Cardiovascular Disparities; COVID-19 and Beyond

Kevin L. Thomas, MD FACC
Associate Professor of Medicine, Clinical Cardiac Electrophysiology, Division of Cardiology
Assistant Dean for Underrepresented Faculty Development, DUMC
Director Health Disparities Research and Faculty Diversity, DCRI
Risk Factor’s for SARS CoV-2 infection

Higher burden of CV disease and RF’s for CV disease

Duality of Risk
COVID-19 Outcomes by pre-existing disease

<table>
<thead>
<tr>
<th>Disease</th>
<th>Severe (%)</th>
<th>Non-severe (%)</th>
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<tbody>
<tr>
<td>Hypertension</td>
<td>23.7</td>
<td>13.4</td>
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<tr>
<td>Diabetes</td>
<td>16.2</td>
<td>5.7</td>
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<tr>
<td>Cardiovascular disease</td>
<td>1.4</td>
<td>5.8</td>
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<tr>
<td>CV Complications of COVID-19</td>
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| **Myocardial Injury**  
(HStr >99th percentile) | • Early ->STEMI/NSTEMI +Symptoms, ECHO+EKG changes  
• Fulminant Myocarditis  
• Late- RV dysfunction, cytokine mediated global systolic function |
| **Cardiomyopathy/Heart Failure** | • New HFReF due to Myocarditis/stress cardiomyopathy  
• Preexisting HFPeF exacerbations  
• Late cytokine storm |
| **Arrhythmia** | • AFib  
• Ventricular arrhythmias  
• PEA,  
• Heart block |
Interventions

- Supportive care

- Remdesivir (multiple ongoing clinical trials) monitor for CYP 3A/4 interactions (statins, other immunosuppressants)

- Chloroquine/Hydroxychloroquine (4 clinical trials) QT prolongation particularly in blacks known to have longer baseline QTC and LVH

- IL-6, Colchicine, Steroids

- Anticoagulants (critically-ll)
COVID impact on CV care

Reduction in STEMI presentations by 38%

Reduction in HF hospitalizations (Mississippi) >20/week to <5. Decrease in brain imaging typically associated with stroke evaluation

Increase in at home deaths and possibly SCA from Italy and the US


Patients are more likely to not seek care (calling 911), refuse EMS recommendations, and have care delayed.
Long-term Effect of COVID on CV disease

- **First Wave**
  - Acute COVID-19 Morbidity and mortality

- **Second wave**
  - Deferred and delayed urgent CV interventions

- **Third wave**
  - Interrupted CV care and preventative services
References


• Patel, Loungani, Granger Medicine grand rounds. May 15, 2020