

SARS-CoV-2 Diagnosis and Point Prevalence in a Non-Cohorted Tertiary Care Center

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Background

In late December 2019, an acute respiratory illness was discovered in China, which was later identified as SARS-CoV-2, causing the viral illness known as COVID-19¹

Symptoms vary, but include fever, cough, fatigue, anorexia, shortness of breath, and myalgias.²

However, approximately 35% of SARS-CoV-2 infected persons are asymptomatic. Transmission occurs during close contact with a person who is infected with SARS-CoV-2 via respiratory droplets³

The CDC recommends testing for SARS-CoV-2 in patients who present to acute care facilities with symptoms consistent with COVID-19³. No current guidelines exist for the utility of universal testing in the healthcare setting

We assessed the point prevalence of SARS-CoV-2 infection amongst hospitalized patients at a tertiary care center during a time when there was a regional surge of cases

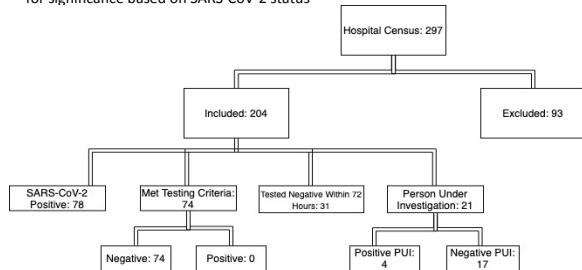
Methods

Nasopharyngeal SARS-CoV-2 PCR testing was performed on inpatients at Georgetown University Hospital on 4/27/20

Those who were SARS-CoV-2 positive, tested within 72 hours or admitted to pediatric, psychiatric, labor & delivery or ICUs were excluded

Patients within the hospital were not cohorted based on COVID-19 status

Patient demographics and comorbidities were obtained from the EMR and analyzed for significance based on SARS-CoV-2 status



Results

Table 1: Study Participant Characteristics

	SARS-CoV-2 Positive(n)	SARS-CoV-2 Negative(n)
Median Age	61(IQR:53,68)	62(IQR: 53,73)
Sex		
Female	16%(33)	24%(49)
Male	24%(49)	36%(73)
Race		
Black	25%(50)	32%(65)
White	4%(9)	22%(44)
Asian	---	2%(5)
Other	11%(22)	7%(3)
Unknown	0.5%(1)	0.5%(1)

Comorbidities in SARS-CoV-2 Positive Patients (n=82)

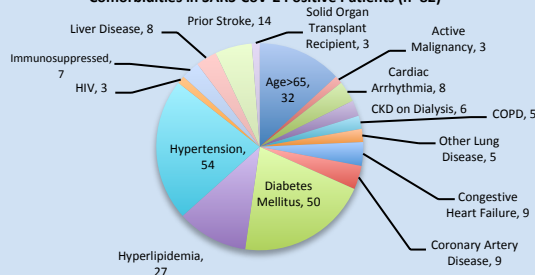


Table 2: Risk Factors for SARS-CoV-2 Among Hospitalized Patients at a Tertiary Care Center

	Unadjusted Odds Ratio	Unadjusted p-value	Adjusted Odds Ratio	Adjusted p-value
Sex	0.997 (0.563, 1.764)	0.9909	3.278 (1.268, 8.476)	0.0143
Race	3.761 (1.679, 8.422)	0.0013	10.534 (3.025, 36.685)	0.0002
Residence	11.300 (3.713, 34.392)	<0.0001	11.788 (3.036, 45.767)	0.0004
Prior Stroke	2.306 (0.970, 5.480)	0.0585	6.250 (1.496, 26.123)	0.0120
Tobacco Use	0.143 (0.047, 0.434)	0.0006	0.103 (0.022, 0.482)	0.0039
Active Malignancy	0.183 (0.053, 0.634)	0.0074	0.116 (0.018, 0.736)	0.0223

Discussion

- As of April 27, 2020, SARS-CoV-2 had infected nearly 4,000 cases with 190 deaths in Washington, D.C.
- Within the adjusted analysis, Black persons, men, persons with a history of stroke and persons from a nursing or group home were more likely to test positive for SARS-CoV-2
- Patients who were SARS-CoV-2 positive were less likely to be active tobacco users or have an active malignancy
- No participants within the point prevalence study tested positive for SARS-CoV-2
- Patients who are at risk for SARS-CoV-2 infection should be protected throughout this pandemic
- At a time when resources for testing remained limited and universal testing was not implemented, clinical judgment and CDC guidelines allowed healthcare providers to strategically select patients for testing

Conclusion

- The use of CDC testing guidelines for PUIs was successful in identifying COVID-19 patients and limiting need for routine testing in all hospitalized patients during a time when access to testing was limited
- Nosocomial transmission did not occur in our institution despite a lack of cohorting

References

1. Pneumonia of unknown cause – China. (2020, January 30). Retrieved July 22, 2020, from <https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/>
2. Symptoms of Coronavirus. (2020, May 13). Retrieved July 22, 2020, from <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>
3. COVID-19 Pandemic Planning Scenarios. (2020, July 10). Retrieved July 22, 2020, from <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>

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