

Table S1. Daily Glycemic Variability Parameters

Parameters	CV		MBG		LAGE	
	SC	DV	SC	DV	SC	DV
Day 1	15.2 [9.4, 24.7]	59.5 [46.7, 78.8]	9.2 [7.4, 12.5]	12.1 [10.2, 14.8]	3.1[1.7, 5.3]	16.8 [10.7, 21.4]
Day 2	19.6 [11.5, 27.5]	37.0 [27.4, 53.1]	9.5 [7.2, 12.5]	11.1 [10.0, 13.3]	3.6 [2.1, 6.7]	11.5 [8.0, 13.7]
Day 3	18.2 [12.6, 28.6]	36.5 [30.2, 41.5]	9.4 [7.3, 13.1]	13.1 [10.8, 14.3]	3.7 [2.0, 7.2]	12.1 [7.8, 14.7]
Day 4	19.0 [11.3, 29.0]	32.7 [24.9, 40.9]	9.2 [7.2, 12.9]	11.7 [10.6, 13.3]	3.8[1.8, 8.2]	9.4 [6.6, 12.9]
Day 5	18.7 [11.2, 25.0]	34.4 [27.2, 42.0]	9.7 [7.5, 12.4]	12.2 [11.3, 13.4]	3.6 [1.7, 6.6]	9.9 [8.1, 12.5]

Data are presented as median [interquartile range].

CV: Coefficient of Variation; MBG: Mean Blood Glucose; LAGE: Largest Amplitude of Glycemic Excursion; SC: Stable Control; DV: Dynamic Variant

Table S2. Comparison of Characteristics Between Early (≤ 14 days) and Late Death (>14 days)

	Death after 14 day	Death before 14 day	P value
n	50	59	
Age, years	76.00 [70.00, 84.00]	74.00 [67.50, 87.00]	0.877
Gender, n (%)	40 (80.0)	39 (66.1)	0.160
BMI, kg/m ²	21.50 [20.00, 23.00]	23.00 [21.00, 24.50]	0.080
Hypertension, n (%)	34 (68.0)	32 (54.2)	0.205
DM, n (%)	20 (40.0)	24 (40.7)	1.000
COPD, n (%)	3 (6.0)	10 (16.9)	0.144
CKD, n (%)	10 (20.0)	7 (11.9)	0.367
CAD, n (%)	8 (16.0)	7 (11.9)	0.730
Stroke, n (%)	6 (12.0)	12 (20.3)	0.363
CAP, n (%)	40 (80.0)	53 (89.8)	0.241
ARDS, n (%)	27 (54.0)	35 (59.3)	0.715
IMV, n (%)	32 (64.0)	35 (59.3)	0.762
Septic Shock, n (%)	20 (40.0)	17 (28.8)	0.305
APACHE II	22.00 [18.00, 25.00]	23.00 [20.00, 27.00]	0.174
SOFA	6.00 [4.00, 7.75]	5.00 [3.00, 7.50]	0.162

Data are presented as median [interquartile range] or n (%).

Abbreviations: BMI: Body Mass Index; DM: Diabetes Mellitus; COPD: Chronic Obstructive Pulmonary Disease; CKD: Chronic Kidney Disease; CAD: Coronary Artery Disease; CAP: Community-Acquired Pneumonia; ARDS: Acute Respiratory Distress Syndrome; IMV: Invasive Mechanical Ventilation; APACHE II: Acute Physiology and Chronic Health Evaluation II; SOFA: Sequential Organ Failure Assessment

Table S3. Predictive Performance for GV Trajectories

Predictor	PCT alone	HbA1c alone	PCT + HbA1c (Logistic)	PCT + HbA1c (SVM)
AUROC	0.61 (0.53–0.69)	0.66 (0.57–0.74)	0.64 (0.55–0.73)	0.87 (0.80–0.94)
p value	0.015	0.001	0.002	<0.001
Cutoff	2.6	6.6	0.12	0.12
Sensitivity	50 (34–66)	74 (60–88)	71 (57–86)	74 (60–88)
Specificity	73 (67–78)	58 (52–64)	61 (55–67)	94 (91–97)
PPV	20 (12–28)	19 (13–26)	20 (13–27)	62 (48–76)
NPV	91 (88–95)	94 (91–98)	94 (90–97)	96 (94–99)

Values are median true value (95% confidence interval). Best threshold value was determined using the Youden index.

Abbreviations: AUROC: Area Under the Receiver Operating Characteristic curve; GV: Glycemic Variability; HbA1c: Glycated Hemoglobin; NPV: Negative Predictive Value; PCT: Procalcitonin; PPV: Positive Predictive Value; SVM: Support Vector Machine

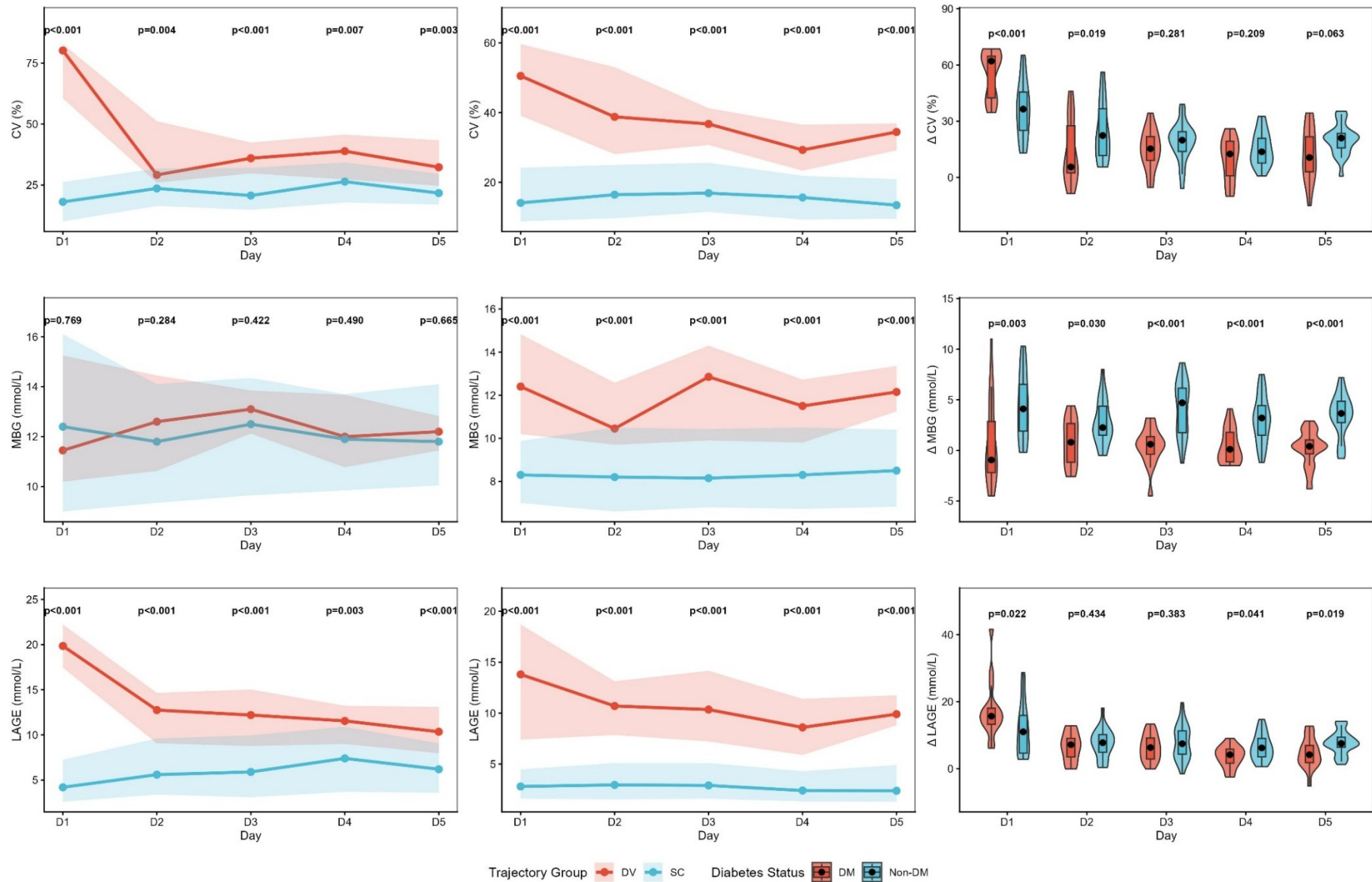


Figure S1. Glycemic Variability Trajectories by Diabetes Status

DM: Diabetes Mellitus; CV: Coefficient of Variation; MBG: Mean Blood Glucose; LAGE: Largest Amplitude of Glycemic Excursion; SC: Stable Control; DV: Dynamic Variant

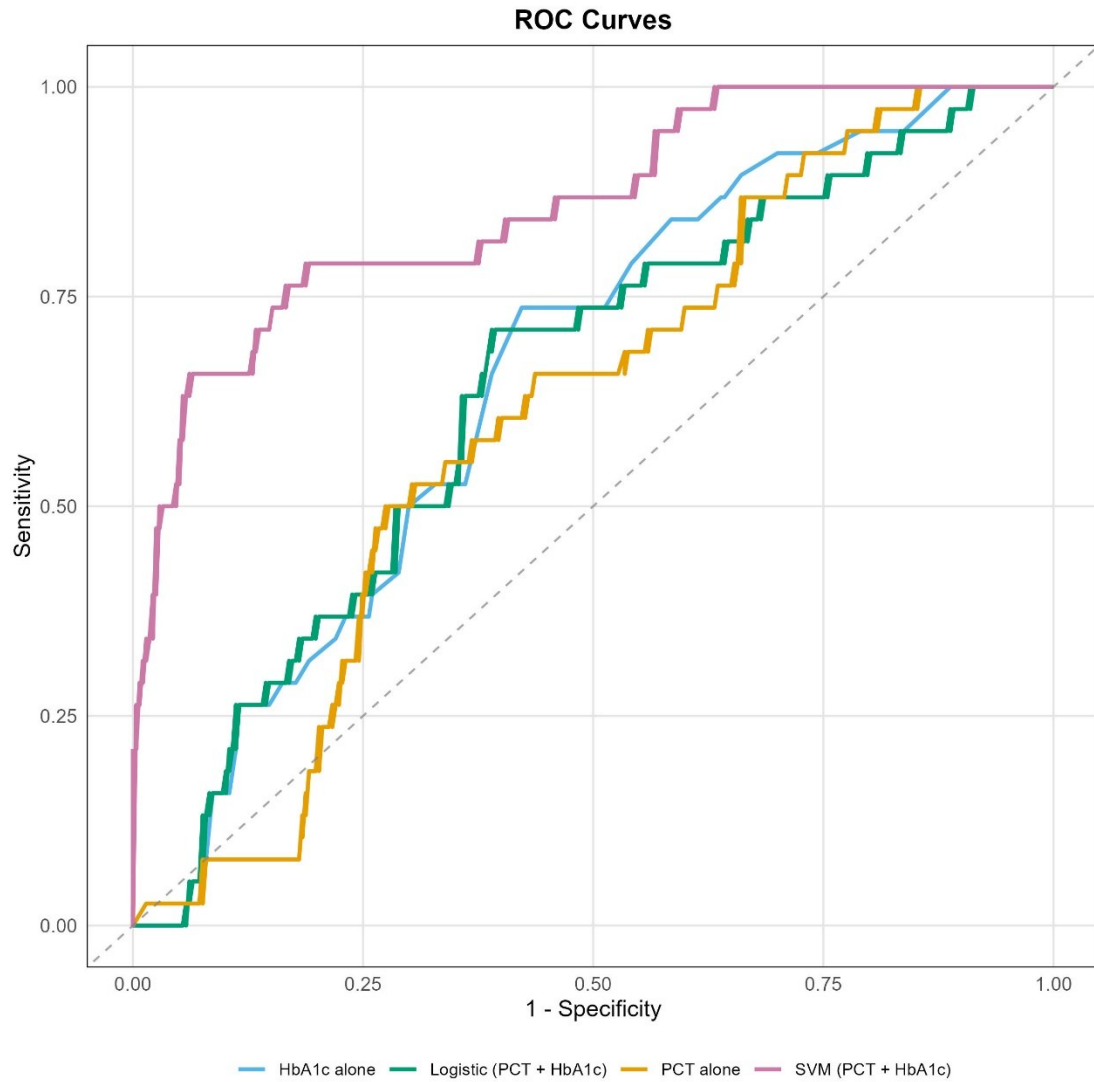


Figure S2. ROC curves comparing predictive models for Dynamic Variant trajectory. SVM model combining PCT and HbA1c achieved the highest discrimination (AUROC: 0.87). ROC: Receiver Operating Characteristic; PCT: Procalcitonin; HbA1c: Glycated Hemoglobin; SVM: Support Vector Machine; AUROC: Area Under the Receiver Operating Characteristic curve