COVID-19: The Pediatric Experience

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Division of Pediatric Infectious Diseases
University of Wisconsin-Madison
Intended Audience:
Pediatric emergency care professionals

Objectives:
As a result of this educational regularly scheduled series, learners will be able to:
1. Utilize new skills and guidelines determined to be safe for children when accessing pediatric trauma.
2. Identify proper tools and standardized practices in order to improve the diagnosis and treatment of pediatric patients.
3. Define roles and responsibilities of team members who triage pediatric emergencies in order to identify communication strategies that result in effective patient care.

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Claiming credit

Follow the instructions below, and contact us at projectecho@surgery.wisc.edu with any questions.

1. Create account with the UW Interprofessional Continuing Education Partnership
   https://ce.icep.wisc.edu

2. During the live presentation, and in the follow-up email, you will be provided a code. Text that code to a number we provide you, using a cell phone associated with your account.

   **Text WURQUC to 608-260-7097**

   (save this number as ECHO Credit, it will never change)

3. All done!! Log onto ICEP to view or print your credit letter.
Outline and Goals

• Understand the clinical presentation and course of pediatric COVID-19 cases
• Understand who we test and why
• Learn how to manage infection in pediatric patients
• Learn what we are doing as a health care community and citizens to decrease the impact of the COVID-19 pandemic
Case presentation: Initial Presentation

• <2 month old infant, presents to ED with temperature of 100.5°F
• 2 week history of congestion
• Increased fussiness that day
• Called nurse line earlier with 100.3°F rectal temperature, instructed to go to ED if temperature >100.4°F
• Exam: Active with normal appearance, comfortable work of breathing, normal breath sounds, TMs normal, no rhinorrhea
• Labs: WBC 4.6, 31% PMNs, 40% lymphs
  UA: negative LE and nitrites, 0-2 WBC
  CSF: glucose 56, protein 37, nucleated cells 7, RBC 18
• Given ceftriaxone dose and admitted to hospitalist service
What would you do next?

1. Respiratory viral panel
2. Watch and wait for culture growth while on ceftriaxone
3. SARS-CoV-2 PCR
4. All of the above

Audience response requested
Case presentation: Clinical course

- Coronavirus 2019 PCR test positive
- Blood, CSF and urine cultures with no growth
- Stable respiratory status, some increased stool output
- Breastfeeding well
- Discharged home the next day
- Isolation recommendations for all household members for 14 days
Symptoms

- Milder symptoms than adults
- Fever (33-100%)
- Cough (28-100%)
- Rhinorrhea/sneezing (6-20%)
- Sore throat (5-40%)
- Headache/dizziness (10%)
- Diarrhea (10-15%)
- Dyspnea/tachypnea (0-17%)
- Skin manifestations (?)

(Choi, Kim et al. 2020)
Clinical Course

- Asymptomatic (0-13%)
- Acute URI (20-65%)
- Mild pneumonia (27-80%)
- Severe pneumonia (0-16%)
- Critical case (0-1.5%)

- Co-infection with other respiratory viruses common (up to 40%)

(Xia, Shao et al. 2020)(Choi, Kim et al. 2020)
Clinical Outcomes

• Fever 1-2 days, range up to 8 days
• Complete blood counts mostly normal
• CRP normal or temporarily increased
• Symptoms mostly resolve in a week

• Critically ill patients typically have underlying medical condition: congenital heart disease, chronic lung disease, immunosuppression
• Pediatric deaths in US: 3

(Choi, Kim et al. 2020); (Team. 2020); https://www.cdc.gov/coronavirus/2019-ncov/downloads/COVID19-symptoms.pdf
Transmission

• Person to person by respiratory droplets
• Incubation period: 2-14 days
• RNA detected from nasopharyngeal/throat swabs 4-48 hours after symptom onset
• RNA is undetectable after 6-22 days (mean 12 days)
• RNA present in stool from 3 to >30 days after illness onset

When should COVID-19 testing be done?

1. If it will change your clinical management
2. If it will help conserve PPE
3. Public health implications

Audience response requested

https://www.cdc.gov/pertussis/clinical/diagnostic-testing/specimen-collection.html
Current Testing Recommendations

• Goals are to protect healthcare workers and patients, and conserve PPE
• Inpatients: any patient with symptoms or undergoing aerosolizing procedures
  • Patients screened prior to surgery, entering ICU
• Outpatients: only with moderate symptoms, or if mild symptoms with an underlying medical condition

Uconnect. Note, testing recommendations change frequently!
Management: clinical

• Supportive care recommended
• No approved antiviral medications
  • UW Health treatment guidelines exist for adult patients at clinician discretion
• Plasma therapy trial for adults initiated
• Pediatric guidelines are being developed
  • Supportive care is the recommended first line therapy

Plasma from recovered COVID-19 patients tested as therapy at UW Health

A COVID-19 patient at UW Hospital has received the first transfusion of plasma from a local patient who donated it since recovering from the disease.

The UW School of Medicine and Public Health (SMPH) and UW Health are part of a nationwide effort to study whether plasma from people who have recovered from COVID-19 given to patients who are seriously ill with the disease can help shorten the duration or severity of their illness.

https://news.wisc.edu/
We need better pediatric data!

USA PEDIATRIC COVID-19 REGISTRY

We now have a survey to register ALL pediatric COVID-19 patients in the USA!

This survey is for ALL pediatric patients less than 21 years of age in the USA, including:

- General Pediatric patients, with or without other co-morbidities
- Immunocompromised pediatric patients
- Transplant and cellular therapy recipients

Please contact Emma Mohr by Epic Inbasket if you know of a COVID19 positive pediatric patient within UW Health
Management: public health
Management: public health

Projected hospitalizations
Wisconsin

252 hospitalizations expected by April 2

Restrictions lifted
Projected based on current trends
3 months of stay at home (strict)
Available hospital beds

https://covidactnow.org/us/wi
Wisconsin COVID-19 cases

Cumulative total and newly reported COVID-19 cases by date confirmed

Updated: 4/15/2020

https://www.dhs.wisconsin.gov/covid-19/index.htm
Conclusions

- Pediatric symptoms are milder than adults
- Patients with underlying medical conditions are at higher risk
- Supportive care is recommended
- Notify pediatric ID of all COVID positive pediatric patients for national registry
- Social distancing works. Keep it up.