NEWS   RELEASE

施設A
112 patients

施設B
28 patients

Training/Test — External/Final validation

Model

① Single institution — 112 patients / 28 patients

② Hybrid — 78 patients / 19 patients — 34 patients / 9 patients

① Single institution

External test

(CT)	Sensitivity	Specificity	Accuracy	AUC
Decision tree	46.2	54.3	53.1	0.50
SVM	63.6	66.7	65.2	0.65
kNN	57.1	66.7	61.9	0.62
Ensemble	55.6	75.0	65.3	0.63
NN	66.7	64.7	65.4	0.62

(PET)	Sensitivity	Specificity	Accuracy	AUC
Decision tree				
SVM	58.8	77.8	68.3	0.67
kNN	62.5	80.0	71.3	0.70
Ensemble	56.3	70.0	63.1	0.63
NN	**83.1**	**73.4**	**78.0**	**0.78**

External test

(Dose)	Sensitivity	Specificity	Accuracy	AUC
Decision tree	38.9	37.5	38.2	0.40
SVM	47.1	55.6	51.3	0.51
kNN	61.5	69.2	65.4	0.65
Ensemble	44.4	50.0	47.2	0.48
NN	58.3	85.7	72.1	0.76

② Hybrid

External test

(CT)	Sensitivity	Specificity	Accuracy	AUC
Decision tree	65.3	76.9	70.1	0.6
SVM	75.0	78.9	77.0	0.7
kNN	68.8	100.0	84.4	0.76
Ensemble	72.0	77.8	74.9	0.74
NN	70.0	69.6	69.8	0.6

(PET)	Sensitivity	Specificity	Accuracy	AUC
Decision tree				
SVM	57.1	86.7	71.9	0.76
kNN	58.3	78.9	68.6	0.70
Ensemble	57.7	82.4	70.0	0.70
NN	**94.4**	**80.0**	**86.0**	**0.83**

External test

(Dose)	Sensitivity	Specificity	Accuracy	AUC
Decision tree	52.4	59.1	55.7	0.56
SVM	71.4	77.3	74.4	0.74
kNN	66.7	72.7	69.7	0.70
Ensemble	76.2	81.8	79.0	0.79
NN	73.0	54.2	61.5	0.80