
Novel Coronavirus

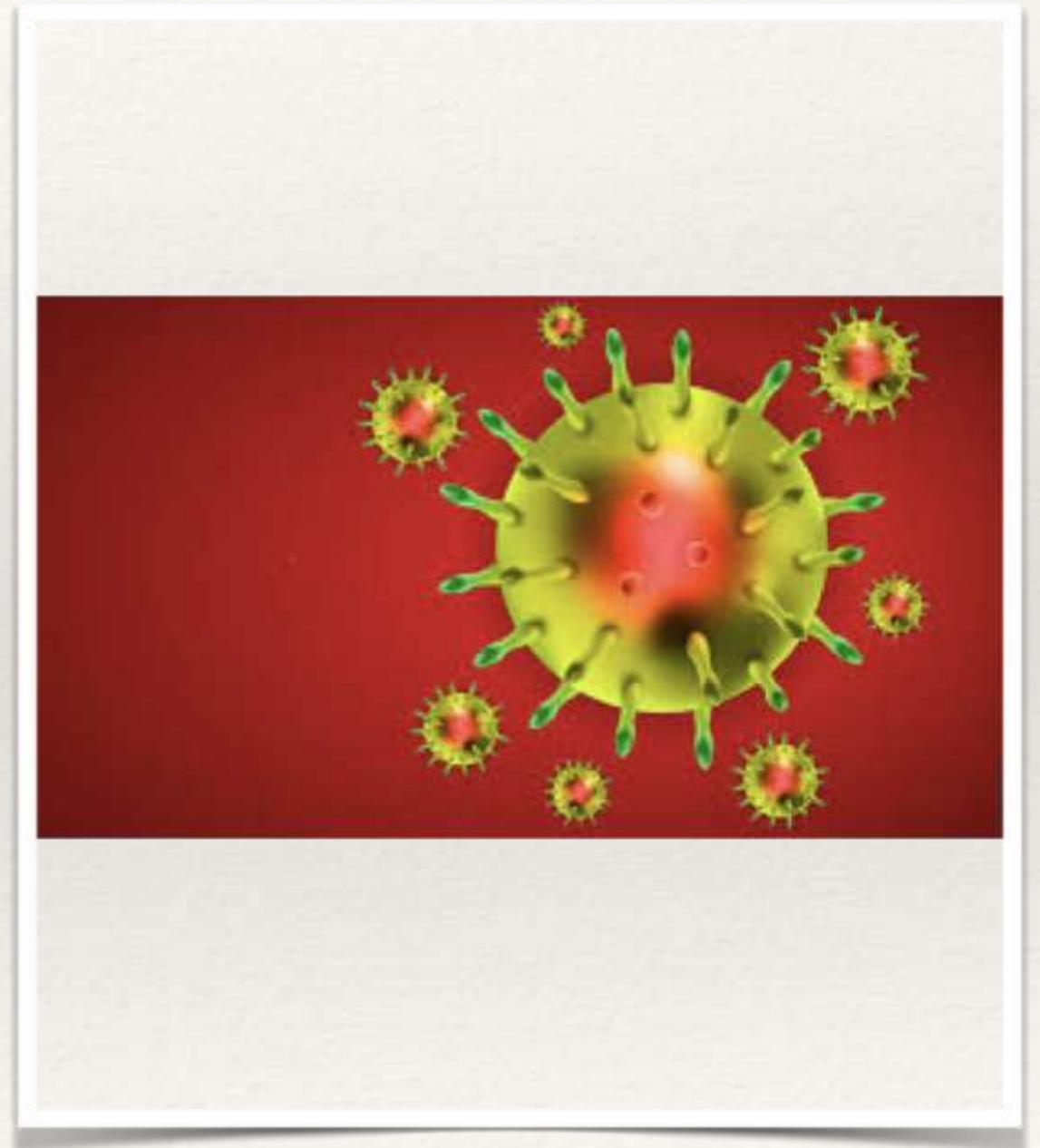
COVID-19

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What is COVID-19

- ❖ Virus first encountered in Wuhan, China in Dec. 2019
- ❖ Likely originated in bats
- ❖ Uses glycosylated spike protein to enter host cells and binds tightly to ACE2 receptors in humans
- ❖ ACE2 enzyme is expressed in type 2 alveolar cells



Epidemiology

- ❖ Incubation period ranges from 1-14 days with median 5-6 days
- ❖ Transmitted through large droplets but can also be found in stool and blood
- ❖ Health care associated transmission is major mode of transmission
- ❖ R_0 is thought to be between 2-3
- ❖ Can get transmission from asymptomatic carrier
- ❖ Almost 200,000 people affected thus far with estimated mortality rate around 2-3.4%

Where Is It?

- ❖ Currently found all over the world with the majority of recent cases being found outside of China.
- ❖ Europe becoming new epicenter
- ❖ Clusters vs. community spread
- ❖ Affecting all states except for West Virginia

Clinical Characteristics

- ❖ Median age 50's, slight predominance in men, 15-20% require hospitalization and ~10% require mechanical ventilation
- ❖ Most people present with fever, dry cough, shortness of breath, fatigue, myalgias
- ❖ Other symptoms reported are headache, sore throat, abdominal pain and diarrhea
- ❖ 70% of cases showed low WBC, with more than half showing elevated PTT and about 40% demonstrated elevated LDH
- ❖ CXR characterized by bilateral patchy infiltrates
- ❖ Chest CT demonstrates ground glass infiltrates
- ❖ Currently appears that MOST patients have mild illness

Clinical Course

- ❖ Begin with mild illness and by second week, some patients saw deterioration (median time from start of illness to hospitalization about 8 days)
- ❖ 17-29% of hospitalized patients developed ARDS
- ❖ MOST PATIENTS ARE TOTALLY FINE!

Clinical Management and Treatment

- ❖ Supportive care measurements with fluids, antipyretics, rest, saline/suctioning
- ❖ Oxygen supplementation
- ❖ Depending on severity, may require hospitalization/intubation and secondary management based on any co-morbidities
- ❖ Current clinical trials for antiviral medications (ie. Remdesivir) are promising and they are also working on vaccine that may be ready by next year; there is also research on convalescent antibody therapy taking place
- ❖ Standard precautions, contact precautions, airborne precautions with eye protection is recommended at this time
- ❖ Airborne isolation room also recommended (negative pressure room or well ventilated room)

How and who do we test for COVID-19?

- ❖ At the present time, testing capabilities remain limited although the we have seen an expansion of testing capabilities over the past few weeks
- ❖ Now testing patients for COVID-19 if they have traveled to areas where there is ongoing outbreaks of COVID-19 and have fever and signs of respiratory illness within 14 days of travel or if they have come into contact with confirmed positive COVID-19 patient.
- ❖ Also consider testing in individuals with severe lower respiratory infections without alternative diagnosis, healthcare workers who may have been exposed, and those living in long-term care facilities that may have had exposure
- ❖ If testing required, contact CDC and/or local health Dept or can now send through various private lab companies depending on the state in which you reside

Protection/Prevention

- ❖ Wash hands with soap and water for at least 20 seconds
- ❖ If no soap water, can use alcohol based hand sanitizer (alcohol percent at least 60%)
- ❖ Avoid close contact with people who are sick
- ❖ Avoid touching eyes, nose, mouth
- ❖ Cover your cough or sneeze with tissue or elbow, throw away tissue and wash hands
- ❖ Clean and disinfect frequently touched objects and surfaces
- ❖ Stay home when you are sick

Preparedness

- ❖ Prepare without panic
- ❖ Elderly and those with chronic health conditions - consider obtaining 2-3 month supply of medications to have on hand
- ❖ Make sure inhaler and/or nebulizer medications are up to date, clean out masks/spacers in warm soapy water
- ❖ Review pantry staples and make sure commonly used items are in stock
- ❖ Eat well, sleep well, drink plenty of fluids
- ❖ Consider adding multivitamin to daily regimen
- ❖ Have emergency contacts readily accessible
- ❖ Look ahead at schedules and make adjustments in advance
- ❖ Have back up plan for kids in the event school is canceled (workbooks, Lego, crafts, games, etc. - do not rely on technology alone to occupy your kids)
- ❖ Talk to your children about COVID-19 without invoking fear
- ❖ If you own a business, consider supply chain restrictions and limitations

“By failing to prepare, you are preparing to fail.”

–Benjamin Franklin

Role of Health Care Providers

- ❖ Reduce morbidity and mortality
- ❖ Minimize disease transmission
- ❖ Protect healthcare personnel
- ❖ Preserve functioning healthcare system

What should we do now?

- ❖ Instruct patients to use advice lines, call prior to coming in with illness
- ❖ Optimize supply of personal protective equipment (PPE)
- ❖ Place visual alerts (signs/posters) strategically providing instruction on hand hygiene, respiratory hygiene, and cough etiquette
- ❖ Ensure supplies available - tissues, waste bins, hand sanitizer
- ❖ Face mask availability at triage for patients with respiratory symptoms
- ❖ Create space in waiting areas to separate patients with respiratory symptoms from those without (about 6 feet apart)

Practice considerations

- ❖ Reschedule non urgent outpatient visits
- ❖ Symptomatic patients who need to be seen should call ahead - consider eliminating walk ins
- ❖ Establish times for well visits and times for sick visits - consider physical separation vs. temporal separation
- ❖ Try to manage mild respiratory illness over the phone
- ❖ Consider telehealth visits
- ❖ Supply shortages

Sources

- ❖ www.cdc.gov
- ❖ Georgia Department of Health
- ❖ “COVID-19 - New Insights on a Rapidly Changing Epidemic” - JAMA 2/28/2020