



**Global**  
**ARCH**

Global Alliance for  
Rheumatic and  
Congenital Hearts

## **Covid-19 Overview May 1 2020**

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# Outline

15 minute presentation 45 minute discussion

Questions to consider:

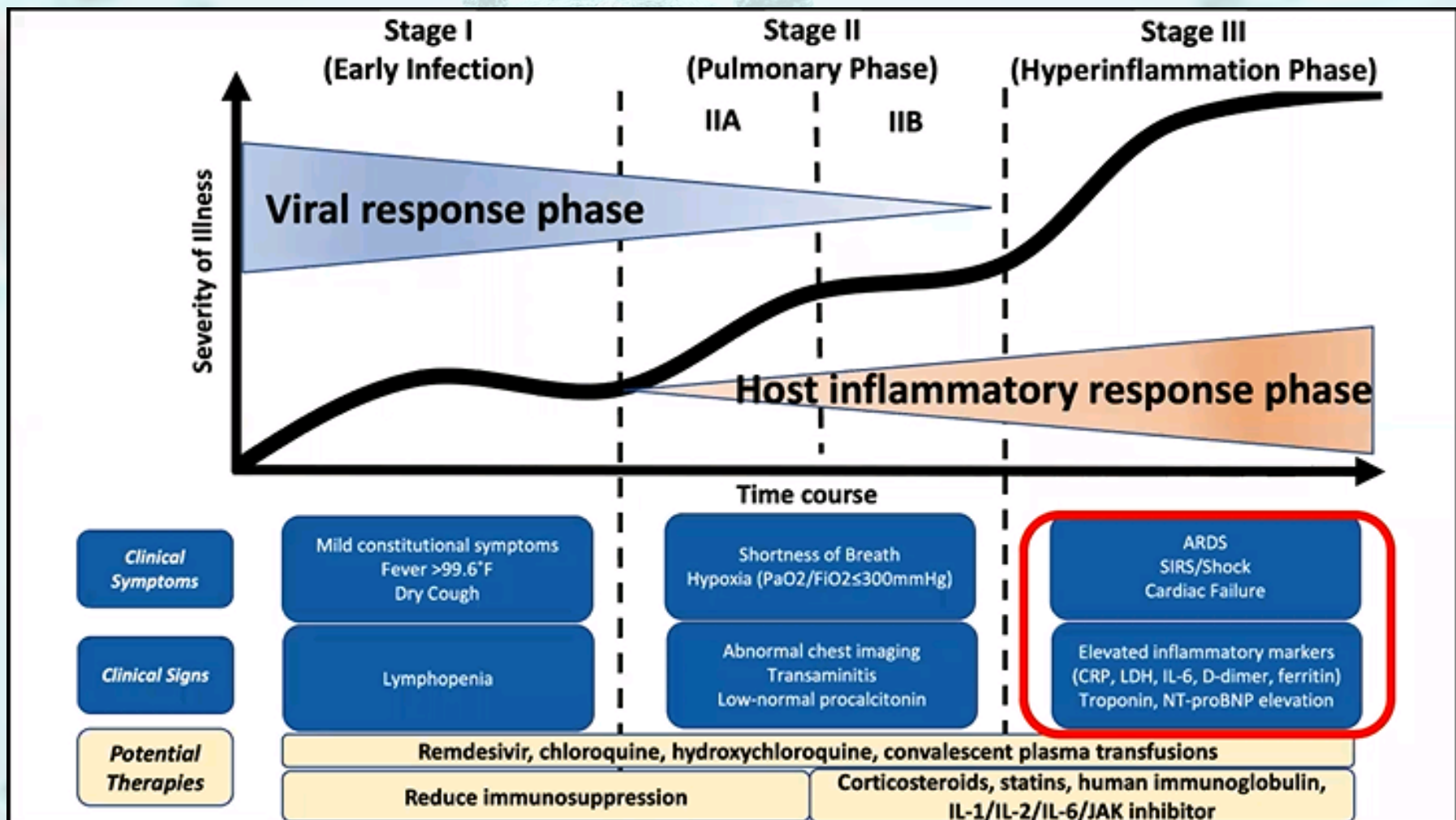
1. What is the role for Global ARCH leaders during this pandemic?
2. Socio-economic inequities of covid-19, different than RHD/CHD?
3. “Never let a good pandemic go to waste” and “Out of adversity comes opportunity.” What have we learned about advocacy in the pandemic and are there new opportunities to promote born with heart disease health?
4. Others?

# What We Know

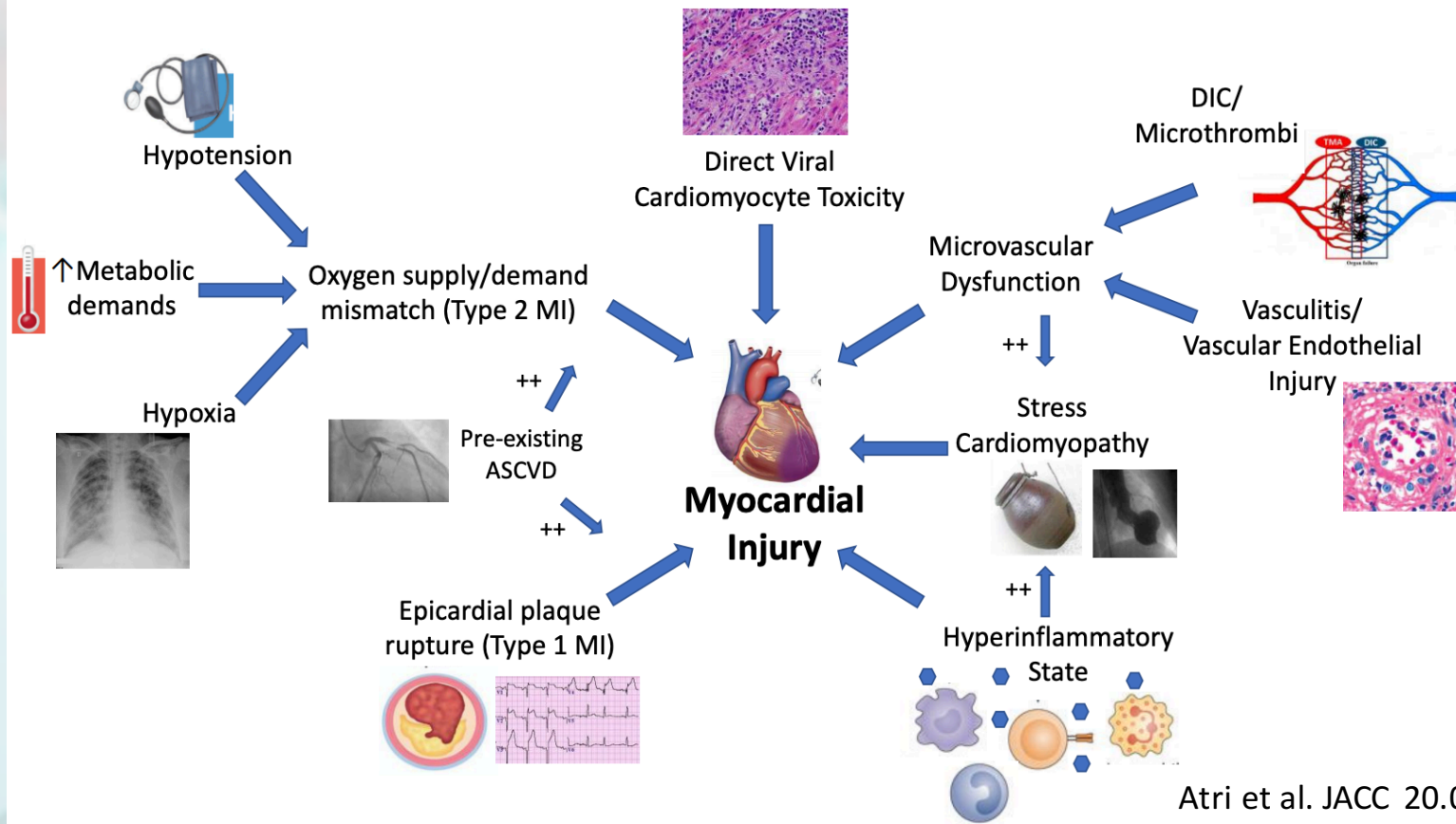
- SARs-CoV-2 **virus** causes the disease known as **Covid-19**
- It is a respiratory disease spread from infected patients by droplet /aerosolized **even if they have no symptoms**
- Children ARE as likely to get Covid-19 BUT **It seems to affect children less severely than adults** though more data to follow
- Symptoms range from none to severe and life threatening
  - Fever, dry cough, tiredness, body pain, chest pain, difficulty breathing, diarrhea, vomiting, headache, dizziness, confusion, loss of smell/taste
- Risk factors for severe disease: underlying comorbidities:
  - obesity, diabetes, lung disease, kidney disease, weak immune system. Complex congenital / rheumatic heart disease?



# Covid-19



# Cardiovascular Effects of Covid-19



# Psychological Impact

- Significant mental health challenges for all
  - Loss of social supports
  - Underlying mental health issues exacerbated
  - Loss of loved ones dying alone (devastating)
- Many avenues for support on line / at Global ARCH; emphasis on:
  - Exercise
  - Stress reduction, mindfulness
  - Maintaining connections
  - Proactive measures such as social distancing, keeping safe



# What We Do Know Helps

- Social Distancing
  - >1 (2) meters apart when breathing normally, farther when breathing hard
- Washing hands with soap for at least 20 seconds or using an alcohol based gel
- PPE (personal protective equipment)
  - Masks
  - Gloves
- If you have symptoms seek medical care!!

# Treatments – What We Know

- Very little - It is a **virus** antibiotics do not work UNLESS there are other bacterial complications like pneumonia when antibiotics may be added
- There are some medications that maybe helpful with direct medical guidance usually in a hospital: studies are ongoing for:
  - Pegylated Interferon Lambda
  - Anti viral medications (Remdesivir)
  - Choleraquine (side effects maybe severe)
  - Nitric Oxide
  - H2 blockers – famotidine
  - Proning – lying patients on their stomachs to allow the heart to fall away from the lungs improving lung function



# World Wide Numbers (estimates 5/1/2020)

- Covid-19 numbers increase with the availability of testing
- Deaths from Covid-19 lag behind the disease
- > 3.2 million people infected world wide
- > 225,000 deaths world wide
- Variable incidence country to country
  - ? Preparedness (US poor response - > 1 million +)
  - Potential of BCG affecting numbers (India 33,000 +)
  - Factors not yet understood

# What We Do Not Know: CHD/RHD Incidence

- Unknown RHD data
- Only spotty data CHD
  - The experience from Bergamo Italy from Dr. Ferrero
  - Some US data
  - Large scale multicenter research studies ongoing
  - Patient reported registries beginning
- We need our Global ARCH leaders to fill in the gaps!

# Bergamo - Italy

## Demographic and anatomic categories

|                                     | N=485      |
|-------------------------------------|------------|
| Male, N (%)                         | 281 (58)   |
| Age y, median (IQR)                 | 35 (27-45) |
| Anatomic categories N (%)           |            |
| <i>TOF/PA-VSD</i>                   | 97 (20)    |
| <i>AVSD/AVSD-TOF</i>                | 49 (10)    |
| <i>COA</i>                          | 42 (9)     |
| <i>Fontan</i>                       | 39 (8)     |
| <i>ASD/ PA-PVD</i>                  | 31 (6)     |
| <i>VSD</i>                          | 31 (6)     |
| <i>Aortic valve disease</i>         | 31 (6)     |
| <i>PS/ PA-IVS</i>                   | 28 (5)     |
| <i>TGA complex</i>                  | 27 (5)     |
| <i>Complex-Cyanotic</i>             | 21 (4)     |
| <i>Atrial switch</i>                | 21 (4)     |
| <i>Ebstein</i>                      | 21 (4)     |
| <i>Simple TGA - Arterial switch</i> | 18 (3.5)   |
| <i>Aortic valve disease - LVOTO</i> | 18 (3.5)   |
| <i>Other</i>                        | 6 (1)      |
| <i>Truncus</i>                      | 5 (1)      |

## Clinical and social history

|                                  | N=485    |
|----------------------------------|----------|
| Flu immunization, N (%)          | 203 (42) |
| Symptoms, N (%)                  |          |
| <i>None</i>                      | 340 (70) |
| <i>Specific</i>                  | 90 (19)  |
| <i>Mild/ Aspecific</i>           | 55 (11)  |
| Hospitalized, N (%)              | 2 (0.4)  |
| Outpatient management, N (%)     | 88 (17)  |
| Sars-CoV-2 test performed, N (%) | 4 (0.8)  |
| Documented SArS-CoV-2, N (%)     | 4 (0.8)  |
| Currently working, N (%)         | 61 (13)  |
| <i>Low-medium exposure</i>       | 34 (56)  |
| <i>High exposure</i>             | 27 (44)  |
| PPE, N (%)                       | 312 (64) |
| Voluntary isolation, N, (%)      | 417 (86) |
| Risk perception, N (%)           |          |
| <i>High</i>                      | 165 (34) |
| <i>Medium</i>                    | 268 (55) |
| <i>Low</i>                       | 52 (11)  |



# Bergamo - Italy

## Anatomic categories of suspected/ascertained COVID-19 patients

|                                   | N (90)  |
|-----------------------------------|---------|
| TOF/ PA-VSD, N (%)                | 16 (18) |
| Fontan, N (%)                     | 10 (11) |
| VSD, N (%)                        | 10 (11) |
| COA, N (%)                        | 8 (9)   |
| TGA complex, N (%)                | 7 (8)   |
| Atrial switch, N (%)              | 7 (8)   |
| Ebstein, N (%)                    | 6 (7)   |
| PS/ PA-IVS, N (%)                 | 5 (6)   |
| ASD/ PA-PVD, N (%)                | 5 (6)   |
| Aortic valve disease, N (%)       | 4 (4)   |
| Aortic valve disease/LVOTO, N (%) | 4 (4)   |
| AVSD/AVSD-TOF, N (%)              | 4 (4)   |
| Complex-Cyanotic, N (%)           | 3 (3)   |
| Other, N (%)                      | 1 (1)   |

# CHD Data: Being collected

- To date in the US:
  - In Boston 9 ACHD patients with Covid, 3 hospitalized, none intubated
  - **We have NOT seen any correlation with ACHD disease severity (or anatomic complexity) with severity of Covid-19 infection**
  - Few children hospitalized with Covid-19 (9 at Boston Children's) none with CHD
- ACHA\* database ([ASFernando@mednet.ucla.edu.](mailto:ASFernando@mednet.ucla.edu)) (\*Adult Congenital Heart Association)
  - 39 US programs
  - 6 Canadian
  - 34 Central and South America, Europe, Asia and Australia
    - 95 total patients with covid-19 (confirmed or suspected)
    - 16 have been hospitalized
    - 2 deaths
    - Outside of NYC, no program reported more than 6 patients. 14 of us reported zero patients thus far.
- Patient reported registries coming

# CHD Care in the times of Covid

- Only emergent/urgent cardiac procedures are done
- Move all outpatient visits to telehealth when possible
- Some urgent testing in concert with telehealth
- Close follow of patients by phone or telehealth if issues
- Laboratories done by schedule
- In the near future: elective procedures will start depending on setting



# What We Do Know

- Importance of continued regular medical care
  - If you or your child become sick **call** your health care provider
  - Take all medicines as prescribed – do not stop medication
  - If you have other health care concerns **call** your health care provider
  - **Follow standard vaccination schedules**
- There are many efforts underway:
  - Detection
  - Treatment
  - Vaccinations
  - Research and registries

# Socio-economic Impact

- Covid-19 affects those with low resources more severely due to:
  - Access to clean water
  - Ability to social distance
  - Ability to shelter at home or self quarantine
  - In the US blacks are dying at a much higher rate than whites (data coming in)
- We can not just accept this as we can not accept the disparities in care for those with CHD/RHD



Thank you – Now Lets Talk

