List of supplementary figures and tables

Supplementary figure and table

Table S1. Statistical comparison of variable distributions pre-and post-imputation

Variable	Pre-Imputation	Post-Imputation	*P*-value
Blood Routine Tests			
White Blood Cell Count (10^9/L)	5.90 (4.90, 7.14)	5.90 (4.90, 7.14)	0.995
Neutrophil Percentage (%)	67.10 (61.20, 72.60)	67.10 (61.20, 72.60)	0.999
Lymphocyte Percentage (%)	21.00 (16.70, 26.30)	21.05 (16.70, 26.30)	0.995
Monocyte Percentage (%)	6.20 (5.15, 7.85)	6.20 (5.17, 7.83)	0.990
Eosinophil Percentage (%)	3.20 (1.85, 4.70)	3.20 (1.88, 4.70)	0.983
Absolute Neutrophil Count (10^9/L)	3.86 (3.20, 5.04)	3.87 (3.20, 5.04)	0.991
Absolute Lymphocyte Count (10^9/L)	1.20 (0.99, 1.50)	1.20 (0.99, 1.50)	0.994
Absolute Monocyte Count (10^9/L)	0.40 (0.30, 0.50)	0.40 (0.30, 0.50)	0.997
Absolute Eosinophil Count (10^9/L)	0.20 (0.10, 0.30)	0.20 (0.10, 0.30)	0.973
Absolute Basophil Count (10^9/L)	0.00 (0.00, 0.02)	0.00 (0.00, 0.02)	0.964
Hemoglobin (g/L)	116.00 (106.00, 126.50)	116.00 (106.00, 126.25)	0.999
Hematocrit (%)	0.35 (0.32, 0.39)	0.35 (0.32, 0.39)	0.997
Platelet Count (10^9/L)	142.00 (107.50, 186.50)	142.50 (107.75, 186.25)	0.993
Mean Platelet Volume (fL)	9.80 (9.05, 10.65)	9.80 (9.07, 10.62)	0.994
Platelet Distribution Width (%)	16.20 (15.90, 16.50)	16.20 (15.90, 16.50)	0.953
Plateletcrit (%)	0.14 (0.11, 0.18)	0.14 (0.11, 0.18)	0.998
Electrolytes and Renal Function Markers			
Blood Urea Nitrogen (mmol/L)	23.22 (17.77, 27.21)	23.05 (17.77, 27.21)	0.998
Serum Creatinine (μmol/L)	921.50 (746.15, 1108.60)	924.55 (747.18, 1107.80)	0.999
Serum Potassium (mmol/L)	4.97 (4.33, 5.30)	4.96 (4.34, 5.30)	0.994
Serum Sodium (mmol/L)	138.50 (136.55, 140.30)	138.45 (136.57, 140.30)	0.998
Serum Chloride (mmol/L)	100.60 (98.30, 103.05)	100.65 (98.30, 103.03)	0.995
Serum Calcium (mmol/L)	2.29 (2.15, 2.44)	2.29 (2.15, 2.44)	0.999
Serum Phosphorus (mmol/L)	1.75 (1.40, 2.16)	1.75 (1.40, 2.15)	0.992
Serum Magnesium (mmol/L)	1.03 (0.95, 1.15)	1.04 (0.98, 1.13)	0.828
Total Carbon Dioxide (mmol/L)	22.90 (20.45, 24.90)	22.88 (20.48, 24.90)	1.000
Lipid and Protein Profiles			
Serum Albumin (g/L)	41.30 (39.25, 43.70)	41.30 (39.38, 43.70)	0.973
Triglycerides (mmol/L)	1.44 (1.12, 2.23)	1.44 (1.12, 2.21)	0.968
Total Cholesterol (mmol/L)	4.05 (3.24, 4.81)	4.06 (3.24, 4.76)	0.985
High-Density Lipoprotein Cholesterol (mmol/L)	1.04 (0.88, 1.31)	1.05 (0.88, 1.30)	0.942
Low-Density Lipoprotein Cholesterol (mmol/L)	2.30 (1.76, 2.92)	2.32 (1.77, 2.90)	0.980
Other Biomarkers			
Intact Parathyroid Hormone (pg/mL)	217.30 (109.21, 408.10)	222.80 (109.80, 405.27)	0.939
Beta-2 Microglobulin (mg/L)	33.10 (24.96, 43.10)	34.15 (25.77, 42.55)	0.807
Serum Iron (μmol/L)	13.22 (9.00, 17.92)	13.32 (10.18, 16.60)	0.784
Total Iron Binding Capacity (μmol/L)	46.30 (35.55, 57.67)	48.89 (38.00, 55.10)	0.639
Serum Ferritin (ng/mL)	205.00 (49.55, 1258.30)	243.00 (54.92, 1369.10)	0.559
High Sensitivity C-Reactive Protein (mg/L)	3.34 (1.60, 6.92)	3.44 (1.71, 6.97)	0.828

Data are presented as median (interquartile range).

Table S2. Baseline laboratory parameters in non-IDH vs. IDH groups among hemodialysis patients

Variables	Non-IDH group (n=139)	IDH group (n=61)	*P value*
Blood Routine Tests			
White Blood Cell Count (10^9/L)	6.0 (4.9, 7.15)	5.43 (4.7, 6.7)	0.248
Neutrophil Percentage (%)	67.2 (61.1, 72.7)	66.4 (62.8, 71.2)	0.851
Lymphocyte Percentage (%)	21.2 (16.7, 26.55)	21.0 (18.1, 24.9)	0.839
Monocyte Percentage (%)	6.2 (5.0, 7.95)	6.3 (5.4, 7.6)	0.741
Eosinophil Percentage (%)	3.2 (2.0, 4.7)	3.0 (1.7, 4.9)	0.964
Basophil Percentage (%)	0.5 (0.3, 0.6)	0.4 (0.3, 0.6)	0.575
Absolute Neutrophil Count (10^9/L)	3.87 (3.24, 5.07)	3.86 (2.9, 4.9)	0.445
Absolute Lymphocyte Count (10^9/L)	1.2 (0.99, 1.5)	1.2 (1.0, 1.4)	0.216
Absolute Monocyte Count (10^9/L)	0.4 (0.3, 0.5)	0.37 (0.3, 0.49)	0.699
Absolute Eosinophil Count (10^9/L)	0.2 (0.1, 0.3)	0.2 (0.1, 0.3)	0.968
Absolute Basophil Count (10^9/L)	0.0 (0.0, 0.2)	0.0 (0.0, 0.3)	0.521
Hemoglobin (g/L)	115.0 (101.5, 124.0)	121.0 (107.0, 129.0)	**0.014**
Hematocrit (%)	0.34 (0.31, 0.38)	0.37 (0.33, 0.4)	**0.019**
Platelet Count (10^9/L)	149.0 (113.5, 189.0)	139.0 (102.0, 176.0)	0.231
Mean Platelet Volume (fL)	9.8 (9.0, 10.7)	10.0 (9.6, 10.6)	0.211
Platelet Distribution Width (%)	16.2 (15.9, 16.5)	16.3 (16.0, 16.6)	0.204
Plateletcrit (%)	0.15 (0.11, 0.18)	0.14 (0.1, 0.17)	0.337
Electrolytes and Renal Function Markers			
Serum Magnesium (mmol/L)	1.04 (0.98, 1.1)	1.05 (0.98, 1.16)	0.158
Total Carbon Dioxide (Bicarbonate) (mmol/L)	22.9 (20.35, 24.95)	22.8 (20.6, 24.9)	0.967
Blood Urea Nitrogen (mmol/L)	21.89 (16.93, 26.06)	24.2 (20.9, 28.79)	**0.015**
Serum Creatinine (μmol/L)	903.9 (742.95, 1084.35)	968.2 (784.0, 1137.6)	0.110
Serum Potassium (mmol/L)	4.86 (4.24, 5.2)	5.13 (4.7, 5.66)	**<0.001**
Serum Sodium (mmol/L)	138.6 (136.6, 140.7)	138.0 (136.4, 140.0)	0.207
Serum Chloride (mmol/L)	100.7 (98.55, 103.5)	100.4 (97.4, 102.1)	0.221
Serum Calcium (mmol/L)	2.29 (2.14, 2.42)	2.33 (2.15, 2.47)	0.413
Serum Phosphorus (mmol/L)	1.71 (1.36, 2.08)	1.87 (1.49, 2.28)	**0.055**
Lipid and Protein Profiles			
Serum Albumin (g/L)	41.49 (40.0, 43.75)	40.9 (37.7, 43.5)	0.148
Triglycerides (mmol/L)	1.42 (1.15, 2.42)	1.47 (1.12, 1.85)	0.413
Total Cholesterol (mmol/L)	4.08 (3.29, 4.89)	4.01 (3.23, 4.68)	0.251
High-Density Lipoprotein Cholesterol (mmol/L)	1.07 (0.92, 1.31)	1.01 (0.84, 1.21)	0.113
Low-Density Lipoprotein Cholesterol (mmol/L)	2.31 (1.84, 2.96)	2.38 (1.69, 2.75)	0.457
Other Biomarkers			
Intact Parathyroid Hormone (pg/mL)	223.25 (96.25, 414.93)	199.9 (128.97, 349.6)	0.924
Beta-2 Microglobulin (mg/L)	34.29 (25.85, 42.8)	33.4 (24.93, 42.4)	0.497
Serum Iron (μmol/L)	13.23 (9.95, 16.3)	13.41 (10.6, 16.9)	0.802
Total Iron Binding Capacity (μmol/L)	49.58 (38.4, 55.45)	47.72 (38.0, 53.29)	0.513
Serum Ferritin (ng/mL)	242.0 (53.63, 1500.0)	251.0 (70.1, 1340.0)	0.947
High Sensitivity C-Reactive Protein (mg/L)	3.44 (1.79, 7.14)	3.26 (1.46, 6.51)	0.438

Data are presented as median (interquartile range). IDH: Intradialytic hypotension; HD: Hemodialysis.

Table S3. Subgroup analysis of ΔPVi median values between non-IDH and IDH Groups

Variables	Subgroup Level	Non-IDH group (n=139)	IDH group (n=61)	Sample Size (Non-IDH group / IDH group)	*P* value
Sex	Female	-1.50 (-5.00, 1.00)	7.00 (2.50, 10.50)	66 / 23	<0.001
	Male	0.00 (-2.00, 3.00)	7.00 (3.25, 11.00)	73 / 38	<0.001
Age	≤ 60 years	-1.00 (-4.00, 3.00)	7.00 (2.25, 8.75)	85 / 42	<0.001
	> 60 years	-1.00 (-3.75, 2.00)	10.00 (4.50, 15.00)	54 / 19	<0.001
Co-morbidity	No	0.00 (-2.00, 3.00)	2.00 (-0.50, 4.25)	13 / 8	0.383
	Yes	-1.00 (-4.00, 2.00)	7.00 (4.00, 11.00)	126 / 53	<0.001
HD Duration	≤ 10 years	-1.00 (-3.00, 3.00)	7.00 (3.00, 11.25)	108 / 48	<0.001
	> 10 years	-2.00 (-6.50, 1.50)	8.00 (3.00, 10.00)	31 / 13	<0.001
End-stage renal disease Duration	≤ 10 years	-1.00 (-3.00, 3.00)	7.00 (3.00, 11.50)	104 / 47	<0.001
	> 10 years	-2.00 (-6.00, 1.50)	8.00 (3.75, 9.75)	35 / 14	<0.001
Antihypertensive Medications	No	0.00 (-2.00, 3.75)	6.00 (2.50, 10.50)	26 / 19	0.002
	Yes	-1.00 (-4.00, 2.00)	7.50 (4.00, 11.75)	113 / 42	<0.001
Pre-HD Weight (kg)	≤ 50 kg	-1.00 (-4.50, 3.50)	9.00 (7.00, 12.00)	23 / 9	0.004
	> 50 kg	-1.00 (-4.00, 2.00)	7.00 (3.00, 11.00)	116 / 52	<0.001
HD Mode	HD	-1.00 (-3.00, 2.00)	6.00 (3.00, 8.00)	69 / 21	<0.001
	Hemodiafiltration	-5.00 (-9.50, 1.00)	10.00 (7.00, 11.00)	15 / 21	<0.001
	High-flux HD	-1.00 (-2.50, 3.50)	4.00 (0.50, 9.50)	55 / 19	0.005

Data are presented as median (interquartile range). IDH: Intradialytic hypotension; HD: Hemodialysis; ΔPVi: Change in pleth variability index.

Table S4. Comparison of clinical and dialysis parameters between asymptomatic and symptomatic IDH patients

Variables	Asymptomatic IDH (n=39)	Symptomatic IDH (n=22)	*P* value
Demographic Characteristics			
Sex (Male, %)	12 (30.77%)	11 (50.00%)	0.225
Age (years)	57.00 (50.50, 62.00)	54.50 (43.25, 66.50)	0.563
HD Duration (years)	5.00 (3.00, 9.50)	7.50 (3.25, 14.25)	0.335
End-Stage Renal Disease Duration (years)	5.00 (3.25, 10.00)	7.50 (3.25, 14.25)	0.366
Height (cm)	166.00 (158.50, 170.00)	160.00 (155.75, 167.25)	0.123
Pre-HD Weight (kg)	63.80 (57.00, 69.35)	58.10 (51.62, 70.82)	0.336
Weight Gain Between Sessions (kg)	2.70 (2.15, 3.40)	3.00 (1.90, 3.48)	0.839
SBP Baseline (mmHg)	154.00 (144.00, 165.00)	136.50 (125.00, 145.50)	<0.001
DBP Baseline (mmHg)	82.00 (74.00, 90.50)	80.50 (77.00, 85.00)	0.475
MAP Baseline (mmHg)	106.67 (100.17, 112.83)	99.50 (93.33, 103.92)	0.012
Antihypertensive Medications	32 (82.05%)	10 (45.45%)	0.007
Co-morbidity (%)			
Hypertension	34 (87.18%)	18 (81.82%)	0.710
Diabetes	14 (35.90%)	3 (13.64%)	0.118
Coronary Artery Disease	7 (17.95%)	3 (13.64%)	0.735
Others	2 (5.13%)	0 (0.00%)	0.531
Etiology of end-stage renal disease (%)			0.291
Hypertensive Nephropathy	5 (12.82%)	4 (18.18%)	
Chronic Glomerulonephritis	16 (41.03%)	13 (59.09%)	
Diabetic Nephropathy	14 (35.90%)	3 (13.64%)	
Others	4 (10.25%)	2 (9.09%)	
Hemodialysis Parameters			
UF Volume (kg)	2.80 (2.20, 3.40)	2.90 (2.05, 3.35)	0.787
UF Rate (%)	4.45 (3.56, 5.43)	4.44 (3.69, 5.26)	0.922
HD Duration (hour)	4.00 (4.00, 4.00)	4.00 (4.00, 4.00)	0.888
Hemodynamic Measurements			
Lowest SBP During HD (mmHg)	123.00 (118.00, 130.00)	107.00 (97.00, 121.00)	<0.001
Lowest DBP During HD (mmHg)	75.00 (68.50, 79.50)	68.50 (65.00, 74.00)	0.044
Lowest MAP During HD (mmHg)	92.33 (83.83, 97.00)	82.50 (76.00, 89.92)	0.002
Decrease in SBP During HD (mmHg)	27.00 (21.50, 36.00)	25.00 (22.00, 39.75)	0.851
Decrease in DBP During HD (mmHg)	6.00 (2.00, 14.50)	11.50 (6.25, 18.50)	0.158
Decrease in MAP During HD (mmHg)	13.33 (8.50, 21.83)	16.17 (10.58, 24.92)	0.466
PVi Baseline	12.00 (9.00, 15.00)	14.00 (8.25, 17.00)	0.354
PVi 1 Hour into HD	20.00 (16.00, 24.50)	20.00 (15.25, 24.75)	0.857
△PVi	7.00 (3.00, 10.00)	7.00 (2.50, 11.00)	0.874
△Pvi%	53.85 (33.33, 94.44)	60.29 (10.86, 110.00)	0.668

Data are presented as median (interquartile range) or frequencies with percentages. IDH: Intradialytic hypotension; HD: Hemodialysis; UF: Ultrafiltration; SBP: Systolic blood pressure; DBP: Diastolic blood pressure; MAP: Mean arterial pressure.

Table S5. Baseline characteristics in patients with ΔPVi% ≤ 23.53% and ΔPVi% >23.53%

Variables	ΔPVi% ≤ 23.53% group (n=117)	ΔPVi% > 23.53% group (n=83)	*P* value
Demographic Characteristics			
Sex (Male, %)	56 (47.86%)	55 (66.27%)	0.015
Age (years)	57.00 (52.00, 62.00)	56.00 (50.00, 66.50)	0.794
HD Duration (years)	5.00 (2.00, 10.00)	5.00 (2.75, 9.50)	0.740
End-Stage Renal Disease Duration (years)	5.00 (2.00, 11.00)	5.00 (3.00, 10.00)	0.989
Height (cm)	163.00 (158.00, 169.00)	165.00 (158.00, 170.00)	0.303
Pre-HD Weight (kg)	60.90 (55.00, 71.00)	60.10 (53.90, 68.40)	0.568
Weight Gain Between Sessions (kg)	2.30 (1.60, 2.80)	2.50 (1.90, 3.15)	0.008
Systolic Blood Pressure Baseline (mmHg)	133.00 (122.00, 145.00)	145.00 (135.00, 160.00)	<0.001
Diastolic Blood Pressure Baseline (mmHg)	75.00 (68.00, 84.00)	80.00 (73.00, 86.50)	0.007
Mean Arterial Pressure Baseline (mmHg)	95.33 (89.00, 102.33)	102.00 (94.00, 108.67)	<0.001
Typles of Antihypertensive Medications			0.783
0	24 (20.51%)	22 (26.51%)	
1-2	63 (53.85%)	38 (45.78%)	
3-5	30 (25.64%)	23 (27.71%)	
Co-morbidity (%)			
Hypertension	99 (84.62%)	76 (91.57%)	0.212
Diabetes	28 (23.93%)	24 (28.92%)	0.530
Coronary Artery Disease	12 (10.26%)	17 (20.48%)	0.069
Others	0 (0.00%)	4 (4.82%)	0.028
Etiology of end-stage renal disease (%)			0.670
Hypertensive Nephropathy	26 (22.22%)	18 (21.69%)	
Chronic Glomerulonephritis	57 (48.72%)	35 (42.17%)	
Diabetic Nephropathy	28 (23.93%)	23 (27.71%)	
Others	6 (5.13%)	7(8.43%)	
Recent UF Volume (kg)			
Previous Session 1	2.30 (1.80, 3.00)	2.60 (1.95, 3.20)	0.091
Previous Session 2	2.30 (1.70, 3.00)	2.60 (1.85, 3.30)	0.094
Previous Session 3	2.40 (1.70, 3.00)	2.50 (2.00, 3.00)	0.238
Current Session Hemodialysis Parameters			
UF Volume (kg)	2.30 (1.70, 2.80)	2.60 (2.00, 3.10)	0.016
UF Rate (%)	3.70 (2.86, 4.48)	4.33 (3.41, 5.16)	0.002
HD Duration (hour)	4.00 (4.00, 4.00)	4.00 (4.00, 4.00)	0.039
Blood Flow Rate (mL/min)	260.00 (250.00, 260.00)	260.00 (250.00, 260.00)	0.220
Dialysate Flow Rate (mL/min)	500.00 (500.00, 500.00)	500.00 (500.00, 500.00)	0.879
Dialysate Temperature (°C)	36.90 (36.50, 37.00)	36.50 (36.50, 37.00)	0.890
Dialysate Glucose Concentration (mmol/L)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.537
Dialysate Calcium Concentration (mmol/L)	1.50 (1.50, 1.50)	1.50 (1.50, 1.50)	0.954
HD Mode (%)			0.049
HD	59 (50.43%)	31 (37.35%)	
Hemodiafiltration	15 (12.82%)	21 (25.30%)	
High-flux HD	43 (36.75%)	31 (37.35%)	

Data are presented as median (interquartile range) or frequencies with percentages.
ΔPVi%: Change in pleth variability index percentage; HD: Hemodialysis; UF: Ultrafiltration.

Table S6. Baseline laboratory parameters in patients with ΔPVi% ≤ 23.53% and ΔPVi% > 23.53%

Variables	ΔPVi% ≤ 23.53% group (n=117)	ΔPVi% > 23.53% group (n=83)	*P*-value
Blood Routine Tests			
White Blood Cell Count (10^9/L)	5.96 (4.90, 6.90)	5.70 (4.75, 7.24)	0.740
Neutrophil Percentage (%)	67.20 (61.20, 72.50)	66.40 (61.75, 72.65)	1.000
Lymphocyte Percentage (%)	21.80 (16.90, 26.50)	20.50 (16.10, 26.00)	0.358
Monocyte Percentage (%)	6.10 (5.00, 7.90)	6.30 (5.45, 7.70)	0.241
Eosinophil Percentage (%)	3.10 (1.90, 4.30)	3.50 (1.90, 5.35)	0.255
Basophil Percentage (%)	0.40 (0.30, 0.60)	0.50 (0.30, 0.60)	0.907
Absolute Neutrophil Count (10^9/L)	3.87 (3.20, 5.00)	3.86 (3.15, 5.10)	0.885
Absolute Lymphocyte Count (10^9/L)	1.20 (0.99, 1.60)	1.20 (0.94, 1.48)	0.174
Absolute Monocyte Count (10^9/L)	0.39 (0.30, 0.50)	0.40 (0.30, 0.49)	0.470
Absolute Eosinophil Count (10^9/L)	0.20 (0.10, 0.30)	0.20 (0.10, 0.30)	0.479
Absolute Basophil Count (10^9/L)	0.00 (0.00, 0.02)	0.00 (0.00, 0.03)	0.503
Hemoglobin (g/L)	115.69 (102.00, 125.00)	116.00 (106.50, 128.00)	0.192
Hematocrit (%)	0.35 (0.31, 0.38)	0.35 (0.32, 0.40)	0.234
Platelet Count (10^9/L)	143.00 (110.00, 187.00)	140.00 (102.50, 185.00)	0.983
Mean Platelet Volume (fL)	10.00 (9.00, 10.70)	9.70 (9.10, 10.55)	0.397
Platelet Distribution Width (%)	16.20 (16.00, 16.50)	16.30 (15.90, 16.50)	0.722
Plateletcrit (%)	0.15 (0.11, 0.18)	0.14 (0.11, 0.17)	0.642
Electrolytes and Renal Function Markers			
Blood Urea Nitrogen (mmol/L)	22.19 (16.91, 26.35)	23.72 (18.79, 27.55)	0.173
Serum Creatinine (μmol/L)	937.50 (753.10, 1093.70)	907.80 (745.40, 1130.70)	0.917
Serum Potassium (mmol/L)	4.96 (4.35, 5.22)	4.97 (4.41, 5.48)	0.248
Serum Sodium (mmol/L)	139.10 (137.20, 140.80)	137.80 (136.20, 139.90)	0.018
Serum Chloride (mmol/L)	100.90 (98.90, 103.80)	99.60 (97.45, 102.20)	0.032
Serum Calcium (mmol/L)	2.28 (2.14, 2.42)	2.33 (2.17, 2.46)	0.149
Serum Phosphorus (mmol/L)	1.69 (1.40, 2.08)	1.83 (1.42, 2.23)	0.158
Serum Magnesium (mmol/L)	1.04 (0.98, 1.13)	1.05 (0.98, 1.14)	0.488
Total Carbon Dioxide (mmol/L)	22.85 (20.50, 24.50)	22.90 (20.40, 25.90)	0.301
Lipid and Protein Profiles			
Serum Albumin (g/L)	41.10 (40.00, 43.70)	41.40 (38.95, 43.70)	0.963
Triglycerides (mmol/L)	1.48 (1.16, 2.50)	1.40 (1.09, 1.79)	0.127
Total Cholesterol (mmol/L)	4.08 (3.34, 4.91)	4.04 (3.21, 4.65)	0.338
High-Density Lipoprotein Cholesterol (mmol/L)	1.04 (0.89, 1.28)	1.05 (0.88, 1.33)	0.638
Low-Density Lipoprotein Cholesterol (mmol/L)	2.38 (1.76, 3.02)	2.19 (1.83, 2.71)	0.280
Other Biomarkers			
Intact Parathyroid Hormone (pg/mL)	228.33 (92.05, 407.00)	199.90 (128.72, 401.50)	0.809
Beta-2 Microglobulin (mg/L)	35.10 (27.42, 43.90)	31.90 (24.94, 37.05)	0.047
Serum Iron (μmol/L)	13.23 (9.90, 17.20)	13.35 (10.70, 15.77)	0.779
Total Iron Binding Capacity (μmol/L)	48.80 (38.00, 55.50)	49.00 (38.10, 54.30)	0.533
Serum Ferritin (ng/mL)	248.00 (64.30, 1500.00)	201.00 (41.40, 1351.53)	0.495
High Sensitivity C-Reactive Protein (mg/L)	3.46 (1.91, 6.71)	3.26 (1.50, 7.71)	0.990

Data are presented as median (interquartile range). ΔPVI%: Change in pleth variability index percentage.

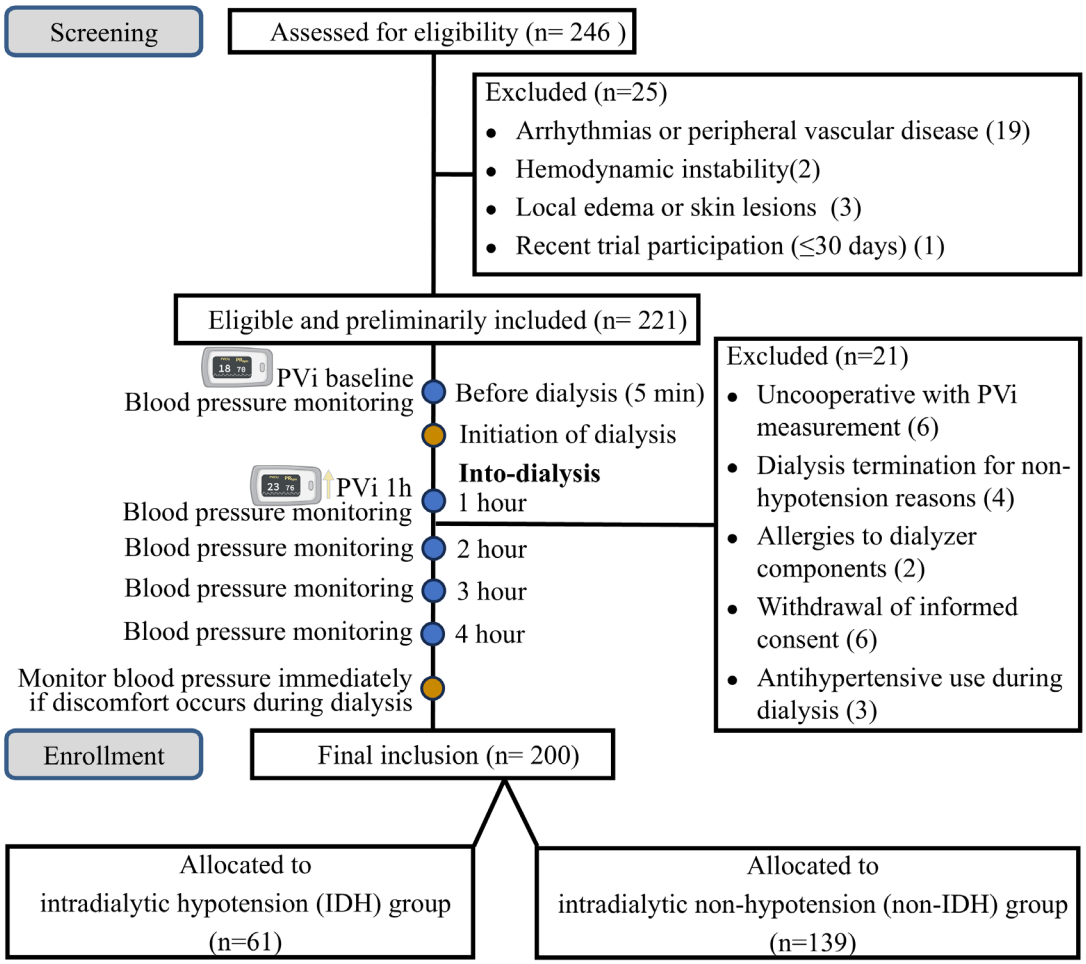

Figure S1. Flowchart of participant enrollment and grouping
PVi: Pleth variability index; IDH: Intradialytic hypotension.

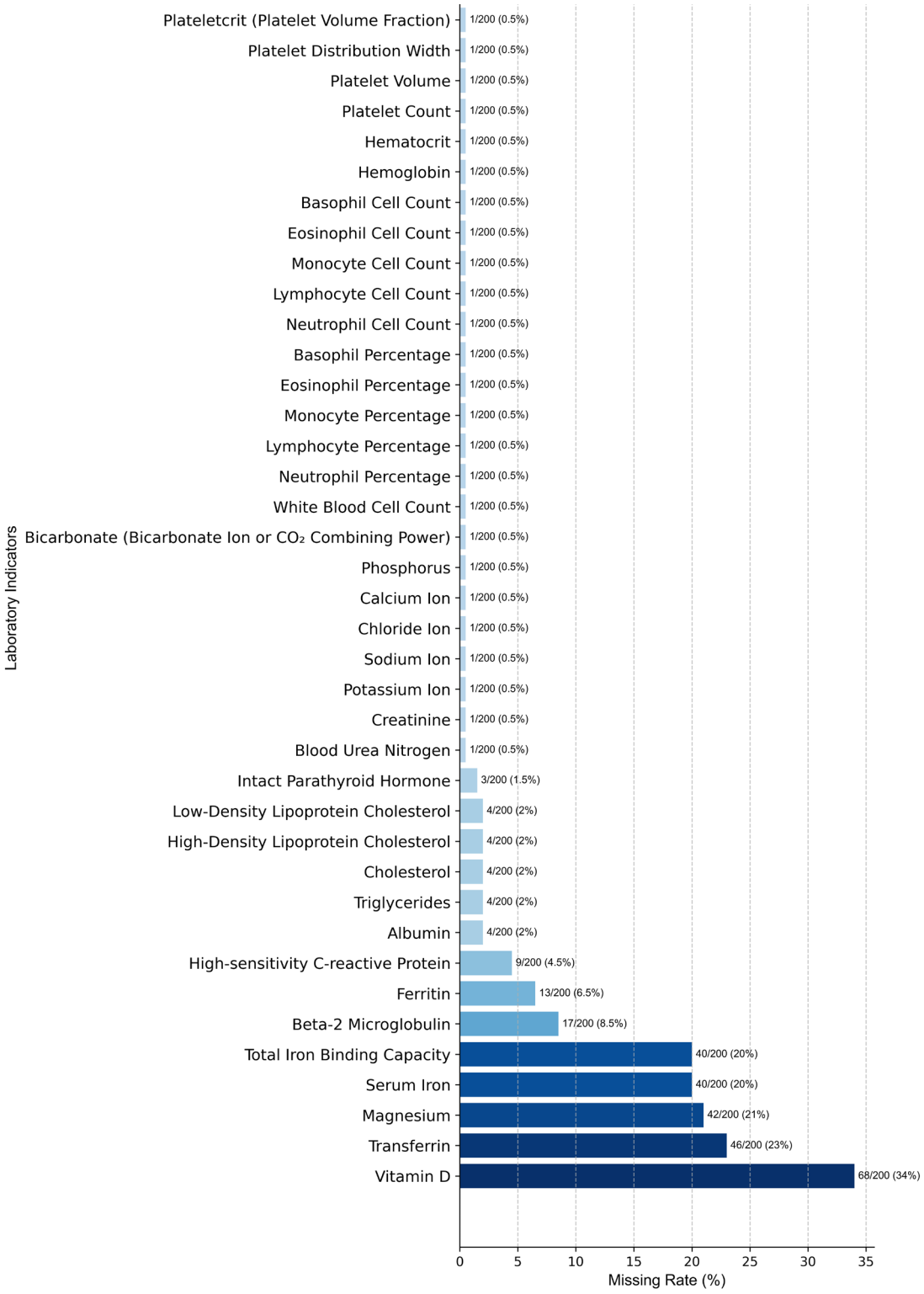

Figure S2. Missing data proportions for each laboratory indicator
This figure illustrates the extent of missing data for each laboratory indicator. The y-axis represents the individual test indicators, while the "Missing Rate (%)" axis indicates the proportion of missing values relative to the total sample size.

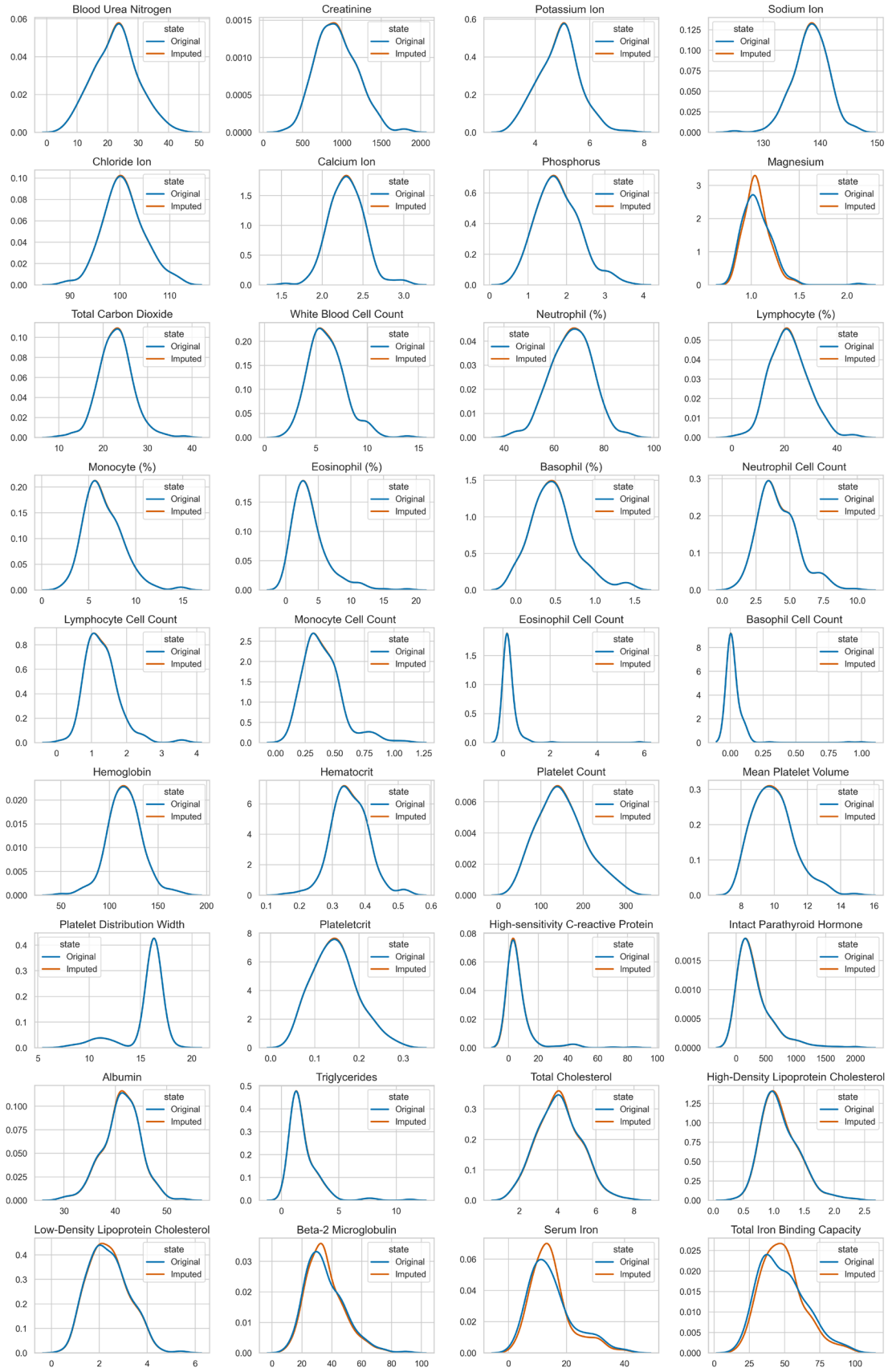

Figure S3. Density plots of indicators before and after imputation

Blue lines represent the original data distribution; orange lines indicate the distribution after imputation.

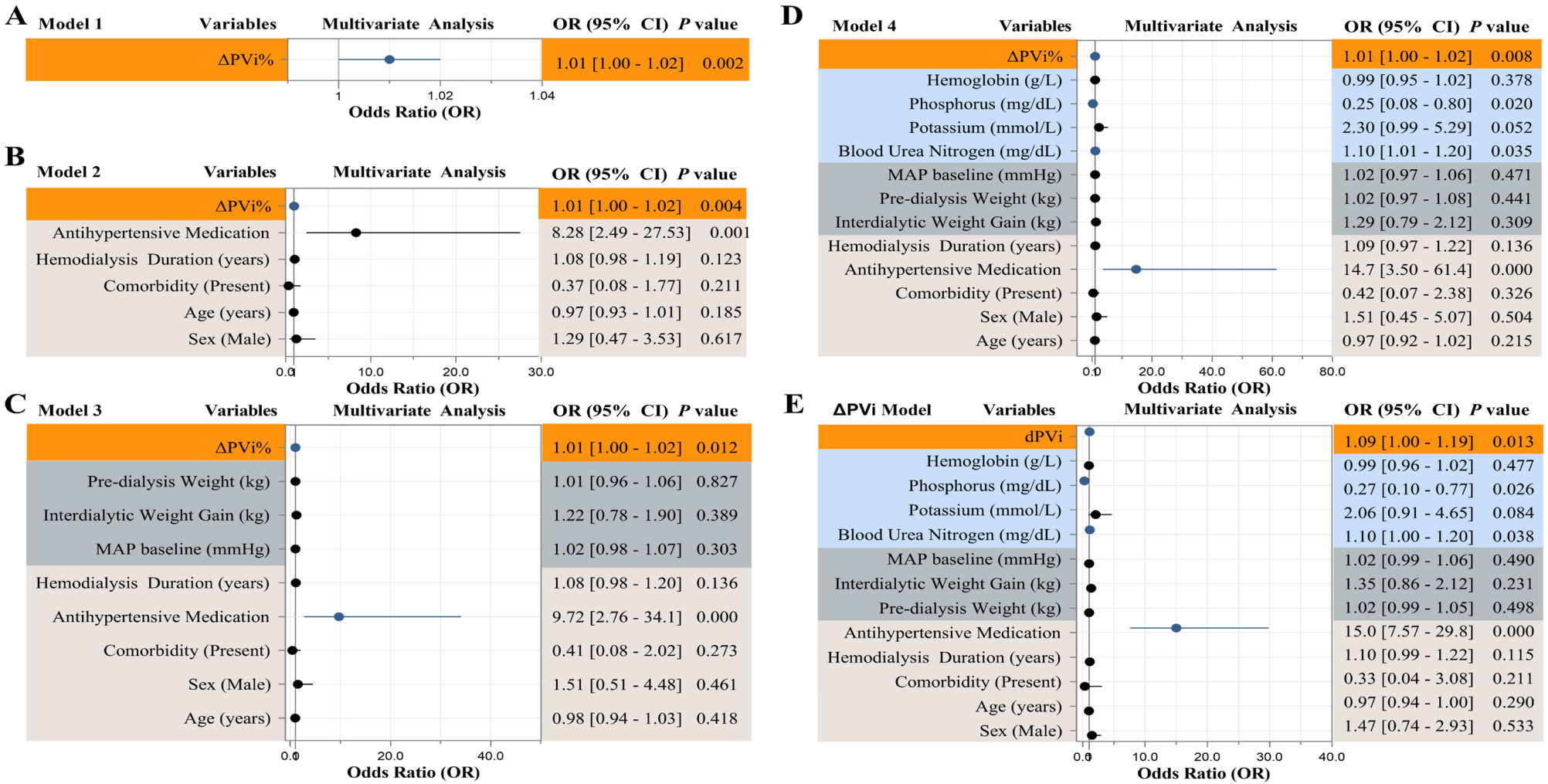

Figure S4. Multivariate analysis of factors for symptomatic IDH

Panels (A-D) show progressive adjustment models: (A) Model 1 with ΔPVI% alone; (B) Model 2 adding demographic factors and clinical history; (C) Model 3 further adjusting for weight parameters and baseline MAP; and (D) Model 4 incorporating laboratory values. Panel (E) presents a parallel analysis using absolute ΔPVi.

MAP: Mean arterial pressure. ΔPVi: Change in pleth variability index; ΔPVi%: Percentage change in pleth variability index; IDH: Intradialytic hypotension. For all models in this analysis, IDH was defined symptomatic hypotension: SBP decrease ⩾20 mmHg or MAP decrease ⩾10 mmHg with symptoms like dizziness or nausea.

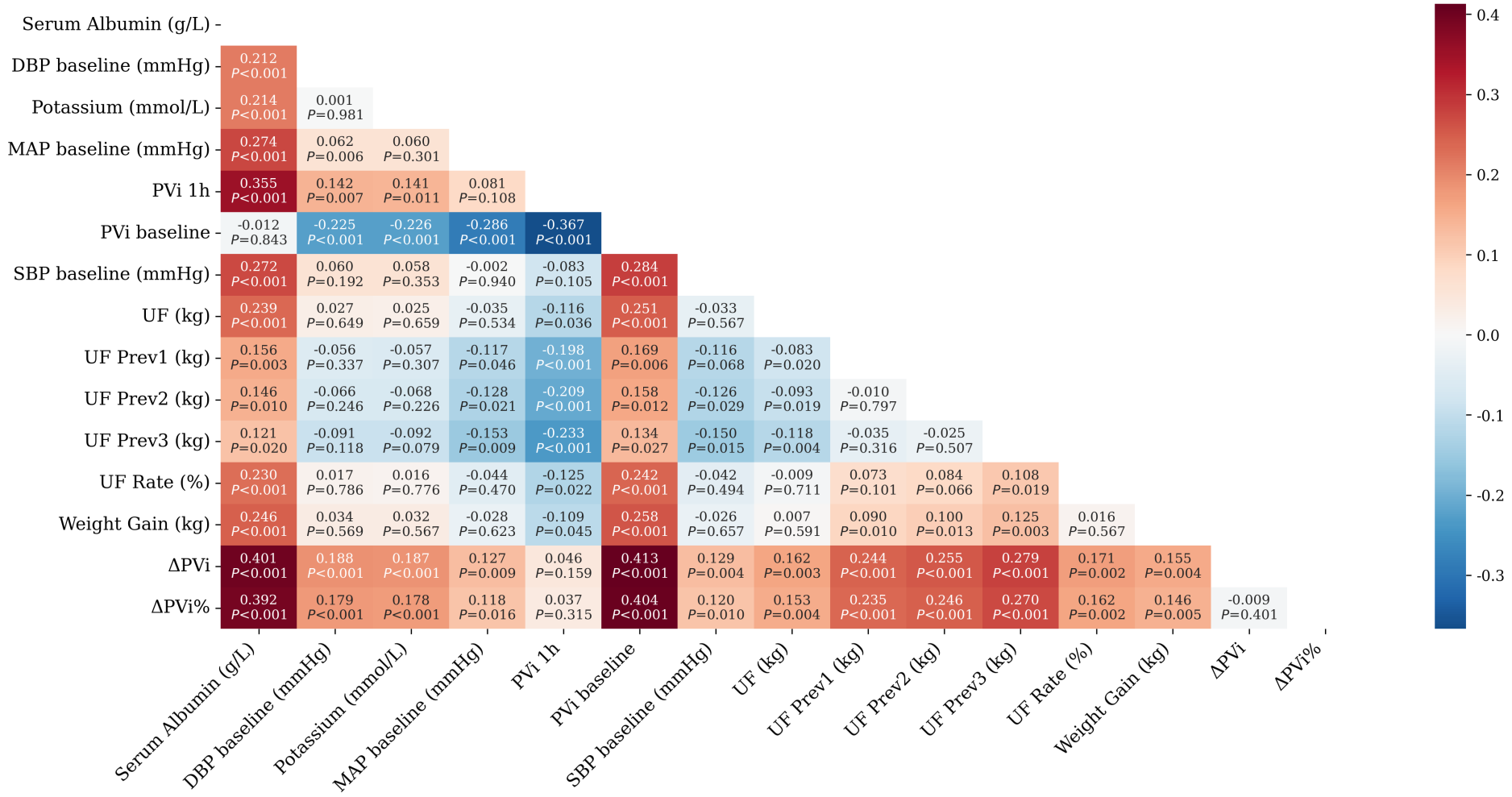

Figure S5. Heatmap of AUC comparisons for intradialytic hypotension predictors

DBP: Diastolic blood pressure; MAP: Mean arterial pressure; PVi: Pleth variability index; SBP: Systolic blood pressure; UF: Ultrafiltration; UF Prev1/2/3: Ultrafiltration volume from previous 1/2/3 sessions; ΔPVi: Change in PVi; ΔPVi%: Percentage change in PVi.

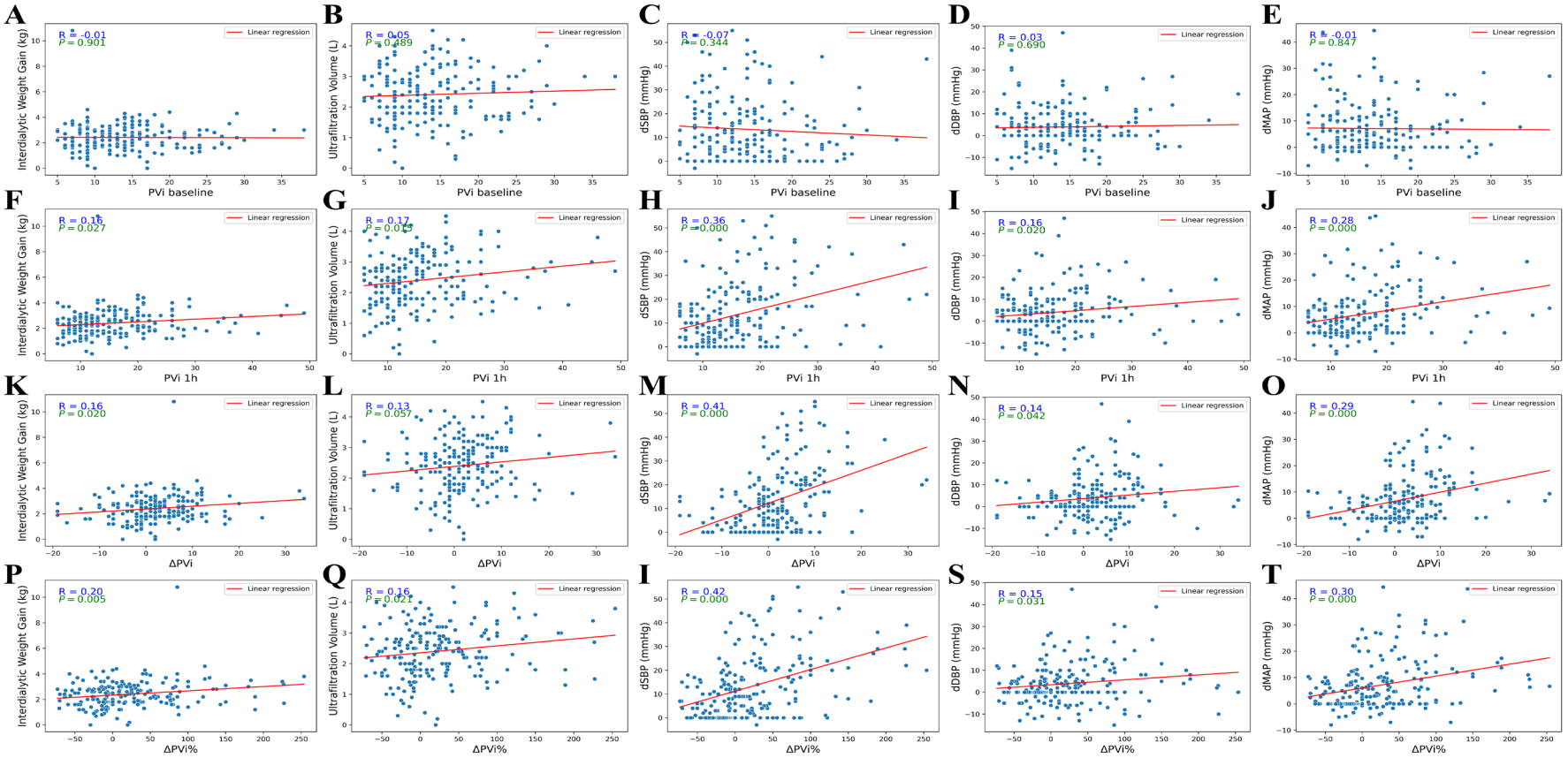

Figure S6. Correlation of PVi with hemodialysis variables

This figure presents a matrix of scatter plots with linear regression lines examining the relationships between PVi parameters and hemodialysis outcomes. Each row represents a different PVi parameter: baseline PVi (A-E), 1-hour PVi (F-J), ΔPVi (K-O), and ΔPVi% (P-T). Each column displays a specific hemodialysis-related variable: interdialytic weight gain (first column), ultrafiltration volume (second column), decrease in SBP (third column), decrease in DBP (fourth column), and decrease in MAP (fifth column). Correlation coefficients and p-values are shown in each panel, with linear regression lines (red) depicting the direction and strength of associations. dSBP: Decrease in systolic blood pressure; dDBP: Decrease in diastolic blood pressure; dMAP: Decrease in mean arterial pressure; PVi: Pleth variability index; ΔPVi: Change in PVi; ΔPVi%: Percentage change in PVi.

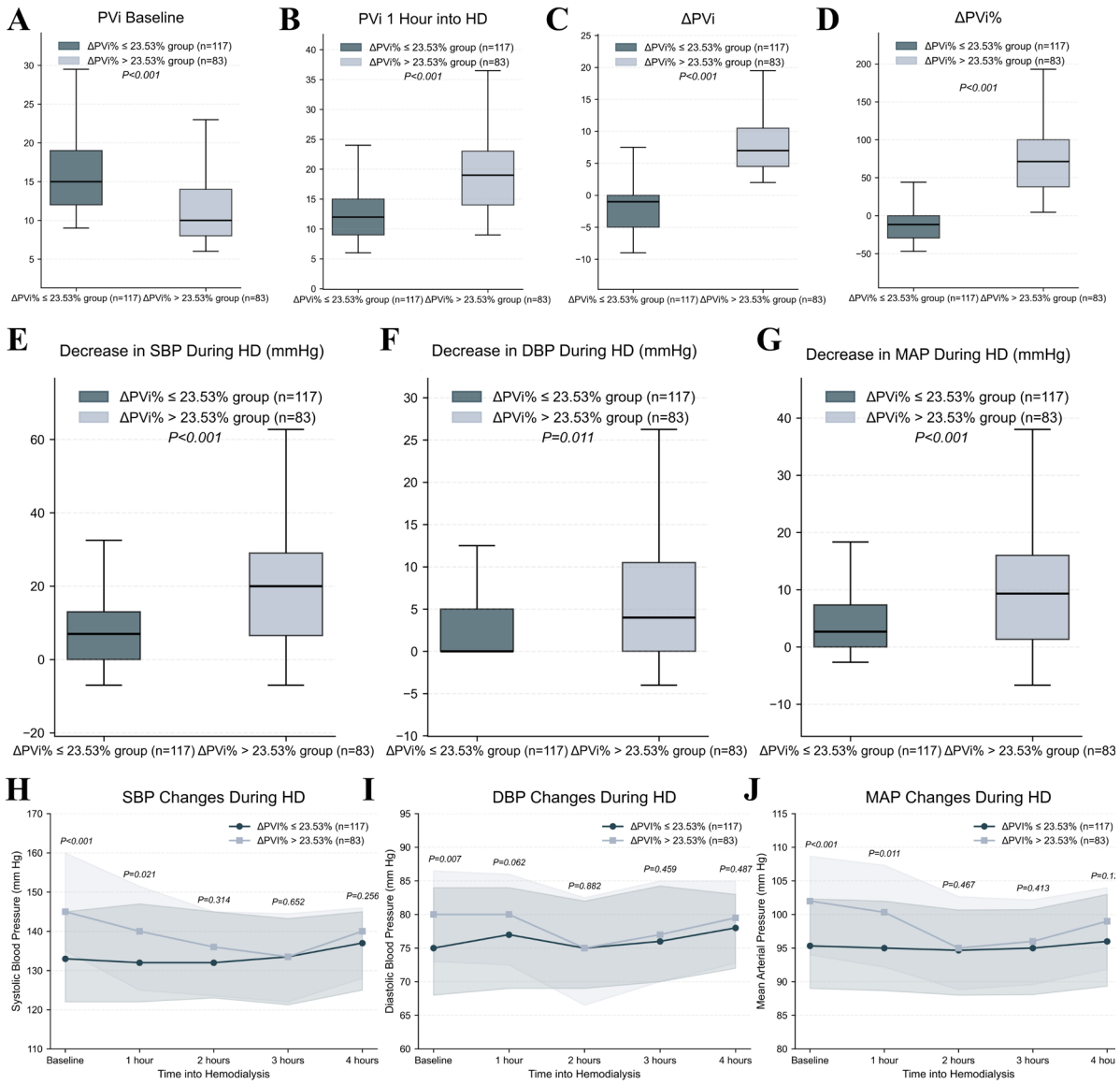

Figure S7. Dialysis hemodynamic indicators and PVi parameters in patients stratified by ΔPVi% (cutoff: 23.53%)

This figure compares Blood pressure and PVi parameters between patients with ΔPVi% ⩽23.53% (n=117) and ΔPVi% >23.53% (n=83) during hemodialysis. Panels (A) through (D) illustrate PVi-related parameters, including PVi baseline (A), PVi 1h(B), ΔPVi (C), and ΔPVi% (D). Panels (E), (F), and (G) display the decreases in SBP, DBP, and MAP during HD, respectively. Panels (H), (I), and (J) depict the dynamic trends of SBP, DBP, and MAP throughout the HD session.

DBP: Diastolic blood pressure; HD: Hemodialysis; MAP: Mean arterial pressure; PVi: Pleth variability index; SBP: Systolic blood pressure; ΔPVi: Change in PVi; ΔPVi%: Percentage change in PVi.