

Table S1: Clinical Characteristics of the Non-severe (DF) or Severe (DHF/DSS/SD) DENV-infected Patients

	Non-severe (DF) (n=2902)	Severe (DHF/DSS/SD) (n=709)	P-value
Fever			1.00
Yes	2902 (100)	709 (100)	
No	0	0	
Headache			0.11
Yes	2499 (86.1)	615(86.7)	
No	403 (13.9)	94 (13.3)	
Retro-orbital Pain			1.00
Yes	1356 (46.7)	330 (46.5)	
No	1546 (53.3)	379 (53.5)	
Myalgia			0.19
Yes	2398 (82.6)	576 (81.2)	
No	504 (17.4)	133 (18.8)	
Arthralgia			0.12
Yes	2116 (72.9)	497 (70.1)	
No	786 (27.1)	212 (29.9)	
Rash			0.1
Yes	898 (30.9)	216 (30.3)	
No	2004 (69.1)	493 (69.7)	
Abdominal Pain			<0.01
Yes	967 (33.4)	355 (50.2)	
No	1934 (66.6)	354 (49.8)	
Vomiting			0.04
Yes	628 (21.6)	244 (34.4)	
No	2273 (78.3)	463 (65.3)	
Diarrhoea			0.05
Yes	341 (11.88)	139 (19.6)	
No	2561 (88.2)	570 (80.4)	
Drowsiness			0.08
Yes	82 (2.8)	48 (6.8)	
No	2820 (97.2)	661 (93.2)	
Hypotension			0.04
Yes	201 (6.9)	94 (13.3)	
No	2701 (93.1)	615 (86.7)	
Hepatomegaly			0.04
Yes	218 (7.5)	89 (12.6)	
No	2684 (92.5)	620 (87.4)	
Dyspnoea			<0.01
Yes	470 (16.2)	244 (34.4)	
No	2432 (83.8)	465 (65.6)	
Bloody Mucus			0.03
Yes	105 (3.6)	77 (10.9)	
No	2797 (96.4)	632 (89.1)	

Haemoconcentration		0.05
Yes	518 (17.8)	108 (15.2)
No	2384 (82.2)	601 (84.8)
Fluid Accumulation		0.19
Yes	164 (5.7)	42 (5.9)
No	2738 (94.3)	667 (94.1)
*total cases (percentages) ; P-value: probability value		

Table S2: DENV-infected Patients' Laboratory Results from Non-severe (DF) and Severe (DHF/DSS/SD) cases

	Overall (N=3611)	Non-severe (N=2902)	Severe (N=709)	P-value
Platelet Numbers (10⁹/L)				0.01
Reduced	2208 (61.1)	1571 (54.1)	637 (89.8)	
Within normal range	1403 (38.9)	1331 (45.9)	72 (10.2)	
Missing	0	0	0	
WBC Numbers (10⁹/L)				<0.001
Reduced	833 (23.1)	689 (23.7)	144 (20.3)	
Within normal range	2313 (64.1)	1845 (63.6)	468 (66.0)	
Missing	465 (12.9)	368 (12.7)	97 (13.7)	
ALT concentrations (U/L)				0.16
Raised	779 (21.0)	638 (22.0)	121 (17.1)	
Within normal range	475 (13.2)	382 (13.2)	93 (13.1)	
Not done	2061 (57.1)	1641 (56.5)	420 (59.2)	
Missing	296 (8.2)	241 (8.3)	55 (7.8)	
AST concentrations (U/L)				0.009
Raised	689 (19.1)	565 (19.5)	124 (17.5)	
Within normal range	451 (12.5)	373 (12.9)	78 (11.0)	
Not done	2015 (55.8)	1600 (55.1)	415 (58.5)	
Missing	456 (12.6)	364 (12.5)	92 (13.0)	

WBC: white blood cell;

ALT: alanine transaminase

AST: aspartate transaminase.

P-value : Probability value

Table S3: Clinical characteristics of IgM-capture ELISA-confirmed DENV infected patients with or without Previously-Confirmed SARS-CoV-2 infections.

Symptoms	SARS-CoV-2 Negative (n=203)		SARS-CoV-2 positive (n=566)		P-value
	n	%	n	%	
Fever	203	100.00	566	100.00	< 0.001
Headache	171	84.24	478	84.45	0.0005
Retro-orbital Pain	69	33.99	259	45.76	0.081
Myalgias	170	83.74	439	77.56	0.0001
Arthralgia	159	78.33	389	68.73	0.0005
Rash	52	25.62	191	33.75	0.355
Abdominal Pain	77	37.93	178	31.45	0.0009
Vomiting	48	23.65	113	19.96	0.0001
Diarrhoea	27	13.30	57	10.07	0.0268
Drowsiness	11	5.42	21	3.7	0.0325
Hypotension	12	5.91	71	12.5	0.0376
Hepatomegaly	2	0.99	4	0.71	0.563
Bloody Mucus	6	2.96	6	1.06	--
Dyspnoea	56	27.58	183	32.3	<0.001
Haemoconcentration	21	10.34	84	14.8	0.0419
Increased Haematocrit	6	2.96	14	2.47	0.5271
Reduced Platelets	120	59.11	199	35.16	0.005
Fluid Accumulation	4	1.97	32	5.65	0.0520
p-value: probability value					

Table S4: Collinearity analysis in the multiple logistic regression co-infection model

	Factors	VIF
1	Fever	1.09
2	Headache	1.48
3	Myalgia	1.12
4	Abdominal Pain	1.22
5	Arthralgia	1.12
6	Fatigue	1.01
7	Dyspnoea	1.71
8	Hypotension	1.16
9	Haemoconcentration	1.24
10	Platelet Numbers (10⁹/μL)	1.25
11	WBC Numbers	1.08
12	ALT concentration	1.09
13	AST concentration	1.27

Table S5: Collinearity Analysis Results of the Multiple Logistic Regression Age-adjusted Co-infection Model

	Factors	VIF
1	Fever	1.32
2	Headache	1.26
3	Fatigue	1.50
4	Dyspnoea	1.21
5	Hypotension	1.03
6	Haemoconcentration	1.26
7	Platelets ($10^9/\mu\text{L}$)	3.88
8	WBC	1.00
9	ALT	1.01
10	AST	1.13

Table S6: Random Forest (RF), Decision Tree (DT) Performance during the Training and Testing Stages.

Stage	Training results		Testing results	
Model	RF	DT	RF	DT
Positive Predictive Value	0.85	0.86	0.84	0.79
Negative Predictive Value	0.90	0.87	0.86	0.81
Sensitivity	0.92	0.89	0.91	0.78
Specificity	0.82	0.83	0.78	0.82
Accuracy	0.88	0.86	0.85	0.80
AUC	0.92	0.90	0.90	0.86
AUC: Area under curve				

Table S7. Clinical Symptoms of DENV infected Patients with Previously Confirmed SARS-CoV-2 infections.

	B	S.E.	P value	OR	95% CI for OR	
					Lower	Upper
Fever						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.9498	0.2321	<0.001	2.59	1.64	4.07
Headache						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	1.4935	0.2909	0.001	4.25	2.52	7.88
Myalgia						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.6046	0.2639	0.015	1.83	1.09	3.07
Arthralgia						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.6629	0.2471	0.009	1.94	1.2	3.15
Abdominal Pain						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.6765	0.3172	0.036	1.97	1.06	3.66
Dyspnoea						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.5598	0.141	<0.001	1.75	1.33	2.31
Rash						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.6464	0.2558	0.001	1.91	1.16	3.15
Reduced Platelets						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.5809	0.282	<0.001	1.79	1.03	3.11
Haemoconcentration						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.5273	0.1422	< 0.001	1.69	1.28	2.24
Hypotension						
No	0.00 (Ref.)	0	1	1.00 (Ref.)	1	1
Yes	0.3543	0.1414	0.011	1.43	1.08	1.88
coefficient value; S.E.: standard error; P-value: Probability value; OR: Odds Ratios; 95% CI for OR: 95% Confidence interval for Odds Ratios; Lower: Lower confidence interval value; Upper: Upper confidence interval value.						

Table S8: Collinearity Analysis in the Multiple Logistic Regression of DENV Infected Patients with Previous SARS-CoV-2 Infections.

	Factors	VIF
1	Fever	1.03
2	Headache	1.17
3	Myalgia	1.12
4	Arthralgia	1.15
5	Abdominal Pain	1.15
6	Dyspnoea	1.03
7	Rash	1.04
8	Reduce Platelets	1.17
9	Haemoconcentration	1.05
10	Hypotension	1.03