UMassMemorial Health Care

COVID-19 Clinical Care Council

CRITICAL CARE OF PREGNANT COVID-19 + PATIENT

This document was also approved by CCOC.

These recommendations are based on Society of Maternal Fetal Medicine COVID-19+ Considerations (SMFM, 3/27/2020) and should be integrated with existing UMass Memorial policies/procedures:

- Clinical Practice Guideline: Empiric Evaluation and Management of COVID-19+ in adults. APRIL 2, 2020,
- COVID-19+ Patient Care Plan for Management of Labor & Delivery APRIL 1, 2020

Fetal heart rate monitoring and urgent Cesarean delivery

1. Given the potential for COVID-19 to cause rapid maternal deterioration in maternal oxygenation, continuous fetal heart rate monitoring is recommended for most patients over 24 weeks gestation, as a means of assessing fetal oxygenation. If maternal status not critical and requiring ICU-level of care, it is recommended that monitoring be on East 4 due to proximity of the environment necessary to perform an urgent Cesarean Delivery. Anticipatory planning is best in these cases. Action (notifying anesthesia, moving the patient with time to have a controlled transfer to OR) should be taken at the first signs of fetal distress unless vaginal delivery is imminent. Operative forceps or vacuum vaginal delivery is acceptable alternative if clinically possible.

2. All symptomatic COVID-19+patients, beyond 24 weeks, whether in labor or an antepartum admission, require an attending with privileges for cesarean delivery. This means most family medicine patients, if symptomatic, will need to be transferred to OB service during their admission. Patients (PUI) awaiting the COVID 19 results, if they are not critically ill, can be managed by their primary provider. An asymptomatic COVID-19 + patient may be followed by Family Medicine with the expectation of transfer of care if a caesarean delivery is anticipated or they become symptomatic. It is expected that patients will continue with their primary prenatal provider upon discharge.

Transfer to Intensive Care

1. If patient's respiratory status is worsening, with these criteria and risk factors in mind, transfer to the ICU should be considered. Again, this should be considered at first signs of increasing severe disease. A Maternal Fetal Medicine consult should be obtained as the transfer process is proceeding.

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Moderate to Severe Disease/Lower Respiratory Tract infection: Persistent fever or fever > 39C, moderate-severe dyspnea/DOE, tachypnea, hypoxia (SpO2<90%), rales on exam, lymphopenia, elevated LDH, elevated d-dimer (>1 mcg/mL), elevated PT, elevated inflammatory markers (CRP, ferritin), elevated troponin, elevated IL-6 (> 40 pg/mL); infiltrates on initial imaging.

High Risk patients (Risk factors for adverse outcome): Age > 65, patients living in a long term care facility, immunosuppressed state (prolonged use of steroids or other immunosuppressants, transplant, poorly controlled HIV or AIDS), morbid obesity with BMI > 40, ESRD, poorly controlled diabetes mellitus, chronic lung disease, end-stage liver disease, cardiovascular disease, HTN, and pregnant patients
From Clinic Practice Guideline

2. For COVID-19+ patient that require intensive care, the SICU is the preferred unit, given its close proximity to East4 and two of the rooms have the ability of capturing FHR monitor for QS which allows it to be included on the display on East 4. For a patient on East 4 with worsening symptoms and a plan for cesarean delivery, stabilization in the ICU before may be beneficial. There may be cases where it is decided that fetal status cannot be a factor in the care of the mother and will require ongoing discussion with patient or health care proxy. This is most likely to occur in extreme preterm gestations. At this point fetal monitoring may be discontinued.

3. The timing of delivery in response to deteriorating COVID-19 disease is dependent upon many factors, including gestational age and chance of maternal recovery. As in all critically ill pregnant patients, the decision to deliver should involve the entire team of care givers and patient wishes. It is unclear whether delivery improves maternal outcome in COVID -19 + patients. In some cases, delivery may be indicated due to anticipation of maternal status deterioration. It is important to notify Main OR staff of any pregnant admission to ICU for the potential Cesarean delivery in the Main OR. If a patient in the unit requires delivery by Cesarean, the team of anesthesia, main OR staff and OB will determine if it is best performed in Main OR or on East 4. A Cesarean delivery in the ICU, even perimortem, should be avoided.

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4. In the case of a COVID-19+ patient laboring in ICU, a delivery cart from East 4, vacuum and Bakri balloon should be present. NICU should be notified and they will have neonatal resuscitation equipment and personnel present in ICU.

5. Betamethasone has robust evidence for its benefits to neonatal outcome before 34 weeks, but less evidence for after 34 weeks. SARS -CoV had worsening outcomes with prolonged steroid exposure. What effect Betamethasone has on COVID-19 outcomes is unknown, although there has been some anecdotal concern for worsening disease. Betamethasone should be considered if delivery is anticipated before 34 weeks but with held at later gestations. Anticipated delay in delivery is also a consideration.

6. Magnesium for seizure prophylaxis and fetal neuroprotection should be withheld in women with severe disease, otherwise its use should be balanced by severity of preeclampsia or gestational age and expected incidence of cerebral palsy.

7. Pregnancy should not be considered a contraindication for experimental treatment in a critically ill COVID-19+ patient. Decisions regarding treatment should be made in consultation with Infectious Disease, Maternal Fetal Medicine, and Critical Care.