

EIT and clinical data	Sequence		P -value*
	HFNC then NIV	NIV then HFNC	
Age [years]	42 [22;54]	47 [38;56]	0.5
Male	4 (50%)	5 (62%)	1.0**
BMI [kg/m ²]	22 [21;28]	25 [22;26]	0.6
SAPSII	25 [20;47]	27 [16;28]	0.4
SOFA	3 [2;5]	3 [2;4]	0.5
ROI of lung condensation	2 (25%)	2 (25%)	0.8**
ROI1			
ROI2	0 (0%)	1 (12%)	
ROI3	3 (37%)	4 (50%)	
ROI4	3 (37%)	1 (12%)	
TV_global during first FM	2583 [1556;3449]	2107 [1186;2480]	0.2
TV ROI1 during first FM	682 [618;1207]	576 [232;625]	0.07
TV ROI2 during first FM	472 [295;703]	476 [93;669]	0.6
TV ROI3 during first FM	816 [310;1057]	573 [84;675]	0.1
TV ROI4 during first FM	220 [189;283]	410 [378;772]	0.2
TV condensation during first FM	283 [233;1057]	593 [93;756]	0.2
EELI_global during first FM	1271 [598;3763]	1719 [764;2645]	1.0
EELI ROI1 during first FM	278 [179;1144]	377 [34;618]	0.8
EELI ROI2 during first FM	306 [98;531]	361 [166;562]	0.5
EELI ROI3 during first FM	385 [54;446]	261 [160;458]	0.9
EELI ROI4 during first FM	201 [93;499]	363 [125;508]	0.7
EELI condensation during first FM	201 [50;477]	398 [160;562]	0.7
RR (bpm)	25 [23;29]	26 [24;30]	0.6
SpO ₂ /FiO ₂ ratio	152 [138;152]	152 [152;152]	0.7
SpO ₂ (%)	99 [91;100]	100 [100;100]	0.1
HR (bpm)	80 [71 ;102]	84 [79 ;94]	0.5
SBP (mmHg)	128 [102;136]	119 [106;129]	0.8
MAP (mmHg)	79 [74;89]	82 [78;95]	0.3
Dyspnea score (0-10)	0 [0;5]	3 [0;4]	0.7
Patient comfort score (0-10)	8 [8;10]	6 [3;8]	0.1

HFNC: high-flow nasal cannula, NIV: non-invasive ventilation, BMI: Body Mass Index (kg/m²), SAPSII: Simplified Acute Physiology Score II, SOFA: Sepsis Related Organ Failure Assessment, TV: tidal volume variation, EELI: end-expiratory lung impedance, RR: respiratory rate, SpO₂: pulse oxygen saturation, HR: heart rate, SBP: systolic blood pressure, MAP: mean arterial pressure. Categorical variables are expressed as number with column per cent (%), other variables are expressed as median accompanied by 1st and 3rd quartile [Q1;Q3]; *:=Wilcoxon test for 2 independent samples if not stated otherwise, **:= Freeman-Halton's extension of Fisher's exact test.