HYPERTENSION IN PREGNANCY

Hypertension in Pregnancy: Magnesium for Seizure Prophylaxis

SUMMARY: Administration of magnesium sulfate to women who develop preeclampsia with severe features can significantly reduce the rate of eclamptic seizures and should be initiated at the time of diagnosis and continued through 24 hours after delivery or last eclamptic seizure.

Rationale: Hypertensive disorders of pregnancy are a major health issue for women and their infants. Development of certain features qualifies preeclampsia as severe and can result in both acute and long-term complications for the woman and her newborn.

Magnesium sulfate has long been the standard treatment of preeclampsia/eclampsia. The mechanism of action is uncertain, but the appropriate administration to patients who develop preeclampsia with severe features can significantly reduce the rate of eclamptic seizures.

Eligible patients:

1. Any pregnant patient who is greater than 20 0/7 weeks gestational age presenting with a diagnosis of gestational hypertension, preeclampsia, or chronic hypertension with superimposed preeclampsia AND also presents with or develops severe features.
2. Any patient who presents in the post-partum period with delayed onset preeclampsia with severe features

Contraindications: Absence of severe features of preeclampsia

Recommendations for management:

1. At the time of diagnosis and/or delivery, magnesium sulfate 4-6gm IV load should be administered for seizure prophylaxis, followed by maintenance dose of 2gm/hr.
   a. If the decision is made to deliver, magnesium sulfate infusion should continue until 24 hours postpartum or for 24 hours after the last eclamptic seizure.
   b. If the decision is made for expectant management, magnesium sulfate infusion should continue for 24-48 hours.
2. For women in the postpartum period who present with new-onset hypertension associated with severe headaches, visual changes, altered mental status, epigastric pain or shortness of breath, IV magnesium sulfate is recommended for at least 24 hours.
3. If no IV access, and magnesium sulfate is needed urgently (e.g. in the setting of an eclamptic seizure), it can be given as a 10 gm IM loading dose (given as 2x 5gm injections) followed by a 5gm IM maintenance dose every 4 hours until IV access can be established.
**Special Considerations:**

1. Magnesium sulfate is not an antihypertensive agent.
2. Caution is recommended if there is evidence of renal insufficiency as serum magnesium levels can become toxic due to inadequate renal clearance.
3. In some cases, it is prudent to follow plasma magnesium levels in addition to serial assessment for symptoms of magnesium toxicity. Plasma magnesium levels maintained at 4-7 mg/dL are considered therapeutic.
4. Patellar reflexes usually are lost at plasma magnesium levels of 8-10 mg/dL and respiratory arrest may occur at 13 mg/dL.
5. Calcium gluconate administered as a 1 gm dose (10mL of a 10% solution) IV over a period of 2 minutes can reverse adverse effects of magnesium toxicity.
6. Administration of magnesium sulfate is not a contraindication to administration of oral nifedipine for acute blood pressure control.

**References:**


Reviewed: 12/15/16

Keywords: Hypertension, preeclampsia.