



COVID-19 Town Hall



Research on COVID cases in pregnant women



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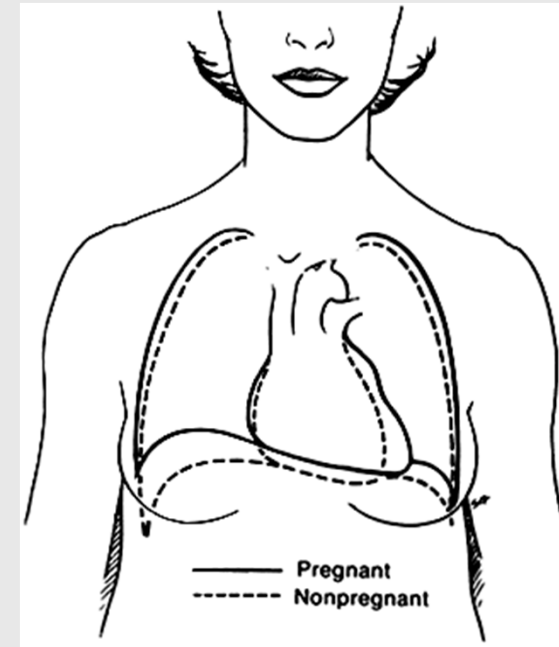
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Specialty: Maternal-Fetal Medicine

COVID-19 in the Obstetric Patient

- Physiology of pregnancy may increase risk of rapid cardiopulmonary decompensation
- Experience with other Coronaviruses
 - SARS –15% case fatality rate, 60% ICU admission rate, increased rate of IUGR and placental abnormalities
 - MERS – 27% case fatality rate, 64% ICU admission rate
 - No vertical transmission, regardless of mode of delivery
- Current evidence suggests pregnant patients with COVID-19 do not have increased morbidity or mortality
 - 85% mild illness, 9% severe illness, 5% critical illness¹



¹Breslin et al, Columbia University

Vertical Transmission of COVID-19

- No proven cases of vertical transmission during delivery¹
 - Variable reports of PCR+ neonates many hours after delivery
 - Neonatal +IgM at birth thought to be false positive
 - Amniotic fluid, vaginal swab PCR universally negative
- Emerging evidence demonstrates SARS-CoV-2 infection in the placenta²⁻⁴
- Possible case of congenital infection reported out of Canada⁵
- No data from first trimester infection on congenital malformation or congenital viral syndrome

¹Lamouroux et al, AJOG

²Penfield et al, AJOG MFM; ³Algarroba et al, AJOG; ⁴Patanè et al, AJOG MFM

⁵Kirtsman et al, CMAJ

Obstetric Case Series of COVID-19 – International Experience

Source	Location	# Pooled Cases	Findings
Schwartz. <i>Arch Pathol Lab Med</i>	China	38	All 3 rd trimester No maternal deaths No vertical transmission
Li, et al. <i>Clin Infect Dis</i>	Wuhan, China	34 case 242 control	16 confirmed, 18 suspected COVID-19 17.6% PTB in cases vs. 5% control No respiratory failure No severe maternal or neonatal complications
Chen, et al. <i>NEJM</i>	Wuhan, China	118	Majority 3 rd trimester 75% fever, 73% cough 92% mild, 8% severe/critical disease No maternal deaths, no vertical transmission
Ferrazi, et al. <i>Int J Gynaecol Obstet</i>	Lombardy, Italy	42	48% COVID-19 pneumonia 35% required CPAP or ICU admission 57% SVD 4.8% spontaneous PTB

Obstetric Cases of COVID-19 – USA Experience

Source	Location	# Cases	Findings
Breslin, et al. <i>AJOG MFM</i>	New York, NY	43	29/43 (67%) patients presented with symptoms or screen positive 66% dry cough, 48% fever, 38% myalgia 86% mild, 9% severe, 5% critical disease 55% SVD No vertical transmission
Pierce-Williams, et al. <i>AJOG MFM</i>	Multi-institution	64	All cases severe or critical illness Hospitalization day 7 of illness, median hospital duration 6 days 75% PTB in critically ill No maternal or fetal/neonatal deaths
Lokken, et al. <i>AJOG</i>	Seattle, WA	46	93.5% symptomatic 69.8% cough, 51.2% fever/chills 50% 3 rd trimester 15% severe infection – most overweight or obese w comorbidities 1 unexplained IUFD – placenta & fetopsy negative for SARS-CoV-2 1 iatrogenic PTB at 33w for maternal respiratory status

Severe/Critical COVID-19 in Pregnancy

Source	Location	Cases	Findings
Juusela, et al. <i>AJOG MFM</i>	Newark, NJ	7	2/7 (28.5%) of patients developed cardiomyopathy 1/2 patients required intubation for severe hypoxemia, PEA arrest, was resuscitated and remained intubated TTE features: global hypokinesis, EF 40-45%
Schnettler, et al. <i>AJOG MFM</i>	Cincinnati, OH	1	Case of severe ARDS on day 5 of illness (at 31w GA) Required intubation, high PEEP, proning
Karami, et al. <i>Travel Med Infect Dis</i>	Iran	1	Respiratory failure requiring intubation, RV failure, hypotension IUFD and spontaneous PTB at 30w2d Decompensation and death following ARDS with multiorgan failure
Hantoushzadeh, et al. <i>AJOG</i>	Iran	9	7/9 (77.8%) maternal deaths 1 survivor required tracheostomy 5/9 (55.6%) IUFD or neonatal demise
Vallejo & Ilagan. <i>Obstet Gynecol</i>	New York, NY	1	Presented with SOB, cough, fever, sore throat x1 week Rapid respiratory compromise, intubation, delivery via C-section at 37w Death within 36 hours from multiorgan failure and cardiac arrest