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MASSACHUSETTS GENERAL HOSPITAL

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MGH TREATMENT GUIDE FOR CRITICALLY ILL PREGNANT PATIENTS

PRESENTATION

NOTABLE SX - SAME AS NON-PREGNANT

- ~65-80% Cough
- ~45% Febrile initially
- ~15% URI Sx
- ~10% GI Sx
- Anosmia
- Acute worsening after early mild sx

INCREASED RISK FOR SEVERE DZ

- Comorbid diseases:
  - Cardiac, pulm, renal
  - Diabetes, HTN, BMI >30
  - Immunocompromise

LABS INDICATING SEVERE DZ

- LDH >245, CPK 2x normal, CRP >100
- Abs lymphocyte count <0.8

PREGNANCY CONSIDERATIONS

- Tachycardia over 120bpm is abnormal
- Tachypnea over 18rpm is abnormal
- Elevated D-dimer expected, >2400 abnl
- Low HCO3 18-22 is normal
- Higher risk of intubation/ICU/death

DIAGNOSTICS

DAILY LABS

- CBC with diff (trend lymphocyte ct)
- CMP, in particular LFT
- Consider development of preeclampsia or HELLP syndrome, send spot urine protein:creatinine ratio if Cr elevated
- CPK/CRP (first week) /LDH (if elevated)

MONITOR FOR WORSENING DISEASE OR DRUG TOXICITY PRN

- Ferritin/ESR (if sHLH)
- PT/PTT/INR
- EKG/Troponin
- Lactate (<2)
- Monitor fetal status if increased O2 req

ONE TIME TEST FOR ALL PTS

- Tracheal aspirate if intubated
- Additional tests for trial enrollment prn
- Additional testing per ID guidance

RESPIRATORY FAILURE

Transfer to ICU for HFNC vs Intubation

Consider RICU consult, Anticipate DIFFICULT intubation

WARNING SIGNS: INC FiO2, DEC SaO2, CXR WORSE

LUNG PROTECTIVE VENTILATION

- Vt 40% greater in pregnancy than 4-6 ml/kg PBW
- Plateau pressure <30
- Driving pressure (Pplat-PEEP) <15
- Target SaO2 >93-95%, PaO2>70
- Starting PEEP 8-10 cmH20

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CONSERVATIVE FLUID STRATEGY

- Post resuscitation: NO or limited maintenance fluids
- Only diuresis if evidence of pulmonary edema

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PEEP TITRATION

- ARDSnet low PEEP table
- Best PEEP considered w/ ICU attending input

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PRONE - ACCEPTABLE IN PREGNANCY

- Early if cont. hypoxemia (P:F<150) or elevated driving/plateau pressure
- Supine with left lateral uterine displacement ~qAM

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ADDITIONAL THERAPIES

- Paralytics for vent dysynchrony, not routine
- Inhaled NO eligible (no epoprostenol)

IF WORSENING	IF STABLE OR IMPROVING
ECMO CONSULT if continued hypoxemia or elevated airway pressures	**PATIENCE** Anticipate possible prolonged intubation

PAGER NUMBERS

ICU CONSULT:26955 ECMO:29151 ID CONSULT: 16136 MFM:17977

HEMODYNAMICS

- Norepinephrine first choice pressor
- MAP 60-65 with BP < 160/110
- CO mean 6.2 L/min, 43% greater
- SVR decreased 21%, CVP unchanged
- IF WORSENING:
  - ? myocarditis/cardiogenic shock
    Obtain POCUS, EKG, ? TTE
  - ? Intestinal ischemia, MRI preferred

USUAL CARE

- **Empiric abx per usual approach**
- Sedation PRN vent sychrony
- Daily SAT/SBT when appropriate
- ABCDEF Bundle
- Unfractionated heparin for VTE ppx

CHANGE TO USUAL CARE

- CXR safe prn with uterine shielding
- MINIMIZE staff contact in room
- HIGH THRESHOLD for bronchoscopy
- HIGH THRESHOLD to travel
- BUNDLE bedside procedures
- AVOID nebs, prefer MDIs
- Appropriate isolation for aerosol generating procedures
- Maintain left lat uterine displacement
- Normal ABG should demonstrate compensated respiratory alkalosis:

pH 7.40-7.44	PaCO2 27-32mmHg
PaO2 72-104mmHg	SaO2 95-100%

THERAPEUTICS

- Delivery may improve maternal status
- Remdesivir
- *Hydrocortisone, Methylprednisolone or Prednisone favored for steroids as Dexamethasone crosses the placenta*
  *May consider Dexamethasone for the first 48 hours for fetal lung maturity
- Avoid NSAIDS
- Novel Rx trial or compassionate use

A living document by Divison of Pulmonary and Critical Care in collaboration with the Dept. of Anesthesia,Critical Care, and Pain Medicine, Division of Cardiology, and Respiratory Care. May be updated or modified as situation evolves.
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