
AIRWAY MANAGEMENT IN PREGNANT OR POSTPARTUM WOMEN HAVING SEIZURES

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BACKGROUND

A seizure is a frightening and uncommon occurrence in Labor and Delivery and the visceral response of many providers is to immediately administer magnesium sulfate to stop the abnormal movement associated with the seizure. However, even more important than stopping the seizure, which usually stops on its own after 1-2 minutes, is maintaining and protecting the airway. Seizures do not directly cause death, but intracranial hemorrhage and hypertensive encephalopathy do.^{1,2} Therefore, the airway is the first priority in seizure management, even before administration of magnesium sulfate.

Basic airway maintenance skills need to be re-taught and actively maintained by nurses and physicians who work in Labor and Delivery, since this “skill set” is used very infrequently in that environment. Anesthesiologists are accustomed to caring for unconscious patients who may not be breathing adequately. For this reason, an anesthesiologist should be called immediately when a patient suffers a seizure. An anesthesiologist should be involved in teaching the Labor and Delivery staff about airway management.^{1,2}

KEY LEARNING POINTS

1. Seizures involve loss of consciousness and violent movements, with the potential for blocked ventilation (“airway obstruction”), regurgitation and aspiration of gastric contents, as well as falls, head trauma and tongue biting.
2. Many of the sequelae of seizures, such as hypertensive brain hemorrhage and fetal and maternal hypoxic brain damage, are due to the cessation of respiration and failure to deliver oxygen to the maternal brain and the placenta.
3. Maternal hypoxia is the most common cause of “fetal distress” following an eclamptic seizure.
4. Anesthetizing the preeclamptic mother may present special challenges related to lack of maternal cooperation for neuraxial anesthesia. For obese patients, swelling of the airway tissues makes intubation more difficult. Emergency induction of anesthesia may lead to both maternal and fetal compromise.

RECOMMENDATIONS FOR QUALITY IMPROVEMENT:

1. Call for help. Notify the anesthesiologist immediately.
2. Turn patient into a lateral 'recumbent' position. The side-lying position prevents aortocaval compression, helps the tongue fall to the side of the mouth and lessens the risk of aspiration. If possible, cushion the head from injury by placing a soft object under the head.
3. Open airway with a jaw thrust and/or oral airway, if needed. Do not insert any object other than the oral airway, if needed, into the person's mouth. Be aware that nasal airways will often cause nosebleed. Check for air movement and reposition if there is no air movement. Be aware that an oral airway can make the patient vomit and may not be necessary.
4. Apply oxygen, obtain suction, and pulse oximeter to check oxygen saturation.
5. Obtain IV access.
6. Administer magnesium sulfate. (Refer to Magnesium Sulfate chapter, pg. 50)
7. Control blood pressure if necessary with IV meds, but be aware that hypoxia and hypercarbia will elevate blood pressure.
8. The initial focus should be on opening and protecting the airway and supplying the patient with oxygen. Laryngoscopy will result in an acute hypertensive episode, so pre-intubation medication such as IV Esmolol, IV Lidocaine, or IV Remifentanyl should be administered.
9. Resuscitation of the mother is the key to protecting the fetus. This point is counterintuitive for many Labor and Delivery personnel, who may incorrectly focus on the baby, when it is the mother who requires top priority during and after a seizure.
10. Following a maternal seizure, fetal bradycardia is commonly seen due to maternal hypoxia. Stabilization of the mother is the first priority followed by resuscitation of the fetus.
11. Cesarean section should be reserved for the situation in which maternal and fetal resuscitation are unsuccessful in stabilizing the mother or resolving the non-reassuring fetal heart rate tracing.
12. Regular drills should be conducted in Labor and Delivery for management of the airway during an eclamptic seizure.

EVIDENCE GRADING

Level of Evidence: III-C

REFERENCES

1. Creasy R, Resnik R, Iams J, Lockwood C, Moore T. *Creasy & Resnik's Maternal Fetal-Medicine: Principles and Practice*. Vol Sixth Edition, Chapter 35, pg. 673. 2008.
2. Chestnut D, Polley L, Tsen L, Wong C. *Chestnut's Obstetric Anesthesia: Principles and Practice, 4th Edition, Chapter 45, pg 984-986*. 2009.