that approved the study and describe the participant-informed consent or the ethics committee waiver of informed consent	Ethics
OPEN SCIENCE				
Funding	18a	D;E	Give the source of funding and the role of the funders for the present study	Funding
Conflicts of interest	18b	D;E	Declare any conflicts of interest and financial disclosures for all authors	conflicts of interest
Protocol	18c	D;E	Indicate where the study protocol can be accessed or state that a protocol was not prepared	
Registration	18d	D;E	Provide registration information for the study, including register name and registration number, or state that the study was not registered	
Data sharing	18e	D;E	Provide details of the availability of the study data	
Code sharing	18f	D;E	Provide details of the availability of the analytical code[4]	
PATIENT & PUBLIC INVOLVEMENT				
Patient & Public Involvement	19	D;E	Provide details of any patient and public involvement during the design, conduct, reporting, interpretation, or dissemination of the study or state no involvement.	
RESULTS				
Participants	20a	D;E	Describe the flow of participants through the study, including the number of participants with and without the outcome and, if applicable, a summary of the follow-up time. A diagram may be helpful.	Figure 1
	20b	D;E	Report the characteristics overall and, where applicable, for each data source or setting, including the key dates, key predictors (including demographics), treatments received, sample size, number of outcome events, follow-up time, and amount of missing data. A table may be helpful. Report any differences across key demographic groups.	Table 1
	20c	E	For model evaluation, show a comparison with the development data of the distribution of important predictors (demographics, predictors, and outcome).	Table 1
Model development	21	D;E	Specify the number of participants and outcome events in each analysis (e.g., for model development, hyperparameter tuning, model evaluation)	Paragraph 1
Model specification	22	D	Provide details of the full prediction model (e.g., formula, code, object, application programming interface) to allow predictions in new individuals and to enable third-party evaluation and implementation, including any restrictions to access or re-use (e.g., freely available, proprietary)[5]	
Model performance	23a	D;E	Report model performance estimates with confidence intervals, including for any key subgroups (e.g., sociodemographic). Consider plots to aid presentation.	Table 2,3/Fig 3
	23b	D;E	If examined, report results of any heterogeneity in model performance across clusters. See TRIPOD Cluster for additional details[3].	
Model updating	24	E	Report the results from any model updating, including the updated model and subsequent performance	
DISCUSSION				
Interpretation	25	D;E	Give an overall interpretation of the main results, including issues of fairness in the context of the objectives and previous studies	Paragraph 1-2
Limitations	26	D;E	Discuss any limitations of the study (such as a non-representative sample, sample size, overfitting, missing data) and their effects on any biases, statistical uncertainty, and generalizability	Paragraph 4
Usability of the model in the context of current care	27a	D	Describe how poor quality or unavailable input data (e.g., predictor values) should be assessed and handled when implementing the prediction model	
	27b	D	Specify whether users will be required to interact in the handling of the input data or use of the model, and what level of expertise is required of users	Paragraph 3
	27c	D;E	Discuss any next steps for future research, with a specific view to applicability and generalizability of the model	Paragraph 4

Table S2. Summary of missing values

Variables	Data types	Missing values, n (%)
AKI	Categorical	0 (0)
Sex	Categorical	0 (0)
Insulin	Categorical	0 (0)
ACEI_ARB	Categorical	0 (0)
Hypertension	Categorical	0 (0)
Diabetes	Categorical	0 (0)
Coronary_Heart_Disease	Categorical	0 (0)
Cerebral_Infarction	Categorical	0 (0)
Kidney_Disease	Categorical	0 (0)
Thrombosis	Categorical	0 (0)
Emphysema	Categorical	0 (0)
Bronchitis	Categorical	0 (0)
Heart_Failure	Categorical	0 (0)
General_Anesthesia	Categorical	0 (0)
ASA_12	Categorical	0 (0)
ASA_3	Categorical	0 (0)
Colloid_Use	Categorical	0 (0)
Vasopressor_Use	Categorical	0 (0)
Antihypertensive_Use	Categorical	0 (0)
Glucocorticoid_Use	Categorical	0 (0)
Dexmedetomidine	Categorical	0 (0)
Rocuronium	Categorical	0 (0)
Atracurium	Categorical	0 (0)
Ketamine	Categorical	0 (0)
Epinephrine	Categorical	0 (0)
Norepinephrine	Categorical	0 (0)
Dopamine	Categorical	0 (0)
Dobutamine	Categorical	0 (0)
Ephedrine	Categorical	0 (0)
Atropine	Categorical	0 (0)
Phenylephrine	Categorical	0 (0)
Metaraminol	Categorical	0 (0)
Esmolol	Categorical	0 (0)
Nicardipine	Categorical	0 (0)
Nitroglycerin	Categorical	0 (0)
Methylprednisolone	Categorical	0 (0)
Dexamethasone	Categorical	0 (0)
Mannitol	Categorical	0 (0)
Human_Albumin_Infusion	Categorical	0 (0)
RBC_Transfusion	Categorical	0 (0)

Cryoprecipitate	Categorical	0 (0)
Succinylated_Gelatin	Categorical	0 (0)
Hydroxyethyl_Starch	Categorical	0 (0)
Cardiac_Output_Monitoring	Categorical	0 (0)
Anesthetic_Depth_Monitoring	Categorical	0 (0)
Arterial_Puncture	Categorical	0 (0)
Age	Continuous	0 (0)
Uric_Acid	Continuous	0 (0)
Urea	Continuous	29 (4.0)
ALT	Continuous	0 (0)
AST	Continuous	0 (0)
ALT_AST	Continuous	0 (0)
PLR	Continuous	0 (0)
NLR	Continuous	0 (0)
SII	Continuous	0 (0)
Direct_Bilirubin	Continuous	0 (0)
Total_Bilirubin	Continuous	0 (0)
Albumin	Continuous	0 (0)
Potassium	Continuous	0 (0)
Sodium	Continuous	0 (0)
Calcium	Continuous	5 (0.7)
Cystatin_C	Continuous	97 (13.2)
Lymphocyte	Continuous	0 (0)
Neutrophil	Continuous	0 (0)
Eosinophil	Continuous	0 (0)
RBC	Continuous	0 (0)
Hematocrit	Continuous	0 (0)
Hemoglobin	Continuous	0 (0)
Platelet	Continuous	0 (0)
PT	Continuous	5 (0.7)
APTT	Continuous	7 (1.0)
Lactate	Continuous	85 (11.6)
HCO3	Continuous	101 (13.8)
pH	Continuous	77 (10.5)
PaO2	Continuous	81 (11.1)
PaCO2	Continuous	79 (10.8)
Surgical_Duration	Continuous	10 (1.4)
Anesthesia_Duration	Continuous	21 (2.9)
Blood_Loss	Continuous	108 (14.7)
Total_Output	Continuous	30 (4.1)
Transfusion_Volume	Continuous	0 (0)
Crystalloid_Volume	Continuous	34 (4.6)
Total_Input	Continuous	0 (0)
Hypotension_Duration	Continuous	0 (0)

Hypothermia_Duration	Continuous	0 (0)
Low_SpO2_Duration	Continuous	0 (0)
Tachycardia_Duration	Continuous	0 (0)
Preoperative_Creatinine	Continuous	0 (0)
eGFR	Continuous	0 (0)

Table S3. Baseline characteristics and outcomes of the patients in train set

Variables		Total (n = 437)	0 (n = 332)	1 (n = 105)	p
Sex, n (%)					0.101
	0	164 (38)	117 (35)	47 (45)	
	1	273 (62)	215 (65)	58 (55)	
Insulin, n (%)					0.087
	0	374 (86)	290 (87)	84 (80)	
	1	63 (14)	42 (13)	21 (20)	
ACEI_ARB, n (%)					0.579
	0	309 (71)	232 (70)	77 (73)	
	1	128 (29)	100 (30)	28 (27)	
Hypertension, n (%)					0.879
	0	213 (49)	163 (49)	50 (48)	
	1	224 (51)	169 (51)	55 (52)	
Diabetes, n (%)					0.468
	0	338 (77)	260 (78)	78 (74)	
	1	99 (23)	72 (22)	27 (26)	
Coronary_Heart_Disease, n (%)					0.437
	0	250 (57)	186 (56)	64 (61)	
	1	187 (43)	146 (44)	41 (39)	
Cerebral_Infarction, n (%)					0.498
	0	377 (86)	289 (87)	88 (84)	
	1	60 (14)	43 (13)	17 (16)	
Kidney_Disease, n (%)					< 0.001
	0	394 (90)	311 (94)	83 (79)	
	1	43 (10)	21 (6)	22 (21)	
Thrombosis, n (%)					0.232
	0	421 (96)	322 (97)	99 (94)	
	1	16 (4)	10 (3)	6 (6)	
Emphysema, n (%)					1
	0	408 (93)	310 (93)	98 (93)	
	1	29 (7)	22 (7)	7 (7)	
Bronchitis, n (%)					0.833
	0	408 (93)	309 (93)	99 (94)	
	1	29 (7)	23 (7)	6 (6)	
Heart_Failure, n (%)					0.989
	0	289 (66)	219 (66)	70 (67)	
	1	148 (34)	113 (34)	35 (33)	
General_Anesthesia, n (%)					0.418
	0	21 (5)	18 (5)	3 (3)	

	1	416 (95)	314 (95)	102 (97)	
ASA_12, n (%)					0.687
	0	415 (95)	314 (95)	101 (96)	
	1	22 (5)	18 (5)	4 (4)	
ASA_3, n (%)					0.095
	0	196 (45)	141 (42)	55 (52)	
	1	241 (55)	191 (58)	50 (48)	
Colloid_Use, n (%)					0.003
	0	302 (69)	242 (73)	60 (57)	
	1	135 (31)	90 (27)	45 (43)	
Vasopressor_Use, n (%)					0.282
	0	20 (5)	13 (4)	7 (7)	
	1	417 (95)	319 (96)	98 (93)	
Antihypertensive_Use, n (%)					0.319
	0	342 (78)	264 (80)	78 (74)	
	1	95 (22)	68 (20)	27 (26)	
Glucocorticoid_Use, n (%)					0.003
	0	360 (82)	284 (86)	76 (72)	
	1	77 (18)	48 (14)	29 (28)	
Dexmedetomidine, n (%)					0.14
	0	375 (86)	290 (87)	85 (81)	
	1	62 (14)	42 (13)	20 (19)	
Rocuronium, n (%)					0.119
	0	408 (93)	306 (92)	102 (97)	
	1	29 (7)	26 (8)	3 (3)	
Atracurium, n (%)					0.944
	0	76 (17)	57 (17)	19 (18)	
	1	361 (83)	275 (83)	86 (82)	
Ketamine, n (%)					1
	0	432 (99)	328 (99)	104 (99)	
	1	5 (1)	4 (1)	1 (1)	
Epinephrine, n (%)					0.023
	0	50 (11)	31 (9)	19 (18)	
	1	387 (89)	301 (91)	86 (82)	
Norepinephrine, n (%)					0.155
	0	48 (11)	32 (10)	16 (15)	
	1	389 (89)	300 (90)	89 (85)	
Dopamine, n (%)					0.124
	0	411 (94)	316 (95)	95 (90)	

	1	26 (6)	16 (5)	10 (10)	
Dobutamine, n (%)					0.051
	0	82 (19)	55 (17)	27 (26)	
	1	355 (81)	277 (83)	78 (74)	
Ephedrine, n (%)					0.246
	0	307 (70)	228 (69)	79 (75)	
	1	130 (30)	104 (31)	26 (25)	
Atropine, n (%)					0.018
	0	121 (28)	82 (25)	39 (37)	
	1	316 (72)	250 (75)	66 (63)	
Phenylephrine, n (%)					0.803
	0	343 (78)	262 (79)	81 (77)	
	1	94 (22)	70 (21)	24 (23)	
Metaraminol, n (%)					0.597
	0	391 (89)	299 (90)	92 (88)	
	1	46 (11)	33 (10)	13 (12)	
Esmolol, n (%)					0.97
	0	402 (92)	306 (92)	96 (91)	
	1	35 (8)	26 (8)	9 (9)	
Nicardipine, n (%)					0.771
	0	421 (96)	319 (96)	102 (97)	
	1	16 (4)	13 (4)	3 (3)	
Nitroglycerin, n (%)					0.604
	0	383 (88)	293 (88)	90 (86)	
	1	54 (12)	39 (12)	15 (14)	
Methylprednisolone, n (%)					< 0.001
	0	383 (88)	303 (91)	80 (76)	
	1	54 (12)	29 (9)	25 (24)	
Dexamethasone, n (%)					1
	0	409 (94)	311 (94)	98 (93)	
	1	28 (6)	21 (6)	7 (7)	
Mannitol, n (%)					0.036
	0	392 (90)	304 (92)	88 (84)	
	1	45 (10)	28 (8)	17 (16)	
Human_Albumin_Infusion, n (%)					0.282
	0	417 (95)	319 (96)	98 (93)	
	1	20 (5)	13 (4)	7 (7)	
RBC_Transfusion, n (%)					0.044
	0	341 (78)	267 (80)	74 (70)	

	1	96 (22)	65 (20)	31 (30)	
Cryoprecipitate, n (%)					0.319
	0	424 (97)	324 (98)	100 (95)	
	1	13 (3)	8 (2)	5 (5)	
Succinylated_Gelatin, n (%)					0.003
	0	311 (71)	249 (75)	62 (59)	
	1	126 (29)	83 (25)	43 (41)	
Hydroxyethyl_Starch, n (%)					0.213
	0	422 (97)	323 (97)	99 (94)	
	1	15 (3)	9 (3)	6 (6)	
Cardiac_Output_Monitoring, n (%)					0.012
	0	75 (17)	48 (14)	27 (26)	
	1	362 (83)	284 (86)	78 (74)	
Anesthetic_Depth_Monitoring, n (%)					0.486
	0	354 (81)	266 (80)	88 (84)	
	1	83 (19)	66 (20)	17 (16)	
Arterial_Puncture, n (%)					0.018
	0	56 (13)	35 (11)	21 (20)	
	1	381 (87)	297 (89)	84 (80)	
Age, Median (Q1,Q3)		72 (69, 76)	72 (69, 76)	71 (69, 74)	0.286
Urea, Median (Q1,Q3)		6.3 (5, 8.1)	6.4 (5, 8.22)	6.1 (4.8, 8)	0.464
ALT, Median (Q1,Q3)		16 (12, 27)	16 (11, 26)	19 (12.5, 31)	0.01
AST, Median (Q1,Q3)		21 (16, 28)	20 (16, 27)	22 (17, 34)	0.027
ALT_AST, Median (Q1,Q3)		0.79 (0.62, 1.08)	0.78 (0.63, 1.06)	0.8 (0.61, 1.14)	0.412
PLR, Median (Q1,Q3)		123.31 (91.63, 163.89)	122.54 (91.92, 158.38)	126.35 (90.93, 171.62)	0.548
NLR, Median (Q1,Q3)		2.37 (1.68, 3.91)	2.33 (1.69, 3.47)	2.65 (1.67, 5.6)	0.011
SII, Median (Q1,Q3)		488.72 (319.25, 799.49)	468.99 (311.6, 742.67)	543.21 (345.09, 1187.02)	0.045
Direct_Bilirubin, Median (Q1,Q3)		4.3 (3, 6.1)	4.15 (3, 6)	4.7 (3, 6.2)	0.214
Total_Bilirubin,		11.1 (7.8, 15.1)	10.8 (7.68,	11.7 (8.5, 15.3)	0.119

Median (Q1,Q3)		14.95)		
Albumin, Median (Q1,Q3)	37.9 (35.5, 40.5)	38.1 (35.58, 40.92)	37.5 (34.9, 39.7)	0.058
Potassium, Mean ± SD	4.05 ± 0.39	4.06 ± 0.39	4.01 ± 0.4	0.286
Sodium, Median (Q1,Q3)	140 (138, 142)	140 (139, 142)	140 (138, 142)	0.241
Calcium, Median (Q1,Q3)	2.24 (2.17, 2.31)	2.25 (2.18, 2.31)	2.23 (2.14, 2.31)	0.115
Cystatin_C, Median (Q1,Q3)	1.16 (0.99, 1.4)	1.16 (1.01, 1.37)	1.2 (0.95, 1.44)	0.718
Lymphocyte, Median (Q1,Q3)	1.65 (1.2, 2.06)	1.67 (1.24, 2.08)	1.55 (1.11, 1.99)	0.176
Neutrophil, Median (Q1,Q3)	3.89 (3.08, 5.47)	3.78 (3.06, 5.14)	4.37 (3.22, 7.18)	0.008
Eosinophil, Median (Q1,Q3)	0.14 (0.08, 0.24)	0.15 (0.09, 0.25)	0.12 (0.05, 0.21)	0.009
RBC, Mean ± SD	4.2 ± 0.66	4.25 ± 0.67	4.04 ± 0.63	0.005
Hematocrit, Median (Q1,Q3)	0.38 (0.34, 0.42)	0.39 (0.35, 0.42)	0.38 (0.33, 0.41)	0.14
Hemoglobin, Median (Q1,Q3)	125 (112, 136)	126 (112, 137)	122 (110, 135)	0.148
Platelet, Median (Q1,Q3)	197 (158, 251)	199.5 (159, 251)	193 (148, 249)	0.299
PT, Median (Q1,Q3)	11.6 (10.9, 12.5)	11.5 (10.8, 12.3)	12 (11, 13)	0.002
APTT, Median (Q1,Q3)	27.3 (25.2, 30.7)	26.95 (24.9, 29.83)	28.9 (26.4, 32.3)	< 0.001
Lactate, Median (Q1,Q3)	1.14 (0.9, 1.54)	1.1 (0.88, 1.4)	1.4 (1.02, 2.58)	< 0.001
HCO3, Median (Q1,Q3)	24.8 (23.6, 25.9)	24.8 (23.6, 25.9)	24.7 (23.71, 25.82)	0.628
pH, Median (Q1,Q3)	7.42 (7.38, 7.46)	7.42 (7.39, 7.45)	7.42 (7.37, 7.46)	0.864
PaO2, Median (Q1,Q3)	265 (215.25, 309)	265.1 (216.88, 306.2)	264.2 (211, 315)	0.979
PaCO2, Median (Q1,Q3)	37 (34, 41)	37 (34.21, 40.78)	36.17 (33.75, 42.25)	0.887
Surgical_Duration, Median (Q1,Q3)	281 (210, 352)	265 (185.75, 330)	339 (265, 415)	< 0.001
Blood_Loss, Median (Q1,Q3)	300 (200, 400)	300 (150, 400)	400 (300, 600)	< 0.001
Total_Output, Median (Q1,Q3)	1100 (450, 2800)	1010 (400, 2542.5)	1500 (650, 3000)	0.015

Transfusion_Volume, Median (Q1,Q3)	154 (0, 341)	129 (0, 300)	243 (45, 440)	< 0.001
Crystalloid_Volume, Median (Q1,Q3)	1500 (1200, 1900)	1500 (1200, 1900)	1400 (1200, 2000)	0.564
Total_Input, Median (Q1,Q3)	1887 (1300, 2454)	1800 (1250, 2400)	2070 (1583, 2670)	0.001
Hypotension_Duration, Median (Q1,Q3)	304 (202, 394)	298 (198.5, 373)	347 (244, 471)	< 0.001
Hypothermia_Duration, Median (Q1,Q3)	237 (5, 325)	226 (3.5, 303)	291 (80, 391)	< 0.001
Low_SpO2_Duration, Median (Q1,Q3)	0 (0, 152)	0 (0, 111)	37 (0, 224)	0.005
Tachycardia_Duration, Median (Q1,Q3)	148 (5, 298)	128 (1, 273.25)	205 (35, 355)	< 0.001
Preoperative_Creatinine, Median (Q1,Q3)	85 (70, 98)	85 (71, 98.25)	82 (67, 96)	0.268
eGFR, Median (Q1,Q3)	79.41 (64.74, 98.08)	79.34 (65.09, 96.88)	79.57 (64.42, 100.64)	0.573

Table S4. Baseline characteristics and outcomes of the patients in test set

Variables		Total (n = 186)	0 (n = 141)	1 (n = 45)	p
Sex, n (%)					0.206
	0	66 (35)	46 (33)	20 (44)	
	1	120 (65)	95 (67)	25 (56)	
Insulin, n (%)					0.297
	0	156 (84)	121 (86)	35 (78)	
	1	30 (16)	20 (14)	10 (22)	
ACEI_ARB, n (%)					0.395
	0	129 (69)	95 (67)	34 (76)	
	1	57 (31)	46 (33)	11 (24)	
Hypertension, n (%)					0.089
	0	97 (52)	79 (56)	18 (40)	
	1	89 (48)	62 (44)	27 (60)	
Diabetes, n (%)					0.656
	0	143 (77)	110 (78)	33 (73)	
	1	43 (23)	31 (22)	12 (27)	
Coronary_Heart_Disease, n (%)					0.82
	0	104 (56)	80 (57)	24 (53)	
	1	82 (44)	61 (43)	21 (47)	
Cerebral_Infarction, n (%)					0.466
	0	161 (87)	124 (88)	37 (82)	
	1	25 (13)	17 (12)	8 (18)	
Kidney_Disease, n (%)					0.723
	0	162 (87)	124 (88)	38 (84)	
	1	24 (13)	17 (12)	7 (16)	
Thrombosis, n (%)					0.633
	0	180 (97)	137 (97)	43 (96)	
	1	6 (3)	4 (3)	2 (4)	
Emphysema, n (%)					0.403
	0	178 (96)	136 (96)	42 (93)	
	1	8 (4)	5 (4)	3 (7)	
Bronchitis, n (%)					0.403
	0	178 (96)	136 (96)	42 (93)	
	1	8 (4)	5 (4)	3 (7)	
Heart_Failure, n (%)					0.96
	0	106 (57)	81 (57)	25 (56)	
	1	80 (43)	60 (43)	20 (44)	
General_Anesthesia, n (%)					0.734
	0	12 (6)	10 (7)	2 (4)	
	1	174 (94)	131 (93)	43 (96)	
ASA_12, n (%)					0.116

	0	177 (95)	132 (94)	45 (100)	
	1	9 (5)	9 (6)	0 (0)	
ASA_3, n (%)					0.074
	0	88 (47)	61 (43)	27 (60)	
	1	98 (53)	80 (57)	18 (40)	
Colloid_Use, n (%)					0.016
	0	139 (75)	112 (79)	27 (60)	
	1	47 (25)	29 (21)	18 (40)	
Vasopressor_Use, n (%)					1
	0	3 (2)	3 (2)	0 (0)	
	1	183 (98)	138 (98)	45 (100)	
Antihypertensive_Use, n (%)					0.89
	0	144 (77)	110 (78)	34 (76)	
	1	42 (23)	31 (22)	11 (24)	
Glucocorticoid_Use, n (%)					0.572
	0	152 (82)	117 (83)	35 (78)	
	1	34 (18)	24 (17)	10 (22)	
Dexmedetomidine, n (%)					0.387
	0	162 (87)	125 (89)	37 (82)	
	1	24 (13)	16 (11)	8 (18)	
Rocuronium, n (%)					1
	0	167 (90)	126 (89)	41 (91)	
	1	19 (10)	15 (11)	4 (9)	
Atracurium, n (%)					0.217
	0	39 (21)	33 (23)	6 (13)	
	1	147 (79)	108 (77)	39 (87)	
Ketamine, n (%)					0.426
	0	184 (99)	140 (99)	44 (98)	
	1	2 (1)	1 (1)	1 (2)	
Epinephrine, n (%)					0.223
	0	9 (5)	5 (4)	4 (9)	
	1	177 (95)	136 (96)	41 (91)	
Norepinephrine, n (%)					0.677
	0	7 (4)	5 (4)	2 (4)	
	1	179 (96)	136 (96)	43 (96)	
Dopamine, n (%)					0.007
	0	177 (95)	138 (98)	39 (87)	
	1	9 (5)	3 (2)	6 (13)	
Dobutamine, n (%)					1
	0	27 (15)	20 (14)	7 (16)	
	1	159 (85)	121 (86)	38 (84)	
Ephedrine, n (%)					0.192
	0	137 (74)	100 (71)	37 (82)	

	1	49 (26)	41 (29)	8 (18)
Atropine, n (%)				1
	0	41 (22)	31 (22)	10 (22)
	1	145 (78)	110 (78)	35 (78)
Phenylephrine, n (%)				0.455
	0	142 (76)	110 (78)	32 (71)
	1	44 (24)	31 (22)	13 (29)
Metaraminol, n (%)				0.409
	0	167 (90)	128 (91)	39 (87)
	1	19 (10)	13 (9)	6 (13)
Esmolol, n (%)				0.783
	0	167 (90)	127 (90)	40 (89)
	1	19 (10)	14 (10)	5 (11)
Nicardipine, n (%)				1
	0	175 (94)	132 (94)	43 (96)
	1	11 (6)	9 (6)	2 (4)
Nitroglycerin, n (%)				0.149
	0	168 (90)	130 (92)	38 (84)
	1	18 (10)	11 (8)	7 (16)
Methylprednisolone, n (%)				0.581
	0	166 (89)	127 (90)	39 (87)
	1	20 (11)	14 (10)	6 (13)
Dexamethasone, n (%)				0.543
	0	170 (91)	130 (92)	40 (89)
	1	16 (9)	11 (8)	5 (11)
Mannitol, n (%)				1
	0	163 (88)	124 (88)	39 (87)
	1	23 (12)	17 (12)	6 (13)
Human_Albumin_Infusion, n (%)				1
	0	180 (97)	136 (96)	44 (98)
	1	6 (3)	5 (4)	1 (2)
RBC_Transfusion, n (%)				0.019
	0	152 (82)	121 (86)	31 (69)
	1	34 (18)	20 (14)	14 (31)
Cryoprecipitate, n (%)				0.013
	0	183 (98)	141 (100)	42 (93)
	1	3 (2)	0 (0)	3 (7)
Succinylated_Gelatin, n (%)				0.05
	0	142 (76)	113 (80)	29 (64)
	1	44 (24)	28 (20)	16 (36)
Hydroxyethyl_Starch, n (%)				0.247

	0	182 (98)	139 (99)	43 (96)	
	1	4 (2)	2 (1)	2 (4)	
Cardiac_Output_Monitoring, n (%)					0.728
	0	28 (15)	20 (14)	8 (18)	
	1	158 (85)	121 (86)	37 (82)	
Anesthetic_Depth_Monitoring, n (%)					0.147
	0	152 (82)	119 (84)	33 (73)	
	1	34 (18)	22 (16)	12 (27)	
Arterial_Puncture, n (%)					0.729
	0	11 (6)	8 (6)	3 (7)	
	1	175 (94)	133 (94)	42 (93)	
Age, Median (Q1,Q3)		72 (69, 75)	72 (69, 75)	71 (68, 75)	0.325
Urea, Median (Q1,Q3)		6.65 (5.3, 8.39)	6.6 (5.3, 8.4)	6.8 (5.4, 8.37)	0.836
ALT, Median (Q1,Q3)		17 (12, 26)	16 (12, 25)	19 (13, 27)	0.121
AST, Median (Q1,Q3)		22 (17, 26)	21 (16, 26)	23 (20, 30)	0.016
ALT_AST, Median (Q1,Q3)		0.81 (0.65, 1.11)	0.81 (0.67, 1.1)	0.83 (0.65, 1.14)	0.927
PLR, Median (Q1,Q3)		127.6 (95.69, 180.15)	117.34 (91.96, 162.43)	150.98 (114.4, 216.13)	0.017
NLR, Median (Q1,Q3)		2.46 (1.73, 3.84)	2.31 (1.74, 3.4)	2.75 (1.71, 7.75)	0.058
SII, Median (Q1,Q3)		479.54 (338.94, 826.14)	448.64 (338.78, 738.51)	636.36 (395, 1517.93)	0.02
Direct_Bilirubin, Median (Q1,Q3)		4.7 (3.4, 6.3)	4.7 (3.5, 6.1)	4.7 (3.1, 9.1)	0.746
Total_Bilirubin, Median (Q1,Q3)		11.25 (7.73, 16.23)	11.3 (7.6, 15.9)	11.2 (7.9, 18.3)	0.517
Albumin, Median (Q1,Q3)		37.95 (35.12, 40.7)	38.3 (35.7, 40.5)	37.64 (34.2, 41.1)	0.536
Potassium, Median (Q1,Q3)		3.97 (3.77, 4.2)	3.99 (3.77, 4.2)	3.93 (3.78, 4.14)	0.446
Sodium, Median (Q1,Q3)		140 (138, 142)	140 (139, 142)	140 (137, 142)	0.189
Calcium, Median (Q1,Q3)		2.23 (2.16, 2.32)	2.23 (2.16, 2.33)	2.2 (2.13, 2.31)	0.124
Cystatin_C, Median (Q1,Q3)		1.21 (1.01, 1.45)	1.18 (0.99, 1.45)	1.22 (1.11, 1.45)	0.33
Lymphocyte, Median (Q1,Q3)		1.56 (1.15, 2.04)	1.61 (1.21, 2.08)	1.38 (0.96, 1.82)	0.058

Neutrophil, Median (Q1,Q3)	4.04 (3.13, 5.32)	4.01 (3.08, 5.08)	4.2 (3.3, 7.21)	0.062
Eosinophil, Median (Q1,Q3)	0.15 (0.07, 0.26)	0.16 (0.09, 0.29)	0.12 (0.05, 0.18)	0.013
RBC, Mean ± SD	4.23 ± 0.79	4.29 ± 0.79	4.06 ± 0.77	0.093
Hematocrit, Mean ± SD	0.38 ± 0.06	0.38 ± 0.06	0.36 ± 0.05	0.015
Hemoglobin, Median (Q1,Q3)	126 (113, 138)	129 (114, 139)	120 (102, 137)	0.024
Platelet, Median (Q1,Q3)	200.5 (154, 244.75)	197 (154, 242)	201 (154, 251)	0.871
PT, Median (Q1,Q3)	11.6 (10.8, 12.4)	11.4 (10.7, 12.2)	11.9 (11.4, 13)	0.005
APTT, Median (Q1,Q3)	26.95 (24.9, 30.37)	26.7 (24.8, 29.9)	28.2 (25.9, 35)	0.031
Lactate, Median (Q1,Q3)	1.14 (0.9, 1.65)	1.1 (0.9, 1.5)	1.45 (1.02, 1.9)	0.007
HCO3, Median (Q1,Q3)	24.8 (23.37, 25.72)	24.8 (23.37, 25.75)	24.79 (23.6, 25.72)	0.859
pH, Median (Q1,Q3)	7.42 (7.38, 7.45)	7.41 (7.37, 7.45)	7.43 (7.39, 7.46)	0.132
PaO2, Median (Q1,Q3)	260.4 (210.75, 306.3)	259.17 (208, 299.5)	264 (224, 313.7)	0.519
PaCO2, Median (Q1,Q3)	37 (33.67, 40.15)	37 (34, 40.33)	36.33 (32, 40)	0.417
Surgical_Duration, Mean ± SD	275.55 ± 117.76	252.21 ± 104.13	348.71 ± 128.77	< 0.001
Blood_Loss, Median (Q1,Q3)	300 (200, 395)	300 (100, 350)	300 (300, 500)	< 0.001
Total_Output, Median (Q1,Q3)	867.5 (400, 2215)	800 (400, 1850)	1530 (450, 2780)	0.05
Transfusion_Volume, Median (Q1,Q3)	122 (0, 286)	2 (0, 225)	245 (0, 424)	< 0.001
Crystalloid_Volume, Median (Q1,Q3)	1500 (1200, 1800)	1500 (1200, 1800)	1700 (1300, 2000)	0.047
Total_Input, Median (Q1,Q3)	1846 (1210.75, 2328.5)	1734 (1200, 2100)	2093 (1700, 2554)	0.002
Hypotension_Duration, Median (Q1,Q3)	302.5 (229.25, 410.5)	298 (220, 396)	379 (262, 446)	0.008
Hypothermia_Duration, Median (Q1,Q3)	245 (81.75, 325.75)	234 (78, 305)	283 (162, 402)	0.017
Low_SpO2_Duration, Median (Q1,Q3)	1 (0, 112.25)	1 (0, 98)	31 (0, 143)	0.215
Tachycardia_Duration, Median (Q1,Q3)	189 (20.5, 281.25)	180 (1, 272)	251 (101, 383)	0.012

Preoperative_Creatinine, Median (Q1,Q3)	89 (74.25, 101)	89 (75, 101)	86 (74, 99)	0.669
eGFR, Median (Q1,Q3)	77.46 (61.41, 89.03)	77.96 (60.9, 89.17)	76.55 (64.8, 86.64)	0.819

Table S5. Baseline characteristics and outcomes of the patients in external validation cohort

Variables		Total (n = 110)	0 (n = 83)	1 (n = 27)	p
Sex, n (%)					0.581
	0	54 (49)	39 (47)	15 (56)	
	1	56 (51)	44 (53)	12 (44)	
Insulin, n (%)					0.732
	0	97 (88)	74 (89)	23 (85)	
	1	13 (12)	9 (11)	4 (15)	
ACEI_ARB, n (%)					0.754
	0	74 (67)	57 (69)	17 (63)	
	1	36 (33)	26 (31)	10 (37)	
Hypertension, n (%)					0.907
	0	52 (47)	40 (48)	12 (44)	
	1	58 (53)	43 (52)	15 (56)	
Diabetes, n (%)					0.562
	0	83 (75)	61 (73)	22 (81)	
	1	27 (25)	22 (27)	5 (19)	
Coronary_Heart_Disease, n (%)					0.269
	0	57 (52)	46 (55)	11 (41)	
	1	53 (48)	37 (45)	16 (59)	
Cerebral_Infarction, n (%)					1
	0	99 (90)	75 (90)	24 (89)	
	1	11 (10)	8 (10)	3 (11)	
Kidney_Disease, n (%)					0.359
	0	103 (94)	79 (95)	24 (89)	
	1	7 (6)	4 (5)	3 (11)	
Thrombosis, n (%)					0.252
	0	106 (96)	81 (98)	25 (93)	
	1	4 (4)	2 (2)	2 (7)	
Emphysema, n (%)					1
	0	103 (94)	77 (93)	26 (96)	
	1	7 (6)	6 (7)	1 (4)	
Bronchitis, n (%)					1
	0	103 (94)	77 (93)	26 (96)	
	1	7 (6)	6 (7)	1 (4)	
Heart_Failure, n (%)					0.008
	0	63 (57)	54 (65)	9 (33)	
	1	47 (43)	29 (35)	18 (67)	
General_Anesthesia, n (%)					1
	0	4 (4)	3 (4)	1 (4)	
	1	106 (96)	80 (96)	26 (96)	

ASA_12, n (%)				0.57
	0	106 (96)	79 (95)	27 (100)
	1	4 (4)	4 (5)	0 (0)
ASA_3, n (%)				0.321
	0	46 (42)	32 (39)	14 (52)
	1	64 (58)	51 (61)	13 (48)
Colloid_Use, n (%)				0.604
	0	75 (68)	55 (66)	20 (74)
	1	35 (32)	28 (34)	7 (26)
Vasopressor_Use, n (%)				0.677
	0	8 (7)	7 (8)	1 (4)
	1	102 (93)	76 (92)	26 (96)
Antihypertensive_Use, n (%)				0.487
	0	81 (74)	63 (76)	18 (67)
	1	29 (26)	20 (24)	9 (33)
Glucocorticoid_Use, n (%)				1
	0	88 (80)	66 (80)	22 (81)
	1	22 (20)	17 (20)	5 (19)
Dexmedetomidine, n (%)				0.2
	0	86 (78)	62 (75)	24 (89)
	1	24 (22)	21 (25)	3 (11)
Rocuronium, n (%)				0.287
	0	98 (89)	72 (87)	26 (96)
	1	12 (11)	11 (13)	1 (4)
Atracurium, n (%)				0.756
	0	29 (26)	23 (28)	6 (22)
	1	81 (74)	60 (72)	21 (78)
Ketamine, n (%)				0.245
	0	109 (99)	83 (100)	26 (96)
	1	1 (1)	0 (0)	1 (4)
Epinephrine, n (%)				0.351
	0	15 (14)	13 (16)	2 (7)
	1	95 (86)	70 (84)	25 (93)
Norepinephrine, n (%)				0.351
	0	15 (14)	13 (16)	2 (7)
	1	95 (86)	70 (84)	25 (93)
Dopamine, n (%)				1
	0	105 (95)	79 (95)	26 (96)
	1	5 (5)	4 (5)	1 (4)
Dobutamine, n (%)				0.392
	0	20 (18)	17 (20)	3 (11)
	1	90 (82)	66 (80)	24 (89)
Ephedrine, n (%)				0.387

	0	85 (77)	62 (75)	23 (85)	
	1	25 (23)	21 (25)	4 (15)	
Atropine, n (%)					0.646
	0	26 (24)	21 (25)	5 (19)	
	1	84 (76)	62 (75)	22 (81)	
Phenylephrine, n (%)					0.685
	0	76 (69)	56 (67)	20 (74)	
	1	34 (31)	27 (33)	7 (26)	
Metaraminol, n (%)					0.403
	0	102 (93)	78 (94)	24 (89)	
	1	8 (7)	5 (6)	3 (11)	
Esmolol, n (%)					1
	0	105 (95)	79 (95)	26 (96)	
	1	5 (5)	4 (5)	1 (4)	
Nicardipine, n (%)					0.634
	0	104 (95)	79 (95)	25 (93)	
	1	6 (5)	4 (5)	2 (7)	
Nitroglycerin, n (%)					0.448
	0	89 (81)	69 (83)	20 (74)	
	1	21 (19)	14 (17)	7 (26)	
Methylprednisolone, n (%)					1
	0	98 (89)	74 (89)	24 (89)	
	1	12 (11)	9 (11)	3 (11)	
Dexamethasone, n (%)					1
	0	100 (91)	75 (90)	25 (93)	
	1	10 (9)	8 (10)	2 (7)	
Mannitol, n (%)					0.351
	0	95 (86)	70 (84)	25 (93)	
	1	15 (14)	13 (16)	2 (7)	
Human_Albumin_Infusion, n (%)					1
	0	107 (97)	81 (98)	26 (96)	
	1	3 (3)	2 (2)	1 (4)	
RBC_Transfusion, n (%)					0.535
	0	94 (85)	72 (87)	22 (81)	
	1	16 (15)	11 (13)	5 (19)	
Cryoprecipitate, n (%)					0.595
	0	105 (95)	80 (96)	25 (93)	
	1	5 (5)	3 (4)	2 (7)	
Succinylated_Gelatin, n (%)					0.299
	0	79 (72)	57 (69)	22 (81)	
	1	31 (28)	26 (31)	5 (19)	
Hydroxyethyl_Starch, n					0.252

(%)				
	0	106 (96)	81 (98)	25 (93)	
	1	4 (4)	2 (2)	2 (7)	
Cardiac_Output_Monitoring, n (%)					1
	0	19 (17)	14 (17)	5 (19)	
	1	91 (83)	69 (83)	22 (81)	
Anesthetic_Depth_Monitoring, n (%)					0.653
	0	83 (75)	64 (77)	19 (70)	
	1	27 (25)	19 (23)	8 (30)	
Arterial_Puncture, n (%)					1
	0	8 (7)	6 (7)	2 (7)	
	1	102 (93)	77 (93)	25 (93)	
Age, Median (Q1,Q3)		72 (70, 75.75)	72 (70, 76)	72 (69, 73.5)	0.423
Urea, Median (Q1,Q3)		6.34 (5, 8.57)	6.52 (5, 8.7)	6 (5.05, 7.2)	0.374
ALT, Median (Q1,Q3)		16 (11, 26.75)	16 (11, 27)	16 (13, 24.5)	0.956
AST, Median (Q1,Q3)		21 (17, 29.75)	21 (17, 30.5)	21 (16.5, 28.5)	0.961
ALT_AST, Median (Q1,Q3)		0.79 (0.6, 1.09)	0.82 (0.61, 1.1)	0.76 (0.6, 0.95)	0.555
PLR, Median (Q1,Q3)		136.24 (97.8, 180.6)	132.5 (93.05, 171.01)	165 (112.68, 211.24)	0.039
NLR, Median (Q1,Q3)		2.32 (1.74, 3.64)	2.14 (1.69, 3.21)	3.54 (2.31, 5.38)	0.004
SII, Median (Q1,Q3)		472.31 (348.12, 849.97)	417.55 (326, 737.18)	743.95 (446.55, 1049.88)	0.006
Direct_Bilirubin, Median (Q1,Q3)		4.45 (3.3, 6.52)	4.4 (3.15, 6.4)	4.6 (3.85, 6.45)	0.527
Total_Bilirubin, Median (Q1,Q3)		11.65 (8, 15.88)	11.7 (8, 15.8)	11.4 (8.45, 16.25)	0.997
Albumin, Median (Q1,Q3)		38.5 (36.7, 41.48)	38.4 (36.3, 41.15)	38.6 (36.75, 41.7)	0.61
Potassium, Mean ± SD		4.04 ± 0.39	4.01 ± 0.39	4.13 ± 0.39	0.175
Sodium, Median (Q1,Q3)		141 (139, 142)	141 (139, 142)	140 (138.5, 142.5)	0.573
Calcium, Mean ± SD		2.26 ± 0.12	2.26 ± 0.11	2.26 ± 0.15	0.936
Cystatin_C, Median (Q1,Q3)		1.13 (0.96, 1.29)	1.13 (0.97, 1.27)	1.16 (0.94, 1.41)	0.61
Lymphocyte, Median		1.47 (1.19,	1.53 (1.24,	1.29 (1.09,	0.068

(Q1,Q3)	1.94)	1.96)	1.65)	
Neutrophil, Median (Q1,Q3)	3.92 (3.1, 4.74)	3.72 (3, 4.58)	4.36 (3.41, 6.13)	0.06
Eosinophil, Median (Q1,Q3)	0.12 (0.07, 0.22)	0.13 (0.09, 0.22)	0.09 (0.04, 0.23)	0.159
RBC, Median (Q1,Q3)	4.26 (3.9, 4.61)	4.29 (3.95, 4.66)	3.95 (3.74, 4.26)	0.005
Hematocrit, Median (Q1,Q3)	0.39 (0.36, 0.42)	0.4 (0.36, 0.43)	0.36 (0.34, 0.4)	0.026
Hemoglobin, Median (Q1,Q3)	126 (116, 136)	129 (118, 137)	118 (109, 128)	0.015
Platelet, Median (Q1,Q3)	209.5 (166, 245.5)	208 (164.5, 237)	220 (181.5, 258)	0.333
PT, Median (Q1,Q3)	11.4 (10.9, 12.78)	11.4 (10.9, 12.7)	11.4 (10.8, 12.8)	0.939
APTT, Median (Q1,Q3)	27.55 (24.9, 30)	27.8 (25, 30.15)	26.5 (25, 29.15)	0.598
Lactate, Median (Q1,Q3)	1.18 (0.9, 1.6)	1.1 (0.87, 1.49)	1.4 (1.05, 2.25)	0.005
HCO3, Median (Q1,Q3)	24.76 (23.78, 25.89)	24.7 (23.74, 25.7)	25.27 (24.08, 26.02)	0.453
pH, Median (Q1,Q3)	7.42 (7.38, 7.45)	7.41 (7.38, 7.45)	7.42 (7.38, 7.45)	0.892
PaO2, Median (Q1,Q3)	241.38 (155.45, 283.76)	237 (137.42, 282.72)	244.6 (219.8, 282.89)	0.401
PaCO2, Median (Q1,Q3)	36.9 (33.77, 42.29)	36.8 (33.53, 42.67)	37 (33.91, 41.92)	0.958
Surgical_Duration, Median (Q1,Q3)	276.5 (168.75, 369)	233 (151, 329)	322 (266.5, 394)	0.002
Blood_Loss, Median (Q1,Q3)	255 (150, 400)	200 (100, 300)	360 (275, 480)	< 0.001
Total_Output, Median (Q1,Q3)	950 (400, 2095)	900 (355, 2350)	1160 (675, 2015)	0.491
Transfusion_Volume, Median (Q1,Q3)	81.5 (0, 300)	83 (0, 303.5)	60 (0, 287)	0.921
Crystalloid_Volume, Median (Q1,Q3)	1400 (1200, 1839.75)	1400 (1200, 1800)	1400 (1200, 2000)	0.531
Total_Input, Median (Q1,Q3)	1800 (1300, 2271)	1800 (1300, 2236.5)	1900 (1300, 2351)	0.821
Hypotension_Duration, Median (Q1,Q3)	284.5 (182, 372.75)	270 (155.5, 365.5)	344 (274.5, 416.5)	0.012
Hypothermia_Duration,	213 (11.75,	183 (0, 312.5)	265 (202.5,	0.012

Median (Q1,Q3)	315.5)		326.5)	
Low_SpO2_Duration, Median (Q1,Q3)	0 (0, 146)	0 (0, 145.5)	42 (0, 160)	0.519
Tachycardia_Duration, Median (Q1,Q3)	117 (10.75, 247.25)	69 (5, 186.5)	251 (148, 360)	< 0.001
Preoperative_Creatinine, Median (Q1,Q3)	80 (68, 93)	79 (67, 93)	85 (70.5, 92.5)	0.483
eGFR, Mean ± SD	85.13 ± 25.84	86.65 ± 26.33	80.46 ± 24.11	0.263