Abstract P217 Table 1 A comparison of first and second wave characteristics, treatment and outcome data

	First wave	Second wave	Mean difference (95%CI)	X ² (df)	P value
Age (years)	69.0 (52.0, 80.0)	62.0 (52.0, 71.0)	-3.4 (-7.8 to +1.1)	-	0.14
Sex:					
- Male	49 (69.0%)	180 (65.0%)	-	0.4 (1)	0.52
- Female	22 (31.0%)	97 (35.0%)			
BMI (kg/m ²)	28.5 (24.9, 33.6)	29.6 (24.8, 34.9)	+0.6 (-1.7 to +2.9)	-	0.63
Clinical Frailty Score:				15.6 (5)	
- 1 to 2 (fit)	18 (25.4%)	132 (47.7%)	-		0.008
CT severity score					
- Moderate/severe	11 (29.7%)	131 (52.2%)	-	16.0 (3)	0.0012
- Severe	23 (62.2%)	113 (45.0%)			
CRP prior to rHDU admission (mg/L)	180.6 (118.0, 210.0)	124.1 (78.1, 175.6)	-44.1 (-66.9 to -21.3)	-	0.0002
Spike gene testing					
- VOC B.1.1.7 variant	-	143 (67.1%)	-	-	-
- Wild-type	-	57 (26.8%)			
- Ambiguous	-	13 (6.1%)			
Dexamethasone	3 (4.2%)	266 (96.0%)	-	271.4 (1)	<0.0001
Remdesivir	4 (5.6%)	198 (71.5%)	-	100.6 (1)	<0.0001
CPAP as primary respiratory support	32 (45.1%)	248 (89.5%)	-	71.1 (1)	<0.0001
Able to adopt semi- or full- prone position	42 (59.2%)	237 (85.6%)	-	24.8 (1)	<0.0001
Admission outcome (all)				14.7 (1)	0.0001
- Died	36 (50.7%)	74 (26.7%)	-		
- Discharged	35 (49.3%)	201 (72.5%)			
rHDU outcome ('For Intubation')				17.3 (2)	0.0002
- Died	0 (0.0%)	7 (3.3%)	-		
- Off respiratory support	14 (41.2%)	152 (72.4%)			
- Intubated	20 (58.8%)	51 (24.3%)			

Conclusion Our single centre experience shows that rHDU mortality and intubation rates have improved over time in spite of the emergence of new variants. Improvements in outcome are likely to be multi-factorial. Our data support the benefit of pharmacological COVID-19 therapies in a rHDU population as well as the use of CPAP and awake proning. Other potential causes for improved outcomes are lower serological and radiological COVID-19 severity in our wave two cohort as well as reduced rates of frailty.

REFERENCE

1. <https://medrxiv.org/content/10.1101/2021.03.11.21253364v1>

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A TALE OF TWO WAVES: A SINGLE CENTRE RETROSPECTIVE COHORT STUDY ASSESSING MORTALITY IN SEVERE COVID-19 IN FIRST AND SECOND WAVES

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Introduction and Objectives The first and second waves of COVID-19 showed different mortality patterns in hospitalized patients (Iftimi S, et al, PLoS One 2021; 16(3)) but it is less clear if that holds true for severe COVID-19 patients who required respiratory support. The rationale of this study is to assess mortality difference of severe COVID-19 patients from both waves who required respiratory support.

Methods A retrospective review was conducted of all patients with severe COVID-19 requiring respiratory support including CPAP/High Flow Nasal Cannula (HFNC) admitted to a respiratory support unit at a London District Hospital in first wave (March-May 2020) and second wave (November 2020-March 2021). Mortality was assessed for CPAP/HFNC and intubation groups of each wave in accordance with age and clinical frailty score (CFS) as baseline characteristics.

Results In wave one, 89 patients were treated with CPAP/HFNC. 53 patients (60%) were offered CPAP/HFNC alone whilst 36 (40%) patients escalated to mechanical ventilation. In CPAP/HFNC group, 35 (66%) survived (Median age: 69, Median CFS: 2), and 18 (34%) died (Median age: 69, Median CFS: 2). In intubated group, 17 (47%) survived (Median age: 61, Median CFS: 2) and 19 (52%) died (Median age: 61, Median CFS: 2). Total 37 patients died with overall mortality 41%.

In wave two, 207 patients were treated with CPAP/HFNC. Of these, 150 (73%) were offered CPAP/HFNC alone whilst 57 (27%) were escalated to mechanical ventilation. In CPAP/HFNC group, 104 (69%) survived (Median age: 66, Median CFS: 2) and 46 (31%) died (Median age: 67, Median CFS: 2). In intubated group, 33 (58%) survived (Median age 62, Median CFS: 2) and 24 (42%) died (Median age: 62, Median CFS: 2). 70 patients died in total with overall mortality 34%.

Conclusion Our findings suggest overall mortality improved in second wave in severe COVID-19 patients though baseline characteristics were not significantly different. This is likely to reflect lessons relating to patient care from wave one and increasing use of steroids and IL-6 inhibitors.