

Supplementary Table S1 Univariable analysis of risk factors for failure of NIV

Vital sign	NIV success	NIV failure	p-Value
Heart rate			
At initiation	132 (116, 153)	150.5 (130, 162)	0.02
Percent change from initiation to +1–2 hour	–2.6 (–11.1, 2.2)	–3.5 (–9.9, 3.6)	0.90
Percent change from initiation to +6 hour	–7.0 (–18.2, 1.5)	–0.7 (–12.6, 4.7)	0.23
Respiratory rate			
At initiation	35 (25.5, 50)	38 (25, 60.5)	0.35
Percent change from initiation to +1–2 hour	–15.8 (–30.3, 0.0)	2.38 (–24.6, 7.6)	0.15
Percent change from initiation to +6	–18.5 (–40.3, 0.0)	8.0 (–25.6, 21.6)	0.06
SpO ₂			
At initiation	99.0 (96.0, 100.0)	99.0 (95.0, 100.0)	0.65
Percent change from initiation to +1–2 hour	0.0 (–1.0, 1.0)	0.0 (–0.5, 1.0)	0.69
Percent change from initiation to +6 hour	0.0 (–1.0, 2.0)	0.0 (–4.0, 1.8)	0.34
FiO ₂			
At initiation	0.5 (0.3, 0.6)	0.6 (0.45, 1.0)	0.01
Percent change from initiation to +1–2 hour	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.74
Percent change from initiation to +6 hour	–12.5 (–30.0, 0.0)	–19.4 (–26.3, 0.0)	0.56
SpO ₂ :FiO ₂ ratio			
SpO ₂ :FiO ₂ ratio at initiation	290.0 (143.8, 310)	158.3 (89, 194)	0.06
Percent change from initiation to +1–2 hour	1.1 (1.0, 4.3)	–1.5 (–30.8, 31.0)	0.69
Percent change from initiation to +6 hour	3.2 (0.0, 50.4)	–4.0 (–37.0, 29.9)	0.19

Abbreviations: FiO₂, fraction of inspired oxygen; NIV, noninvasive ventilation; SpO₂, saturation from pulse oximetry.

Note: Continuous variables are presented as medians with (interquartile ranges) and p-values are from Mann–Whitney U-tests. Variables presented as percent change from initial. Negative percent change denotes a decrease in that variable (i.e., an improvement in heart rate or respiratory rate but worsening SpO₂:FiO₂).