CPR IN PREGNANCY

Dr. Mitra Yari

Critically ill pregnant patient

Pre-event planning

1. **Preparation for cardiac arrest**
2. **Preparationfor perimortem cesarean delivery (PMCD)**
3. **Preparation for management of obstetric complication**
4. **Decisions involving the resuscitation of the neonate**

Management of unstable pregnant patients

1. Full left lateral decubitus posision
2. 100% oxygen by face mask
3. Intravenous access above the diaphragm
4. Precipitating factors should be investigated and treated

Basic life support
BLS (actions are simultaneous , not sequential)

Rapid notification

Documentation of cardiac arrest

High quality CPR

rapid automated defibrillator

Basic life support
BLS

.Chest compression

.Appropriate airway management

.Ventilation with compression ventilation ratio 30:2

.Defibrillation when appropriate

.manual left uterine displacement (LUD)

.minimum of 4 BLS responders

Chest compression in pregnancy

- As with all adult resuscitation
- High quality chest compression
- Supine position
- Minimize disruption
- Use backboard
- Rate of at least 100/min
- Dept of at least 2 inch(5cm)
- Full recoil
- compression /ventilation ratio 30:2
- Interruption limited to 10 seconds
- Manual LUD
- Hands of rescuer should place on the lower half of the sternum

Defibrillation

- The same as in the nonpregnant patients
- Indication: pulseless ventricular tachycardia (VT)or ventricular fibrillation (VF)
- Anterolateral defibrillator pad or paddles
- Biphasic 120-200 J
- AED can be used
- Adhesive pads are useful

Aortocaval compression

Manual LUD should be used to relieve aortocaval compression in supine position

Contiuous LUD should be performed on all pregnant women who are in cardiac arrest in which the uerus is palpated at or above the umbilicus .

Airway and ventilation

- Hypoxemia develops more rapidly in pregnant patients.
- Early bag mask ventilation with 100% oxygen at least 15 lit/min .
- Two handed bag-mask ventilation
- C:V ratio 30:2
- Hyperventilation decreases srvival.

Advanced cardiac life support (ACLS)

Activation of code team response

Contiuation of BLS

Advanced airway management

Intavenous access

Administer ACLS drugs

Preparation for PMCD

The cause of arrest considered and adressed

Advanced airway management

Intubation should be undertaken by an experienced laryngoscopist

Optimally no more than 2 attempt should be made before insertion of supraglotic airway

Supraglotic airway placement is the preffered rescue strategy for failed intubation

Smaller ETT Is recommended 6 or 7

If mask ventilation is not possible invasive airway access should be followed

Cricoid pressure is not routinely recommended

Contiuous waveform capnograghy is the most reliable method for confirming ETT and monitor CPR quality (>10)

specific therapy

- Medical therapy during cardiac arrest is no different in the pregnant patient at recommended doses without modification.
- For refractory (shock resistant) VT or VF , the drug of choice is amiodarone, 300 mg rapid and 150 mg repeated as needed.
- Vasopressors such as epinephrine and vasopressin have been used .

Fetal assessement

Fetal assessement should not be performed during resuscitation .

Fetal monitors should be removed or detached

PMCD

IMMEDIATE CESAREAN DELIVERY MAY BE THE BEST WAY TO OPTIMIZE THE CONDITION OF THE MOTHER AND FETUS.

A pregnant patient with in hospital cardiac arrest should not be transported for cesarean delivery.

PMCD

- During cardiac arrest if the pregnant woman with a fundus height at or above the umblicus has not achieved ROSC with usual resuscitation measures with LUD , EVACUATION OF UTERUS is considered.
- PMCD should strongly considered for every mother in whom ROSC have not be achieved after 4 minutes of resuscitative efforts.
- If maternal viability is not possible the procedure should be started immediately.

PMCD

- THE WOMAN SHOULD NOT BE TRANSPORTED TO AN OPERATION ROOM.
- THE TEAM SHOULD NOT WAIT FOR SURGIAL EGUIPMENT .ONLY SCALPEL.
- THETEAM SHOULD NOT SPEND TIME ON LENGHTU ANTISEPTIC PROCEDURE .
- CONTINUOUS MANUAL LUD SHOULD BE PERFORMED.

VAGINAL DELIVERY DURING MATERNAL CARDIAC ARREST

Only during intrapartum cardiac arrest.

Provided that CPR is being adequately performed and the servix is fully dilated and the fetal head is at an apropriately low station.

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