COVID-19 in a Veterans Affairs Hospital at Suffolk County, Long Island, New York

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Background

The area of New York was hit hard by the COVID-19 pandemic with Suffolk county in Long Island, NY numbering >40,000 cases and 1,900 deaths by the end of May 2020. The Veterans Affairs Medical Center (VAMC) at Northport NY serves over 30,000 Veterans. We report our institution's experience during the COVID outbreak.

Methods and Materials

Retrospective chart review of hospitalized patients with COVID-19 from March 1st to May 31st, 2020 at Northport VAMC.

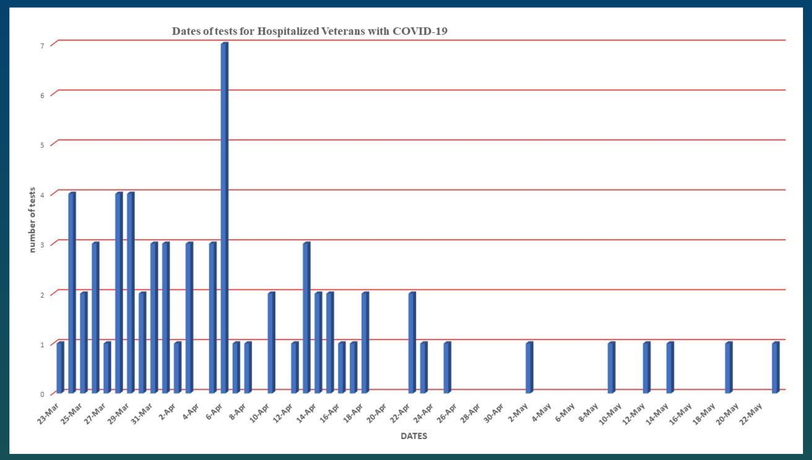
	COVID-19 RECOVERED N =47	COVID-19 DECEASED N=20	P value
Median age, years	71 (33 to 92)	77.5 (55 to 94)	0.007
Men #	46	20	
Caucasian # (%)	25 (53%)	15(75%)	0.111
Black # (%)	16 (34%)	5 (25%)	0.571
Hispanic # (%)	6 (13%)	0	
Cough, #	25	12	0.789
Dyspnea, #	30	11	0.587
Median Temp ºF	100.1 (95.5 to 103.2)	99.9 (98.1 to 104)	0.783
Median SBP mmHg	125 (77 to 192)	123 (74 to 174)	0.563
Median heart rate bpm	96 (65 to 151)	99 (53 to 130)	0.747
Median respiratory rate	20 (16 to 38)	22 (18 to 39)	0.021
BMI	30 (21 to 48)	28.5 (16 to 47)	0.577
O2 saturation on room air, %	92 (82 to 98)	88 (70 to 97)	0.014
Diabetes, # (%)	19 (41%)	10 (50%)	0.594
Hypertension, # (%)	36 (76%)	16 (80%)	1.000
CHF, # (%)	5 (11%)	4 (20%)	0.436
COPD, # (%)	11 (24%)	6 (30%)	0.760
CAD, # (%)	13 ((28%)	10 (50%)	0.101
Hemodialysis, # (%)	3 (6%)	3 (15%)	0.357
Atrial fibrillation, # (%)	5(11%)	8 (40%)	0.015
Active malignancy	1	3	
# of influenza tests, viral panels,	16, 8, Negative	9, 3, Negative	
Length of stay (days)	7.5 (2 to 34)	11 (1 to 32)	0.091
# with ICU stay	10	11	0.009
# of intubated,	5	10	<0.001
LOS ICU (days)	6 (1 to 18)	6 (1 to 26)	0.547
Median days of mechanical ventilation	8 (6 to 13)	8 (1 to 26)	0.896
Hydroxychloroquine, #	35	17	0.523
Azithromycin, #	22	9	1.000
Doxycycline, #	8	6	0.325
Beta lactam antibiotics, #	19	15	0.015
Steroids given, #	8	7	0.121
Hx of ACEI/ARB use	13	7	0.571
Hx of Statin use	26	13	0.591
Hx of proton pump therapy	12	4	0.756
Hx of famotidine use	2	1	1.000
Tocilizumab	1	3	0.076
Convalescent serum therapy	2	2	0.574
Remdesivir	1	0	
Median QTc msec	454 (386 to 612)	446 (387 to 562)	0.465
Abnormal Chest Imaging (CXR or CT), #	40	19	0.420

Results

- 141 Veterans tested positive for SARS-CoV-2
- 67 were hospitalized
- 20/67 died; mortality rate 30%
- Median age of hospitalized cohort: 73 years (33-94)
- No co-infection with influenza or other viruses identified
- Deceased group was older 77.5 vs. 71 years P:0.007

Laboratory Data

	COVID-19 RECOVERED N=47	COVID-19 DECEASED N=20	P value
Median SAPS II score	28	47	<0.001
Median D-dimer on adm ng/mL	354 (<150 to 31344)	542 (208 to 29009)	0.949
Median PEAK D-Dimer	480 (<150 to 38977)	2465 (431 to 34006)	0.299
Median Procalcitonin on adm	0.12	0.2	0.136
Median PEAK Procalcitonin ng/ml	0.18	2.585	0.010
Median CRP mg/L on adm	71	89	0.340
Median PEAK CRP	112	202	0.002
Median Ferritin on adm ng/mL	387	652	0.049
Median PEAK Ferritin	527	1500	<0.001
Median White Blood Cells/mm3	5.4 (2.4 to 29.6)	5.1 (2.2 to 13.3)	0.315
Median Absolute Lymphocytes	1.0 (0.5 to 13.4)	0.7 (0.3 to 1.7)	0.227
Median Serum Creatinine mg/dL	1.1 (0.6 to 12.1)	1.45 (0.9 to 14.7)	0.057
Median BUN mg/dL	18 (5 to 142)	36.5 (9 to 76)	0.037
Median Potassium mmol/L	4.0 2.8 to 5.2)	4.2 (2.7 to 6.1)	0.025
Median LDH IU/L	259 (109 to 601)	290 (169 to 1693)	0.021
Median ALT IU/L	31 (5 to 187)	32 (12 to 269)	0.093
Median Total Bilirubin mg/dL	0.8 (0.2 to 2.3)	0.8 (0.3 to 3.6)	0.669
Median Bicarbonate mmol/L	24 (18 to 33)	21.5 (16 to 28)	0.009
Median ESR on adm mm/hr	52 (4 to 121)	53 (22 to 120)	0.410
Median PEAK ESR mm/hr	69 (10 to 150)	98 (43 to 150)	0.041
Median IL-6 Level pg/mL	40.6 (8 to 341.7)	48.5 (5.8 to 384)	0.803
Median BnP pg/mL	70 (15 to 1574)	103 (10 to 744)	0.597
BLOOD TYPES:			
O POSITIVE	9	6	
O NEGATIVE	3	1	
A POSITIVE	6	3	
A NEGATIVE	1	0	
B POSITIVE	3	1	
B NEGATIVE	0	0	
AB POSITIVE	2	1	
AB NEGATIVE	0	0	
UNKNOWN	23	8	
BACTEREMIAS	None	1. E. faecalis (S to Ampicillin)	
		1. S.mitis	
		1. MRSE (contaminant)	
Sputum Cultures	a. H. influenzae	1. S. marcescens (R to cefazolin)	
(treated for pneumonia)	b. MRSA	1. MSSA (two patients)*,#	
	c. K. aerogenes	1. MRSA	
	d. P. aeruginosa	1. P. aeruginosa (two patients)*	
		1. K. aerogenes (R to cefazolin)	
		1. E. cloacae (R to cefazolin)#	
		*,# coinfections	



Results

- No difference between recovered and deceased groups in use of ACE inhibitors, statins, famotidine, receipt of hydroxychloroquine, azithromycin, doxycycline, steroids.
- Two bacteremia's in the deceased group: *E. faecalis and S. mitis*
- Six pneumonias in intubated deceased (3 had steroids, 1 tocilizumab) vs. 4 in recovered (2 intubated/steroids, 1 tocilizumab) patients
- 12 recovered patients remained PCR positive for 14-79 days
- 3/12 got tested and were positive for SC2 IgG

Conclusion

- Mortality in our hospitalized cohort was associated with older age, longer length of stay, higher PEAK procalcitonin, CRP, Ferritin, ESR levels.

References

1. Cunicotta D, Venelli M. WHO declares COVID-19 a pandemic. Acta Biomed 2020; 91:157-60
2. Wang D. et al. Clinical course and outcome of 107 patients infected with the novel coronavirus, SARS CoV-2, discharged from two hospitals in Wuhan, China. Critical Care 2020; 24:188
3. Richardson S, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City are. JAMA 2020; 323: 2052-2059
4. Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet 2020; 395:1054-62
5. Petrilli CM et al. Factors associated with hospital admission and critical illness among 5720 people with coronavirus disease 2019 in New York City BMJ 2020; 369
6. Garg S, Kim L, Whitaker M, et al. Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed coronavirus disease 2019—COVID-NET, 14 states, March 1–30, 2020. MMWR Morb Mortal Wkly Rep 2020;69:458–64