Health Alert Network Message 19-03: The Role of Emergency Departments in Maternal Hypertension

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Background

The United States has seen a rise in maternal mortality. In Louisiana, the rate of maternal mortality increased by an average of 34% per year from 2011-2016 [1] . Hypertension and hemorrhage are the two leading preventable causes of maternal morbidity and mortality. Hypertensive disorders include preeclampsia/eclampsia, cardiovascular disorders, and cardiomyopathy.

Geographically, many women are isolated from birthing centers that offer higher levels of care. In fact, it is estimated during 2016-2018, in Louisiana, 329 deliveries occurred in non-birthing hospitals with a pregnancy-related mortality rate of 8.5% with 50% of those deaths being preventable. These non-birthing centers include emergency departments. 20% of the maternal deaths occurred in an Emergency Department of outpatient setting. Therefore, it is imperative that as we address the issue of maternal morbidity and mortality that we assure readiness in our emergency departments, specifically to address hypertensive disorders in pregnant and recently pregnant women. This issue has been acknowledged and addressed by the Joint Commission. On August 21, 2019, the Joint Commission released new Perinatal Care Standards around hemorrhage and hypertension. These standards are not only applicable to labor and delivery units but the standards addressing hypertensive are also applicable to emergency rooms https://www.jointcommission.org/assets/1/6/New_Perinatal_Standards_Prepub_Report.pdf

Response

LDH asks emergency room providers to put measures in place to recognize and provide quick response to pregnant and recently pregnant women experiencing symptoms of severe hypertension.

Clinical Presentation, Evaluation, and Treatment

Women experiencing hypertensive disorders may present with headaches, blurry vision, right upper quadrant pain, and/or swelling. It is important that women presenting with these symptoms be first evaluated to determine if they are pregnant or recently pregnant (i.e. within 2-weeks of delivery) as the threshold for treatment of elevated blood pressures is different from the general population. Women with these symptoms who are pregnant or recently pregnant should have an initial blood pressure within 15-minutes of presentation. The blood pressure should be repeated 15-minutes after the initial blood pressure. For sustained systolic blood pressures $\geq$ 160 or diastolic blood pressures $\geq$ 105, treatment should begin. Treatment is two-fold: treatment of elevated blood pressures with anti-hypertensive therapy and prevention of seizures via administration of Magnesium Sulfate. For women with IV access, treatment should begin with Labetalol 20 mg IV or Hydralazine 5 – 10 mg IV. If IV access has not been obtained, treatment can begin with Nifedipine 10 mg immediate release orally. Often, women will not respond to one dose of medication.

Therefore, blood pressure should be repeated 10-20 minutes after administration of anti-hypertensive medication. If blood pressure is still elevated (ie. Systolic blood pressure ≥ 160 or diastolic blood pressure ≥ 105-110), additional doses of medication should be given based on national guidelines [2] .

Magnesium Sulfate 4 grams IV load should be administered over 20-30 minutes for seizure prophylaxis. If a patient is actively seizing, Magnesium Sulfate 6 grams IV should be administered. Magnesium Sulfate 2 grams IV per hour should be administered for maintenance.

Recommendations for Louisiana Healthcare Providers

- Hemorrhage and Hypertension and the two leading causes of preventable maternal mortality in Louisiana
- A significant portion of pregnant and recently pregnant women with signs and symptoms consistent with hypertension present to non-birthing facilities.
- Hypertension
    - Emergency departments should have written policies that address their specific procedures for addressing hypertension in pregnant or recently pregnant women.
    - Pregnant or recently pregnant women presenting with signs and symptoms of hypertensive crisis should be evaluated within 15-minutes of presentation and treated within 30-60 minutes if they have systolic blood pressures ≥ 160 or diastolic blood pressure ≥ 105-110.
    - Emergency departments should have rapid access to anti-hypertensive medications (i.e. IV labetalol, IV hydralazine, oral Procardia) and Magnesium Sulfate to prevent eclamptic seizures.
    - Transfer agreements should be in place to allow women to be transferred to facilities for higher-levels of care.
- Please refer to the LA Perinatal Quality Collaborative Staff on their website: https://partnersforfamilyhealth.org/lapqc/ for further information.

References

1. [1] Kieltyka L, Mehta P, Schoellmann K, Lake C. Louisiana Maternal Mortality Review Report 2011-2016. August 2018.
2. [2] Emergent therapy for acute-onset, severe hypertension during pregnancy and the postpartum period. ACOG Committee Opinion No. 767. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019; 133:e174-80. Last accessed September 8, 2019.
3. [3] Kieltyka L, Mehta P, Schoellmann K, Lake C. Louisiana Maternal Mortality Review Report 2011-2016. August 2018.
4. [4] Emergent therapy for acute-onset, severe hypertension during pregnancy and the postpartum period. ACOG Committee Opinion No. 767. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019; 133:e174-80. https://www.acog.org/-/media/Committee-Opinions/Committee-on-Obstetric-Practice/co767.pdf?dmc=1&ts=20190908T1754058078. Last accessed September 8, 2019.