Supplemental Data

High-flow nasal cannula therapy in a predominantly African American population with COVID-19 associated acute respiratory failure

BMJ Open Respiratory Research

Manuscript 2021-000875

Supplemental Table 1. High Flow Nasal Cannula Characteristics

Days hospitalized prior to HFNC initiation (median ± sd)	4 ± 7.6
Modified SOFA score prior to HFNC initiation (median ± sd)	5 ± 2
ABG prior to HFNC initiation (n, %)*	57 (54.8%)
pH (median ± sd)	7.423 ± 0.07
pCO2 (median ± sd)	34.6 ± 12.2
pO2 (median ± sd)	59.5 ± 21.4
HCO3 (median ± sd)	23.3 ± 6.1
Lactate (median ± sd)	1.45 ± 0.86
Fraction of inspired oxygen (median ± sd)	100% ± 15.0%
Oxygen flow rate (median ± sd)	35L ± 5.2L
Duration of HFNC therapy (days, median ± sd)	2 ± 2.7
Duration of HFNC therapy prior to ICU admission (days, median ± sd)¥	0 ± 1.5
Outcomes	
HFNC failure resulting in death or intubation	
Yes	59 (56.7%)
No	41 (39.4%)
Hospice/DNI	4 (3.8%)

*ABGs were obtained at varying FiO_2 depending on which respiratory therapy was utilized prior to HFNC.

¥ Value calculated only for patients admitted to the ICU (76% of the cohort).

Supplemental Table 2: Associations with high flow therapy failure adjusted for covariates

Variable	OR*	Lower 95% CI*	Upper 95% CI*	p value*
PMH_None	0.875	0.059	12.955	0.923
PMH_Htn	0.492	0.174	1.391	0.181
PMH_Diabetes	0.870	0.365	2.073	0.753
PMH_Lung_Dis	1.699	0.644	4.478	0.284
PMH_Heart_Dis	1.006	0.407	2.484	0.989
PMH_CKD	1.496	0.536	4.178	0.442
PMH_Cancer	3.113	0.319	30.398	0.329
Home_O2	1.605	0.341	7.550	0.549
CRP_Admission	0.988	0.796	1.227	0.913
LDH_Admission	1.270	0.958	1.683	0.097
Ferritin_Admission	1.131	0.999	1.280	0.053
CPK_Admission	1.015	0.953	1.080	0.646
Trop_Admission	0.976	0.901	1.058	0.562
DDimer_Admission	0.963	0.879	1.054	0.411
ALC_Admission	0.940	0.415	2.131	0.882
Hepatic_Dysfunction	6.408	1.967	20.877	0.002
Troponemia	2.705	0.993	7.371	0.052
Kidney_Injury	7.939	2.912	21.645	<0.001
INR_Dysfunction	4.336	1.115	16.858	0.034
Steroid_tx	1.124	0.441	2.863	0.806
HCQ_tx	2.302	0.774	6.851	0.134
ABG pH prior to HFNC	0.009	0.000	66.205	0.300
ABG PO2 prior to HFNC	0.978	0.949	1.007	0.136
mSOFA_prior_to_HFNC	1.068	0.852	1.338	0.569
Sixty Day Mortality	12.482	4.070	38.281	<0.001
Vent Free Days	0.853	0.803	0.905	<0.001

*Multivariable logistic regression model adjusted for age, gender, and BMI, SpO_2/FiO_2 ratio on admission