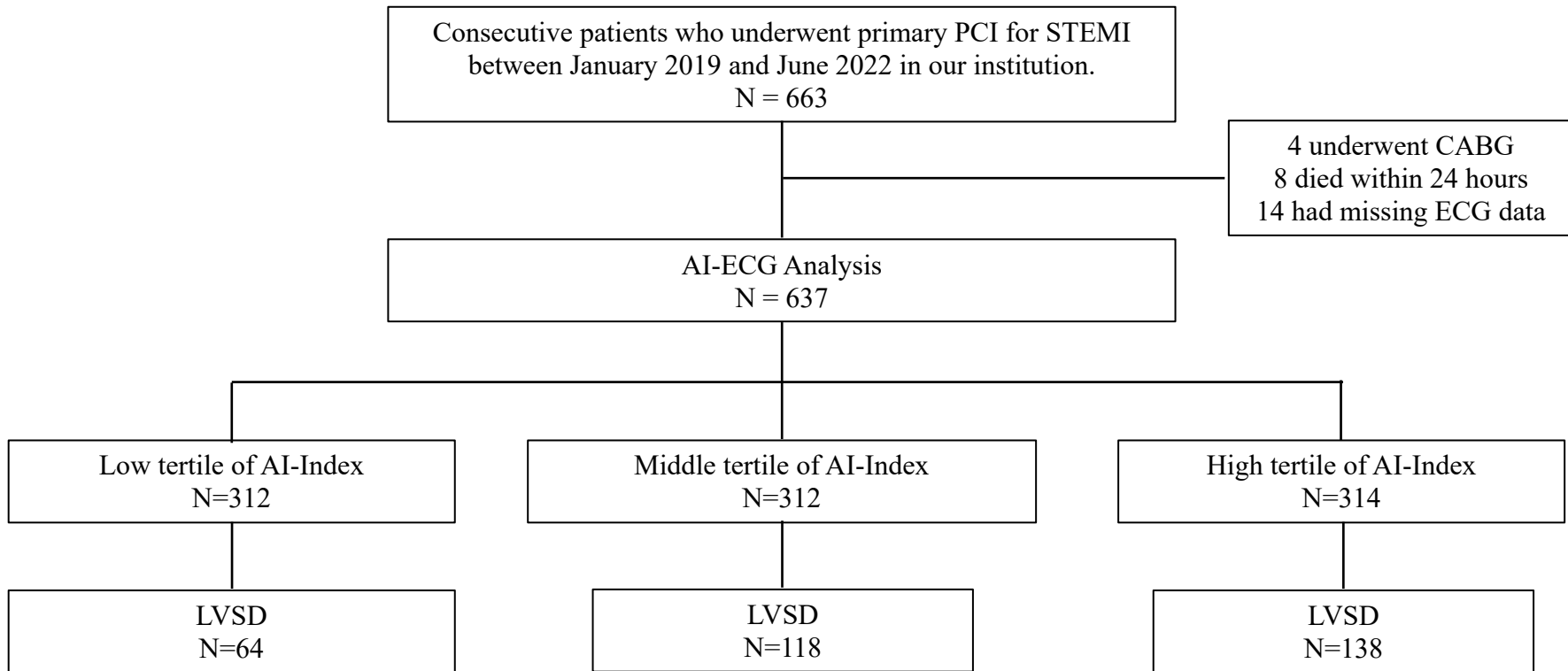
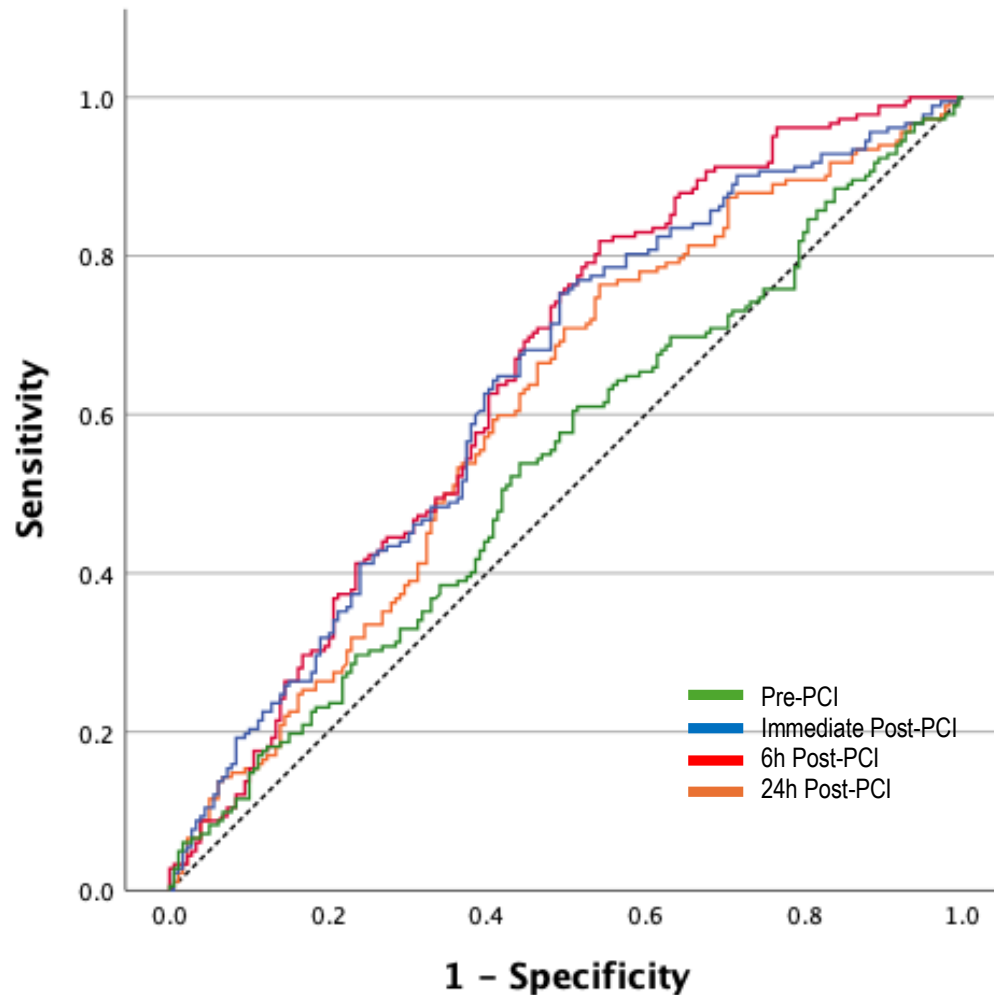


Supplement figure S1. Study flow



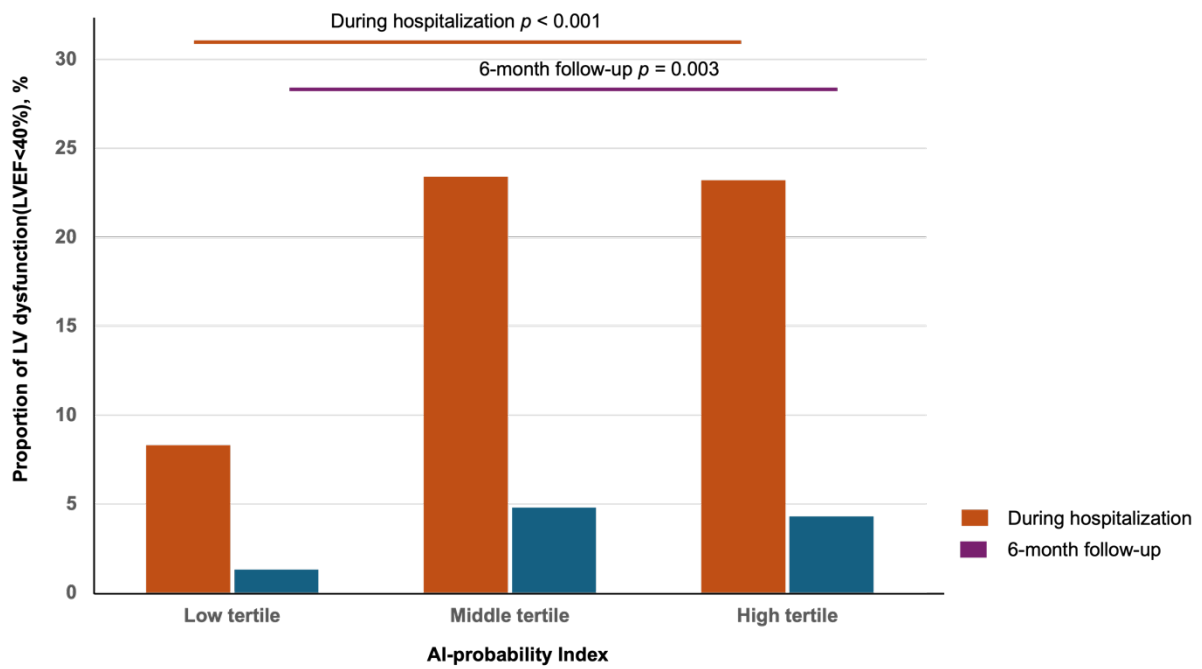
Supplementary figure S2. ROC curves and AUC for predicting left ventricular dysfunction at different time points post- PCI in STEMI patients.



Time points	AUROC	95% CI	P-value
Pre-PCI	0.537	0.478 - 0.597	< 0.001
Immediate Post-PCI	0.637	0.580 - 0.694	< 0.001
6h Post-PCI	0.667	0.625 - 0.708	< 0.001
24h Post-PCI	0.607	0.548 - 0.665	0.219

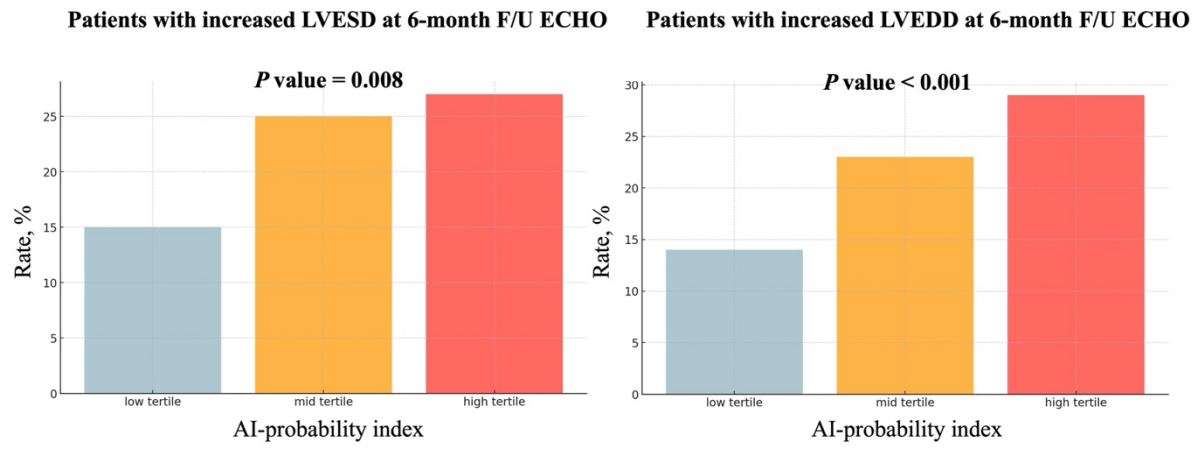
AUROC indicates area under the receiver operating characteristics curve; CI, confidence interval; NPV, negative predictive value; PCI, percutaneous coronary intervention; PPV, positive predictive value; ROC, receiver operating characteristic; STEMI, ST-segment elevation myocardial infarction.

Supplementary figure S3. Proportion of LV dysfunction, defined as LVEF <40%, according to the AI-probability index.



AI, artificial intelligence; LV, left ventricular; LVEF, left ventricular ejection fraction

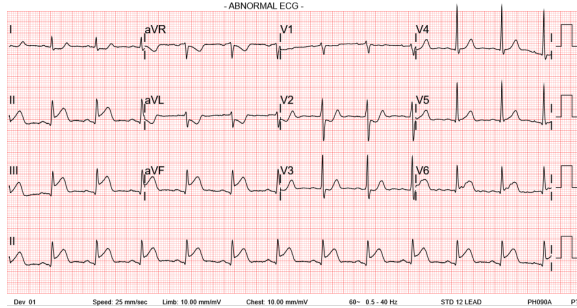
Supplement figure S4. LV remodeling according to AI-probability index



Supplement figure S5. Representative case of AI-enabled ECG analysis in STEMI patients

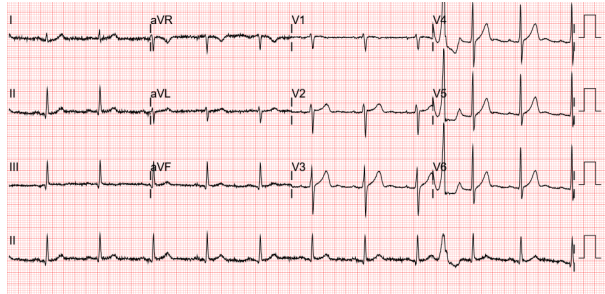
A. 63Yo Male, LVEF = 56% during hospital stay, LVEF = 59% at 6-month follow-up

Pre-PCI



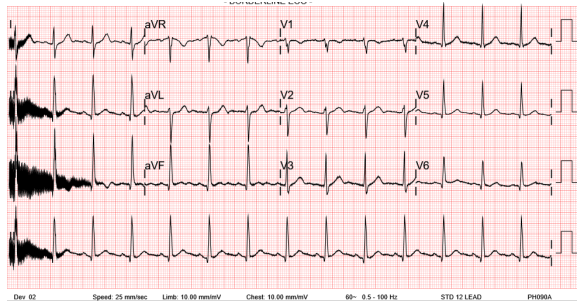
AI-STEMI probability index 0.933

6-hour post-PCI



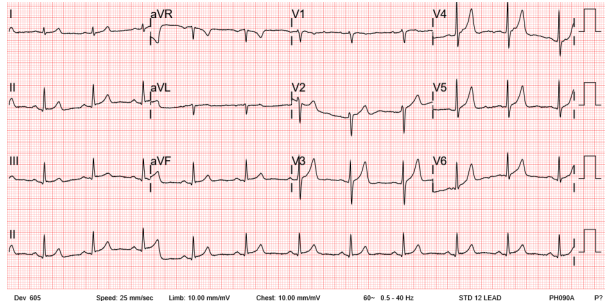
AI-STEMI probability index 0.113

Immediate post-PCI



AI-STEMI probability index 0.420

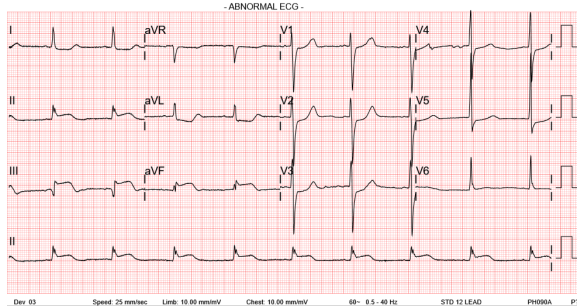
1-month post-PCI



AI-STEMI probability index 0.065

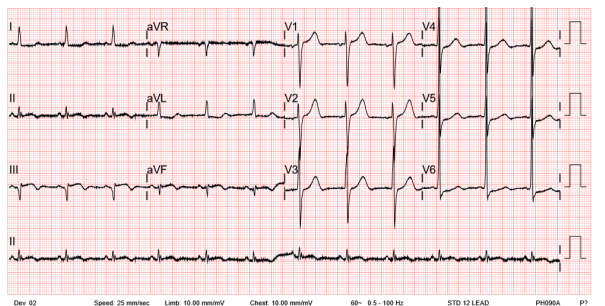
B. 78Yo Female, LVEF = 34% during hospital stay, LVEF = 32% at 6-month follow-up

Pre-PCI



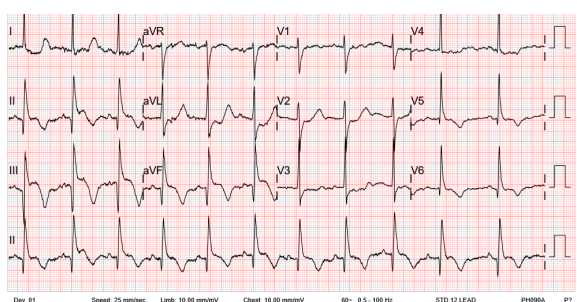
AI-STEMI probability index 0.966

6-hour post-PCI



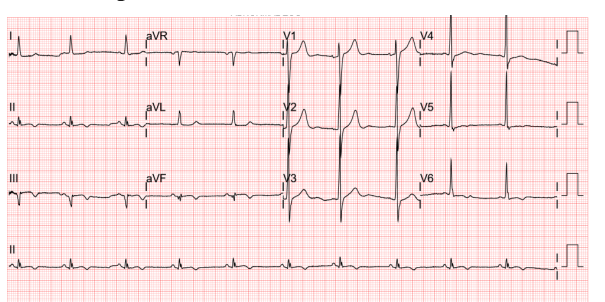
AI-STEMI probability index 0.738

Immediate post-PCI



AI-STEMI probability index 0.826

1-month post-PCI



AI-STEMI probability index 0.849

Supplementary Table 1. Sensitivity analysis of AI probability index of 6h Post-PCI ECG

In terms of predicting LV dysfunction, the AUROC was found to be the highest for the 6 h Post-PCI time point. The optimal threshold was identified using Youden's index and at the cut-off, the results of the sensitivity analysis are shown in the table below.

Sensitivity	Specificity	PPV	NPV
0.812	0.467	0.606	0.712

Supplementary Table S2. Multivariate analysis for predicting LV dysfunction defined as LVEF < 40%

	Odd ratio	95% CI	<i>P</i> value
AI-probability index low tertile		reference	
AI-probability index middle tertile	2.840	1.416 – 5.695	0.003
AI-probability index high tertile	2.020	1.005 – 4.062	0.049
Age, years	0.990	0.967 – 1.014	0.398
Body mass index, kg/cm ²	0.931	0.862 – 1.005	0.066
Female	1.881	1.029 – 3.439	0.040
Systolic blood pressure, mmHg	0.989	0.989 – 0.975	0.127
Diastolic blood pressure, mmHg	1.002	0.980 – 1.024	0.875
Pulse rate, bpm	1.031	1.019 – 1.042	< 0.001
Killip ≥ Class 3	2.205	1.116 – 4.355	0.023
Hypertension	0.584	0.345 – 0.989	0.045
Diabetes	0.963	0.543 – 1.709	0.898
End-stage renal disease	1.626	0.299 – 8.851	0.574
PCI to LM and/or LAD	2.714	1.559 – 4.726	< 0.001
eGFR, ml/min/1.73m ²	0.977	0.964 – 0.989	< 0.001
Peak troponin I	1.013	1.007 – 1.109	< 0.001
C-reactive protein, mg/dl	1.062	0.981 – 1.151	0.121
Cholesterol, mg/dl	1.004	0.996 – 1.001	0.324
LDL cholesterol, mg/dl	0.996	0.987 – 1.005	0.450

AI, artificial intelligence; CI, confidence interval; PCI, percutaneous coronary intervention; LAD, left anterior descending artery; LDL, Low density lipoprotein; LM, left main coronary artery; LVEF, Left ventricular ejection fraction