Approved by Quality & Patient Safety Committee
17/5/2012

NIFEDIPINE FOR TOCOLYSIS – PROTOCOL

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

Indications:

- Suppression of threatened or established preterm labour before 34 weeks gestation, where this is not contraindicated (see below).

Dosages:

- Initial dose 20 mg orally stat.
- If contractions persist after 30 minutes further 20 mg orally may be given at 30 min intervals for a further two doses.
- Maintenance 20-40 mg orally qid for up to 48 hours.

NOTE: MAXIMAL DOSE IS 160 mg per day.
(Dosage is titrated against tocolytic effect).

Nifedipine tablets should be swallowed whole.

Dose may vary with clinical situation & should be titrated against tocolytic effect.

Nifedipine is highly light sensitive.

Broken, crushed or chewed tablets result in medication instability.

There is insufficient evidence for any firm conclusions about whether or not maintenance tocolytic therapy following threatened preterm labour is worthwhile. As such, maintenance therapy cannot be recommended in routine practice.

Observations:

- Q1h temperatures pulse and blood pressure and respiratory rate for first 4 hours.
- 4th hourly pulse, blood pressure, temperature during nifedipine treatment.
- Continuous CTG while contracting and acute stabilisation phase.
  If initial cardiotocograph is reactive, then record fetal heart rate at least 6 hourly for first 48 hrs.
- Report systolic BP <100mmHg, Temperature >37.5 degrees or pulse greater than 100bpm.
- Report side effects (outlined below).

Notes:

1. Nifedipine is a powerful tocolytic, and may occasionally mask early chorioamnionitis presenting as preterm labour. Patients receiving Nifedipine therapy should be observed in hospital for a minimum of 72 hours, and should be followed closely following discharge.
2. The combined cardiovascular effects of Nifedipine and intravenous salbutamol are substantial, and the two agents SHOULD NOT be used together under any circumstances.
3. NOTE THAT NIFIDIPINE IS NOT REGISTERED FOR USE AS A TOCOLYTIC AGENT.

AS WITH ALL CLINICAL TREATMENTS, PATIENTS SHOULD BE INFORMED OF RELEVANT POTENTIAL ADVANTAGES AND COMPLICATIONS OF TREATMENT.

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Side effects:

- Hypotension
  - In normotensive patients, the effects of nifedipine on blood pressure are minimal.
  - Care must be exercised in hypertensive patients, where blood pressure changes may be significant.
  - If significant hypotension occurs, treatment should be discontinued.
  - IV rehydration with normal saline or hartman's may be considered.
- Tachycardia, palpitation
- Flushing
- Headaches, dizziness
- Nausea

Overdosage symptoms (observed in cases of severe nifedipine intoxication):

- Disturbed consciousness to the point of coma
- A drop in blood pressure
- Tachycardic/bradycardic heart rhythm disturbances
- Hyperglycaemia
- Metabolic acidosis
- Hypoxia
- Cardiogenic shock with pulmonary oedema

Precautions:

Tocolyis should be restricted to those pregnancies that are a gestation where benefit may be gained by delaying preterm delivery to allow time for in-utero transfer to a tertiary perinatal centre for multidisciplinary management and/ or corticosteroids to enhance fetal lung maturity.

1) Suppression of labour not indicated.

- Gestation > 34 completed weeks.
- Fetal death in utero.
- Fetal malformation where palliative care only is planned.
- CTG abnormalities warranting delivery.
- Placental abruption.
- Active bleeding.
- Documented intrauterine growth restriction.
- Chorioamnionitis.
- Pre-eclampsia.
- Advanced cervical dilatation.
- Preterm pre-labour ruptured membranes (not in labour).

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2) Contraindications to use nifedipine.

- Allergy to nifedipine.
- Maternal cardiac disease.
- Hypotension (bp <90/50).
- Hepatic dysfunction.
- Concurrent use of IV salbutamol.
    - If IV salbutamol has previously been used, Nifedipine should not be commenced until the cardiovascular changes and symptoms associated with salbutamol use have been resolved.
- Concurrent use of $MgS0_4$.

RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

RHW Clinical Policies, Procedures & Guidelines: Preterm Labour Management

REFERENCES

Policy directive: Maternity - Tocolytic agents for threatened preterm labour before 34 weeks gestation. PD2011-_025, 4/5/11. NSW Health.

Tocolysis for Women in Preterm Labour. RCOG Green TOP Guideline February 2011.

REVISION & APPROVAL HISTORY

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