



PCA

P H A R M A C Y

A Synchrony Health Service

Treating and Preventing COVID-19:

What has a Pandemic Taught Us?

Rob Leffler, R.Ph. VP of Clinical Services

Objectives

1. Discuss the current course of COVID-19 in America
2. Explore past and current recommendations concerning COVID-19
3. Identify risk factors for COVID-19 infection
4. Discuss medication changes that can be beneficial
5. Explain how to handle and prevent COVID-19 infections

Where Are We Today?

1/22/20 – First COVID case in US announced by the CDC

7/3/20 – Five months later

- 2,741,869 confirmed cases in the United States
- 92,612 confirmed cases in Pennsylvania
 - 43,000 recovered
 - 6,700 deaths
 - 790,300 tests
 - Beginning of June Positive rate was 7.1%
 - Now it's 5.0%



Where Are We Today?

- Pennsylvania
 - 2/26/20 – PA activated the DOH Emergency Operations Center
 - 3/5/20 – Travel guidance
 - 3/16/20 – Statewide mitigation efforts
 - Face Masks
 - Reopening Plan

<https://www.nga.org/coronavirus-state-actions-all/#PA>

Where Are We Today?

Reuters article from 7/2

- Over 55,000 COVID cases in a single day on 7/2 in the US
- 37 out of 50 states the cases are rising in the past 14 days compared to the previous 14 days
- Nearing 1/4 of the global total of deaths

Where Are We Today?

- 2019-nCoV – 2019 novel coronavirus
- Associated with mild to severe respiratory illness
 - Fever, coughing, sneezing, dyspnea

Who's Talking About It?

- CDC
- CMS
- AHCA
- Leading Age
- The White House
- WHO

What We Thought

- Information has rapidly changed over time
 - Masks, Face coverings, shields
 - Hand washing
 - Transmission
 - Who is affected
 - Treatment
 - NSAIDs
 - ACEs/ARBs
 - Immunity

Who's Affected by COVID-19?

- COVID-19 leads to severe outcomes in older adults and those with underlying health conditions
 - As of May 30, 2020, underlying conditions in COVID-19 cases
 - Cardiovascular disease – 32%
 - Diabetes – 30%
 - Chronic Lung Disease – 18%
 - Hospitalizations were 6x higher than those without these conditions
 - Deaths 12x higher than in those without these conditions
 - Highest infection rates in >80

Who's Affected by COVID-19?

- CDC analyzed 94% of the cases submitted through 5/30/20
 - Median Age = 48
 - About equal male vs female
 - About 30% 60 years old or over
- 45% of the cases had race and ethnicity reported
 - 36% White
 - 33% Hispanic
 - 22% Black
 - 4% Asian

Who's Affected by COVID-19?

- Symptoms (47% of cases had this reported)
 - 4% were asymptomatic
 - Of the 28% of cases with individual symptoms
 - 70% fever, cough or shortness of breath
 - 36% muscle aches
 - 34% headache
 - 8% loss of smell or taste
 - In patients ≥ 80 years old
 - 60% fever, cough, or shortness of breath
 - No other symptoms reported by $>10\%$
 - Delirium, Anorexia, confusion/behaviors – statistically significant

www.cdc.gov MMWR from 7/19/20

<http://news.content.smithbucklin.com/argentum/071020.html#1123197>

Who's Affected by COVID-19?

- Healthcare Workers
 - April 2020, testing performed in frontline Belgian healthcare workers
 - They were using filtering face piece respirators
 - 6.4% had IgG
 - More likely to be positive if they had household exposure
 - Exposure to patients or other HCWs were not more likely to be antibody positive
 - 75% reported having at least one symptom prior to testing
 - Anosmia
 - Fever
 - Cough

Who's Affected by COVID-19?

- Healthcare Workers
 - 3 weeks of testing in separate study in April
 - Screened asymptomatic and symptomatic HCWS in the UK
 - 1032 asymptomatic HCWs
 - 3% positive
 - 169 symptomatic HCWs and contacts
 - 14% positive
- Conclusion: Routine screening of HCWs is likely necessary to provide maximum protection to others

Who's Affected by COVID-19?

- The “Extremes” of COVID-19
 - Asymptomatic patients shed virus for longer and have a weaker immune response
 - Severest cases had blood type A
 - Blood type O had reduced risk for severe disease
- Transmission of COVID
 - 350 patient with confirmed infection surveyed in multiple states
 - 46% reported contact with another COVID-19 patient
 - Implications:
 - Case investigation, contract tracing, isolation are needed
 - Enhanced safety measures (social distancing and cloth face coverings) are warranted

https://www.jwatch.org/na51874/2020/07/08/studies-extremes-covid-19?query=etoc_jwid&jwd=000020083804&jspc=

https://www.cdc.gov/mmwr/volumes/69/wr/mm6926e3.htm?s_cid=mm6926e3_w

How Has It Affected Us?

- PPE
- Social Interactions
- Deliveries
- Staffing
- Consulting

Treating COVID-19

- Hydroxychloroquine
 - US Pharmacist 6/20/20
 - Hydroxychloroquine used “normally” for RA and Lupus
 - FDA approved for malaria
 - 6/15/20
 - FDA indicated that based on ongoing analysis it is unlikely to be effective in treating COVID-19
 - Also noted serious cardiac adverse events and other serious side effects
 - These do not outweigh any potential benefits
 - FDA also warned that administration with Remdesivir could result in decreased anti-viral affect of Remdesivir

Treating COVID-19

- Hydroxychloroquine and Azithromycin
 - NEJM 6/10/20
 - Both drugs cause arrhythmias independently
 - Can be life threatening ventricular arrhythmias
 - There was a review of a large database (over 21 million reports)
 - Over 76k ADRs with Hydroxychloroquine
 - Over 89k ADRs with Azithromycin
 - 607 with the combination
 - The combination was associated with more ADR incidence than either alone

https://www.jwatch.org/na51735/2020/06/10/safety-hydroxychloroquine-and-azithromycin-database?query=etoc_jwid&jwd=000020083804&jspc=

Treating COVID-19

Preventing

- Hydroxychloroquine
 - 7/7/20 Infections Diseases Society of America interview
 - Clinical trial post-exposure of chloroquine and Hydroxychloroquine
 - Available
 - Inexpensive
 - In-vitro antiviral activity against several different viruses
 - Patients that tested positive or were symptomatic
 - Test showed that it didn't work as post-exposure prophylaxis
 - The other studies have had mixed results – some indicate value others do not

Treating COVID-19

- Remdesivir
 - Another US Pharmacist article
 - Studies have shown treatment significantly reduces recovery time
 - Only administered in hospitals currently
 - Only administered via IV

https://www.uspharmacist.com/article/taking-hydroxychloroquine-just-in-case-could-backfire?wc_mid=6220:610354&wc_rid=6220:12491751

Treating COVID-19

- Dexamethasone
 - In mid-June researchers announced dexamethasone was associated with decreased mortality in the severely ill
 - “RECOVERY” – randomized clinical trial stopped due to significant results in the treatment arm
 - Deaths decreased by 1/3 in ventilated patients
 - Deaths decreased by 1/5 in patient only receiving oxygen
 - Other thoughts:
 - Cheap
 - Widely available
 - There’s a lot of focus on anti-inflammatories
 - There were higher concentrations of inflammatory cytokines in COVID positive patients
 - Leading to lung damage, respiratory failure and increased mortality

Treating COVID-19

- Vitamin D
 - Mixed reviews
 - Ongoing studies

https://www.jwatch.org/na51735/2020/06/10/safety-hydroxychloroquine-and-azithromycin-database?query=etoc_jwid&jwd=000020083804&jspc=

Caring for COVID-19 Patients

- Unnecessary Medications
 - Decrease the amount of interaction between staff and residents
 - Is it essential?
 - Is it well tolerated?
 - Is there another release type
 - CNS depressants
 - Could be associated with increased risk of respiratory disease

Caring for COVID-19 Patients

- Respiratory Medications
 - Short acting products to long acting products
 - Nebulized products
 - Pro's and Con's
 - GOLD standards recommend them
 - Could produce droplets
- Dietary Supplements
 - Are they necessary? (Treating a deficiency)
 - Can dosing frequency be decreased?
 - Collaborate with Dietary

Caring for COVID-19 Patients

- Vaccines
 - Pfizer is gearing up for a late-stage trial
 - Hoping for approvals later this year

<https://www.fiercepharma.com/pharma/after-positive-early-data-pfizer-biontech-ceos-sound-off-vaccine-timelines>

Caring for COVID-19 Patients

- Cardiovascular Medications
 - Statins
 - Aspirin
 - Fibrates/Fish Oil
 - HTN meds
- GI Medications
 - PPIs & H2 Antagonists

Caring for COVID-19 Patients

- Diabetes
 - Sliding Scale Insulin
 - Review A1C goals
 - Could a GLP-1 replace mealtime insulin?
 - Use long-acting insulin
 - Are oral medications optimized?
- Allergy Medications
 - Nasal corticosteroids change to oral
 - Can they be used PRN?

Caring for COVID-19 Patients

- Antibiotics
 - Shortest (appropriate) duration of therapy
- Anticholinergic Medications
 - Affect Fall Risk
 - Can cause confusion
- Topicals
 - Appropriate length of therapy
 - Simplify regimens

Caring for COVID-19 Patients

- Lab monitoring
 - Consolidate
 - Eliminate
 - Decrease
 - Vital signs
- Med Pass
 - Thyroid meds
 - Short acting to long acting

Handling COVID-19

- Task Force
 - Infection Preventionist
 - Back-up
- CMS guidance on visitation and activities
 - Current situation in facility and community
 - State direction
- Screening of people entering facility
- Reporting of cases weekly

Handling COVID-19

- Education & Communication
 - Residents, HCWs, Volunteers, Visitors
 - COVID education
 - Symptoms, Transmission
 - Facility strategies
 - Plan for regular communication
- Source Control
 - Facemasks at all times inside facility
 - Residents when outside room
 - HCW at all times

Handling COVID-19

- Visitation Alternatives
- Testing
 - Review state and federal guidelines
 - Polymerase chain reaction testing vs. Antibody testing
 - Policies
- Consider sick leave policies
 - Create return to work policies
- Plan for staff shortages

Handling COVID-19

- PPE
 - Regular inventory
 - Plan
 - Availability
 - Policies
 - Decontamination
- Environmental Cleaning
- Isolation Kits
- Trash cans, tissues and hand sanitizer location

Handling COVID-19

- Isolation of positive patients
 - Staffing
 - Transferring/Cohorting
 - Exposed patients
 - Symptomatic patients
- Admission and Readmissions
 - Policies
- Social Distancing

Handling COVID-19

- Agency and Traveling Workers
- Receipt of Deliveries

Interesting Information in the News

- Measles Vaccine in the American Society for Microbiology
- Potential COVID-linked brain damage

The Future of Infection Control

- Survey Procedures
 - Infection Control focus
 - Increased fines
- Infection Control is essential until vaccine is developed
- CMS infection control self audits

QUESTIONS

Rob Leffler, R.Ph.

Vice President of Clinical
Services

PCA Pharmacy

robleffler@pcapharmacy.com





PCA

P H A R M A C Y

A Synchrony Health Service