Cardiac Arrest in Pregnancy In-Hospital ACLS Algorithm for Patients With Suspected or Confirmed COVID-19

Text in cascading boxes describes the actions that a provider should perform in sequence during cardiac arrest of a pregnant patient with suspected or confirmed COVID-19. Arrows guide providers from one box to the next as they perform the actions. Some boxes have multiple arrows that lead outward, each arrow to a different treatment pathway depending on the outcome of the most recent action taken. Pathways are hyperlinked.

Box 1

There are 2 icons in this box, one signifying the use of personal protective equipment appropriate for aerosol-generating procedure (AGP): respirator (eg, N95), along with gown, gloves, and eye protection, and the other signifying the use of a high-efficiency particulate air (HEPA) filter.

Continue BLS/ACLS (this step includes suspected AGP, on the basis of current studies)

- High-quality CPR
- Defibrillation when indicated (this step includes suspected AGP, on the basis of current studies)
- Other ACLS interventions (eg, epinephrine)

Proceed to Box 2.

Box 2

Assemble maternal cardiac arrest team. Proceed to Box 3.

Box 3

Consider etiology of arrest

To perform maternal interventions, proceed to Box 4.
To perform obstetric interventions, proceed to Box 6.

Box 4

Perform maternal interventions

- Perform airway management (this step includes suspected AGP, on the basis of current studies)
- Administer 100% oxygen, avoid excess ventilation
- Place IV above diaphragm
- If receiving IV magnesium, stop and give calcium chloride or gluconate

Proceed to Box 5.

Box 5

Continue BLS/ACLS

- High-quality CPR
- Defibrillation when indicated
- Other ACLS interventions (eg, epinephrine)

Box 6

Perform obstetric interventions

- Provide continuous lateral uterine displacement
- Detach fetal monitors
- Prepare for perimortem cesarean delivery

Proceed to Box 7.

Box 7

Perform perimortem cesarean delivery (this step includes suspected AGP, on the basis of current studies)

If no return of spontaneous circulation, complete perimortem cesarean delivery ideally with 5 minutes after time of arrest. Proceed to Box 8.

Box 8

Neonatal team to receive neonate

Sidebar

Maternal Cardiac Arrest

- Team planning should be done in collaboration with the obstetric, neonatal, emergency, anesthesiology, intensive care, and cardiac arrest services.
- Priorities for pregnant women in cardiac arrest should include provision of high-quality CPR and relief of aortocaval compression with lateral uterine displacement.
- The goal of perimortem cesarean delivery is to improve maternal and fetal outcomes.
- Ideally, perform perimortem cesarean delivery in 5 minutes, depending on provider resources and skill sets. (This step includes suspected AGP, on the basis of current studies.)

Advanced Airway

- Rapidly apply personal protective equipment before AGPs.
- In pregnancy, a difficult airway is common. Use the most experienced provider.
- Provide endotracheal intubation or supraglottic advanced airway.
- Perform waveform capnography or capnometry to confirm and monitor endotracheal tube placement.
- For all ventilation, use a HEPA filter.
- Once an advanced airway is in place, give 1 breath every 6 seconds (10 breaths per minute) with continuous chest compressions.

Potential Etiology of Maternal Cardiac Arrest

A = Anesthetic complications
B = Bleeding
C = Cardiovascular
D = Drugs
E = Embolic
F = Fever
G = General nonobstetric causes of cardiac arrest (H's and T's)
H = Hypertension