

Management and prophylaxis of Eclamptic Seizures

1. Seizure Prophylaxis

Prophylactic treatment is recommended for women with severe pre-eclampsia (blood pressure of 160/110mmHg or more)¹

Magnesium Sulphate

1. The risk of severe preeclampsia progressing to eclampsia is reduced by more than 50% by the use of prophylactic magnesium sulphate^{1,3,4}.
2. NO other agents are appropriate for prophylaxis.
3. THERE IS NO NEED TO MEASURE MAGNESIUM LEVELS

Loading Dose: 4g IV over 5-15 minutes.

Maintenance Dose: 1g per hour as a continuous IV infusion. Continue until 24hrs post-delivery or 24hrs after the last seizure

2. Management of Eclamptic Seizures

The senior obstetric and anaesthetic team should be informed.

Magnesium Sulphate

1. Give a further bolus dose of 2-4g
2. Increase the maintenance dose to **80mL/hour for 15 minutes (2g over 15mins)** then reduce the maintenance infusion to **15mL/hour (1.5g per hour)**
3. If this does not control seizures, give **Lorazepam 4mg** intravenously
4. Send for a blood Magnesium level aiming for 1.97 – 3.28 mmol/L

Continue observations and consider the need for ventilation

Consider delivery once stabilised.

Control hypertension in accordance with local guidelines.

Continue Maternal and fetal monitoring.

The vast majority of eclamptic seizures are self-limiting⁵.

If seizures continue, other methods should be instituted such as the administration of conventional anticonvulsants.

1. Initially use benzodiazepine (Lorazepam 4mg iv)
2. Recurrent seizures require further anti-epileptic medication (advice may be sought from the Medical Registrar/ Neurology registrar on an appropriate)
3. Involve critical care

4. Maternal observations during Magnesium infusion

1. Continuous pulse oximetry
2. Hourly urine output
3. Hourly respiratory rate
4. Five Hourly deep tendon reflexes

Every 4 hours the following observations should be recorded

1. Bicep reflex present
2. Respiratory rate is >12/min
3. Urine output >100ml previous 4 hrs. 97% magnesium is excreted in urine; presence of oliguria can lead to toxic levels.

Side Effects

1. Motor Paralysis
2. Absent tendon reflexes
3. Respiratory Depression
4. Cardiac Arrhythmia

If side effects occur, administer 10ml 10% calcium gluconate IV.

There is no need to measure Magnesium levels with the above for prophylactic treatment.

References

1. NICE 133 (25.6.19) Hypertension in pregnancy: diagnosis and management (update)
2. Altman D, Carroli G, Duley L, Farrell B, Moodley J, Neilson J, Smith D; Magpie trial Collaboration Group. Do women with pre-eclampsia, and their babies, benefit from magnesium sulphate? The Magpie Trial: a randomized placebo – controlled trial. *Lancet*. 2002 Jun 1;359(9321):1877-90.
3. Collaborative Eclampsia Research Trial. *Lancet* 1995. 1455-1463
4. Liverpool Women's Hospital. Regional Guideline for Management of Pre-eclampsia v7.4 Issued Feb 2020
5. Sibia BM (1996). Hypertension. In Gabbe SG, Simpron JL (Eds) *Obstetrics: normal and problem pregnancies*. Third Edition Chapter 28 pp969-971. Churchill Livingstone: New York.
6. WHO recommendations for the prevention and treatment of pre-eclampsia and eclampsia (2011)