Intravenous Glycerol Trinitrate (GTN)

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Purpose
To ensure the accurate/safe administration for continuous infusions of intravenous Glycerol Trinitrate by authorised personnel.

Scope
CDHB IV Certificated staff/approved persons with cardiac monitoring experience, Medical practitioners.

Associated documents
- Cardiology IV Medication & IV Infusion Protocols, 3rd Edition 2014
- Notes on Injectable Drugs 6th Edition 2010

Important Information
- Patients on a GTN infusion require strict bed rest to decrease the myocardial workload.
- Continuous cardiac monitoring is required during GTN infusion. Medical staff must document any exception to this in the patient’s clinical notes.
- Use non-PVC 5% Glucose bags and low sorbing PE/PVC tubing (blue) infusion line.
The infusion must be administered via an electronic infusion pump.

**Medical Officers Responsibilities**

- Obtain verbal consent from the patient and document this within the clinical record.
- Document in patients clinical notes where cardiac monitoring is not required.
- Identify blood pressure parameters on prescription/clinical notes.
- Identify titration intervals on prescription.
- Discuss with the nurse as to the stage they wish to be notified, i.e. if there is no improvement in the patient’s condition.

**Infusion Considerations**

- GTN infusion is commenced at a rate of 3 mL/hr and titrated up by 3mL every five minutes until the patient is pain free or the patient’s BP is <90mmHg systolic.
- Once a blood pressure response is noted, the dose increase should be reduced and the interval between increases is lengthened according to medical orders. Use documented pain scale recordings.

**Procedural considerations**

Ensure the patient has

- Continuous cardiac monitoring.
- A baseline 12-Lead ECG is performed (inform Medical Officer).
- Repeat the ECG and notify the doctor again in the following circumstances:
  - If there is any increase in their chest discomfort.
  - The patient’s pain is unrelieved following several increases of the hourly rate as per prescription.
  - If there is any other deterioration in the patient's condition during administration of the medication, e.g. the patient becomes pale, grey, dizzy, diaphoretic and/or vomiting.
- Hourly peripheral IV site checks/phlebitis scoring must be performed.
- Baseline observations are documented (especially BP and pulse) and observations are monitored every:
  - 5 minutes while titration occurs.
During/Post Monitoring

- When the patient is pain free, the infusion continues at that rate per hour unless it is causing side effects or the rate is decreased on medical orders.
- Advise the patient of the side effects. These include hypotension, headache (sometimes throbbing), flushing, dizziness, weakness, tachycardia, palpitations, fainting, nausea, vomiting, cutaneous vasodilatation and rash.
- When patient is free of chest discomfort, vital signs can be taken four hourly or more frequently as the patient’s condition dictates.
- The infusion is weaned on medical instructions, usually by 3mL increments every five to 15 minutes. Watch for a significant rise in blood pressure or return of symptoms during the weaning process.
- Remember that IV GTN infusion for more than 24 hours may result in Nitrate tolerance.

Measurement/Evaluation

Incident management system, Canterbury and West Coast IV Link
Clinical practice observation programme

References

- Notes on Injectable Drugs 6th Edition 2010, Published by New Zealand Hospital Pharmacists' Association (Inc), Wellington
  Editors : Broughton, L.Kendall, P., Livesey, J. Dean, N. Harden, Beven. Durrant, H.,Egan, A. McRae, G., Chalmers, G.
- DBL @Glyceryl Trinitrate for Injections - Data Sheet(date 2008) Published by New Zealand Medicines and Medical Devices Safety Authority.
- DBL @Glyceryl Trinitrate for Injections drug information sheet, Hospira NZ Limited, Wellington

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