CORONAVIRUS DISEASE 2019 (COVID-19): SUMMARY & PATIENT DISCUSSIONS

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Conflict of Interest Disclosure
I have no conflicts and nothing to disclose.

Learning Objectives

1. Background information on Coronavirus
2. Current status of COVID-19 outbreak
3. At-risk populations
4. Discussions with your patients: risk and prevention
Emerging Respiratory Viruses

70-90% of emerging and reemerging diseases are of zoonotic origin.

Timeline of emerging viruses:
- 2002: Severe Acute Respiratory Syndrome coronavirus (SARS-CoV)
- 2009: H1N1 Influenza
- 2012: Middle East Respiratory Syndrome coronavirus (MERS-CoV)

Risk factors for emergence and spread of respiratory viruses:
- Population growth
- Climate change
- Increasing urbanization
- International travel

Coronavirus Disease 2019 (COVID-19)

Zoonotic respiratory-borne viral infection caused by 2019-nCoV from the genus Betacoronavirus, like SARS and MERS-CoV.

International Committee on Taxonomy of Viruses recognizes 2019-nCoV as a sister to SARS-CoV and now designates it as “SARS-CoV-2.”

Virology: enveloped, positive-sense, ss-RNA virus.
Virulence: spike protein binds ACE2 receptor on host cell.
Spread: respiratory droplets and contaminated surfaces.
Incubation period: estimated at 5 days, some sources range 2-11 days.

Current Status of Outbreak

(JAMA) Clinical characteristics of 138 hospitalized pts with 2019 nCoV infected PNA in Wuhan, China
- Median age 56 years
- 54.3% male
- 26.1% ended up in ICU for complications including ARDS, arrhythmia, AKI, and shock
- 41% infected by hospital-related transmission
- 4.3% mortality
Diagnosis: RT-PCR of throat swab.
Symptoms: fever, fatigue, dry cough, myalgias, dyspnea.
Other lesson common sx include headache, dizziness, abdominal pain, n/v/d
Treatment: supportive care.
Current Status of Outbreak

Source: Center for Systems Science and Engineering, Johns Hopkins University
https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6

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At-Risk Populations

All facilities should be screening.

Patients meeting screening criteria:
- Apply mask
- Place in isolated room

Healthcare providers:
- Use standard PPE
- Droplet precautions - mask, eye protection
- Contact precautions - disposable/dedicated equipment when possible, clean & disinfect shared equipment, minimize patient transport, ensure adequate room ventilation
- Airborne precautions - N95 respirator, negative-pressure room

Discussions with Your Patients

COVID 19 Confirmed Cases in the U.S. ≃ 35.
- Travel-related: 12
- Close contacts of returned travelers from Wuhan: 2
- Repatriated from Wuhan: 3
- Diamond Princess Cruise Ship: 18

Currently, immediate health risk from COVID-19 considered low for general American public. However it may cause a pandemic and that would increase the risk assessment. 7
97.2% cases (77,150 of 79,360) based in Mainland China. 8

Discussions with Your Patients

Seasonal Influenza Epidemic:
- 9.3 - 49 million illnesses each year in the US since 2010. 9
- 12,000 deaths (2011-12) to 79,000 deaths (2017-18)
- 2018-2019 vaccine prevented est. 4.4 million flu illnesses, 58,000 hospitalizations, 3,500 flu deaths. 10

Much more likely source of preventable infectious disease

Discussions with Your Patients

Emphasize importance of prevention:
- CDC-recommended vaccines
- Stay home if you’re sick (and wear a mask around others)
- Good hand hygiene - soap & water at least 20 seconds, alcohol-based hand sanitizer
- Good respiratory hygiene - cover coughs and sneezes, wash or sanitize your hands
- Clean frequently touched surfaces with soap and water or bleach and water solution
Works Cited


