TYGERBERG HOSPITAL
Department of Obstetrics and Gynaecology
Emergency Centre West (labour ward)

PROTOCOL
Magnesium sulphate for fetal neuroprotection

Available evidence suggests that magnesium sulphate given before anticipated early preterm birth reduces the risk of cerebral palsy in surviving infants.

Indication (only administer for a gestation ≥24 weeks but <32 weeks):

- Imminent preterm birth (active labour- contractions and 4 cm or more cervical dilatation)
  or
- Planned preterm birth <32 weeks for maternal or fetal reasons

Dose

- 4g $MgSO_4$ in 200ml saline loading dose over 20-30 minutes.
- Followed by maintenance dose of 1g $MgSO_4$ hourly until delivery (4g $MgSO_4$ in 200ml saline administered at 50 ml/hour).
- Stop if delivery has not occurred within 12 hours and is no longer considered imminent. Do not use for more than 24 hours.
- If given for fetal reasons only, discontinue use after delivery.
- Document in case notes whether $MgSO_4$ is for fetal or maternal reasons (or both).

Ward of administration

- Loading dose can be started in wards F2 or Special Care. Maintenance must only be given in labour ward.

Fetal monitoring

- Note that administration of $MgSO_4$ at an extremely premature gestation does NOT imply that fetal monitoring (CTG) should be offered automatically. Refer to the “Limits of Viability” criteria for fetal monitoring.

Repeat dose

- There is no evidence available at present to guide management regarding repeated doses of magnesium sulphate in those patients that do not deliver.

Consider giving a repeat dose in the event of imminent preterm delivery if 24 hours have elapsed since discontinuing the magnesium sulphate.

Contra-indications

- Electrolyte disorders
- Renal failure (rapidly progressive loss of renal function OR oliguria)
- Maternal cardiac arrhythmia during this pregnancy
- Myasthenia gravis

→Use with caution (do more intensive maternal monitoring) in patients receiving calcium channel blockers due to the potential interaction between calcium channel blockers, such as nifedipine, and magnesium sulphate leading to hypotension and neuromuscular blockade.

Observations

- Use the $MgSO_4$ observation chart in the maternity case record.
- Stop MgSO4 if patellar reflex is absent, or respiratory rate <12/minute, or urine excretion <100ml in the last 4 hours.

When urgent delivery is indicated (e.g. abruptio, abnormal fetal heart rate tracing) $MgSO_4$ can still be given if it does not delay the procedure. In these cases, it is it is reasonable to administer the 4g loading dose only, without a subsequent infusion.

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Signed: GS Gebhardt

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