WELCOME to the

Planning and Clinical Management of Perinatal COVID-19 cases

Session will start in less than 15 minutes
COVID 19 and the Newborn

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No conflicts

• Some slides borrowed from Elizabeth Glaser Pediatric AIDS foundation webinar
Objectives

• Understand what we know about perinatal infection and mechanism
• Identify Issues of Management- PPE, DR attendance, discharge
• Understand recommendations for in-hospital care, testing and discharge
• Identify best practices around postnatal monitoring.
Why Such Rapid Global Spread?

- **Ease of transmission** – respiratory droplets, touching contaminated surfaces
- **High attack rate because:**
  - **Infectious before symptoms** – viral shedding 1-3 d before symptoms *(Wei WE. MMWR 2020 Apr 10).*
  - **Prolonged shedding after symptoms** - median duration 17 days; more severe disease = higher viral load, ↑ duration shedding *(Xu K. Clin Infect Dis. 2020 Apr 9; Xu K. Clin Infect Dis 202 Apr 9; Pan Y. Lancet Infect Dis 2020 Feb 24).*
  - **Transmission from asymptomatic persons** *(Bai Y. JAMA 2020 Feb 21, Rothe C. NEJM 2020 Mar 5).*
- **Population level lack of immunity** - Novel virus, no “herd immunity” globally
- **Ease of importation** of cases – due to widespread global travel
Can newborns get COVID 19

• In utero transmission is possible but hard to prove
• Reports from China found no evidence of in utero transmission. Some reports of specific IgM and IgG in newborns- may or may not be real.
• BUT : newborns can acquire disease, most if not all of which is postnatal.

DATA ARE STILL LIMITED- WE NEED MORE!!
Newborns of Women with COVID-19

<table>
<thead>
<tr>
<th>Symptoms</th>
<th># Papers with data</th>
<th>Number/total sample</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonatal asphyxia</td>
<td>31</td>
<td>2/358</td>
<td>0.6%</td>
</tr>
<tr>
<td>Neonatal death</td>
<td>33</td>
<td>1/364*</td>
<td>0.3%</td>
</tr>
<tr>
<td>Neonatal symptoms</td>
<td>23</td>
<td>34/171</td>
<td>20%</td>
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</tbody>
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Type of symptoms

<table>
<thead>
<tr>
<th></th>
<th># Papers with data</th>
<th>Number/total sample</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Fever</td>
<td>5</td>
<td>6/21</td>
<td>29%</td>
</tr>
<tr>
<td>Respiratory distress</td>
<td>5</td>
<td>9/201</td>
<td>45%</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>4</td>
<td>4/15</td>
<td>26%</td>
</tr>
<tr>
<td>Abnormal chest x-ray</td>
<td>12</td>
<td>28/120</td>
<td>23%</td>
</tr>
</tbody>
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Severe neonatal outcomes rare, and most not felt associated with maternal COVID-19. Neonatal symptoms were seen in about a quarter (not clearly related); chest x-rays generally performed in infants with respiratory symptoms, not asymptomatic infants.

*Preterm 34-week gestation infant with multiple organ failure, DIC, shock, died at 9 days; no rtPCR was done
Universal SARS-CoV-2 Screening in NYC Demonstrates High Rate of Asymptomatic Women with Positive rtPCR Test


• Reported on 215 pregnant women delivered at NY Presbyterian and Columbia U Hospital in NYC March 22-April 4, where universal NP rtPCR testing being done in labor.

• 4/215 (1.9%) had symptoms, all positive.

• 29/210 (13.7%) of women without symptoms who were tested were positive.

• Thus, 29/33 (87.9%) positive for SARS-CoV-2 had no symptoms at admission.

• Fever developed PP in 3/29 (10%) initially without sx.
How relevant is NY data

• Concerning that most cases asymptomatic
• On the other hand, disease prevalence is apparently high in the NYC population. Is it the same in Northern NE?

DATA is limited- We need more data, more testing to better know!!
Brief Recommendations

• Gowns gloves procedural mask and eye protection for most encounters with newborns born to + or PUI mothers.

• N95 mask or respirator mask when aerosol generating procedures are done: *PPV, intubation, tracheal suctioning, NC flow > 2 L, CPAP

Delivery: Attendance based on normal institutional guidelines

**Would re-evaluate attendance at planned C/S at term

** If you attend + or PUI, would recommend N95 /respirator

*PPV= positive pressure ventilation
Separation of infant from +/PUI mother

- Recommended
  - Real risk of transmission to newborn
  - Potential NB illness
  - High risk of transmission to family etc

- Can be kept 6 feet from mother in isolette
What About Breast Milk Transmission of SARS-CoV-2

• SARS-CoV-2 rt PCR evaluated in 14 breast milk samples.
  • All tested negative for virus

• Postnatally, transmission more likely through close contact of infected mother with infant than through breast milk.

• RECOMMEND – EXPRESSED milk fed by healthy person

• Public Health vs Personal Choice?
Testing of infant with +/-PU1 mother

• Bathing after birth
• First testing molecular assay at 24 hours of age: swabs of throat and nasopharynx
• Repeat testing at 48 hours-
  • May skip if discharged but there are reports of positives only at 48 hours or later, so risk increased
• Recommend waiting until 24 hours for discharge to allow normal screening
Discharge if mother is +/PUI

Positive by testing but no symptoms: d/c home with close follow up by phone or visit

Negative testing:

Home with a healthy caregiver available.
Mother to remain 6 feet away
If closer, mask and handwashing
Issues

• Reconsider which births require pediatric attendance – the silver lining? Certainly can use “Standby”

• Follow up care at home:
  • Case by case depending of available caregivers
  • Monitoring for symptoms by phone or visits

• Readmissions-
  • No clear guidance. If infant is well with no exposures and has only been home with well (negative) mother, would treat as healthy
  • If positive mom, positive infant- admit to isolation and PPE as above.
• Remember- most issues when mother is Positive or PUI- not everyone!
• This is a highly contagious disease and the data we need is only partially available- so continue to stay tuned
• Asymptomatic carriage means that there may be a risk from “healthy” patients, and this colors our approach as we attempt to assess that risk
• The recommendations on when to use what PPE are useful and based on best available data. Consider at which births you are really needed.
• Breast milk is still the best- but best given by expression and feeding by a healthy caregiver
• Test the infant of a positive/PUI mother, plan post discharge care accordingly!