METARAMINOL

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.

1. AIM

- To safely prescribe and administer Metaraminol

2. PATIENT

- Women requiring treatment of hypotension

3. STAFF

- Medical, midwifery and nursing staff

4. SETTING

- Only administer in the Acute Care Centre, Recovery and Operating Theatres

5. EQUIPMENT

- Metaraminol 10 mg/mL ampoule

6. CLINICAL PRACTICE

Initial treatment is usually with a bolus.
Note, only medical staff currently working in Anaesthetics and Critical Care may prescribe and administer Metaraminol

Prescribing:

- Dilute 10mg Metaraminol (=1ml) with 19 mL sterile 0.9% Sodium Chloride, to give a concentration of 0.5mg/mL and total volume of 20mls
- Administer 1mL (0.5mg) as a push, followed with a flush of 10-20 ml of IV saline
- Assess blood pressure after 2 – 3 minutes, if nil response, administer a further 1ml and again re-assess the BP, additional doses may be given

Infusion
If ongoing metaraminol is required, prescribe as outlined below:

- Prescribe 20mg (=2mL) Metaraminol in 38mL sterile 0.9% sodium chloride. This gives a total volume of 40mls with a concentration 0.5mg/ml
- Prescribe Metaraminol infusions on the NSW Health Fluid Order Chart in consultation with an Anaesthetic Registrar, Fellow or Consultant. Prescriptions should include clear instructions about the aim and target blood pressure.
  The infusion rate should be commenced at the discretion of the Critical Care or Anaesthetic Medical Staff prescribing the infusion (Infusions are usually commenced at 2-5mls/hr)
- Titrate the infusion by 1ml/hr every 15 -30 minutes to a maximum rate of 12 mL per hour, to achieve the set blood pressure parameters. If maximum rate of 12 mLs/hr is not achieving desired blood pressure consider escalating care to Prince of Wales Hospital.
- Consider additional boluses, as they may be given during the infusion. An indicative bolus would be 1ml (0.5mg) and should be given under direct instruction and prescription of the Critical Care or Anaesthetic Medical Staff. Acute Care Nursing staff trained in bolus delivery may initiate one bolus 0.5mg/hour to achieve target blood pressure. Boluses must be charted on the fluid balance chart and in the clinical notes.

…./2

METARAMINOL cont'd

- Document the parameters by which nursing staff are permitted to titrate the rate of infusion
- Reassess the patient's intravascular fluid status and consider the need for central venous cannulation, central ionotropic agents (such as. noradrenaline infusion) via Central Venous Cannula and Intensive Care Review if the infusion exceed 12mls/hr.

Administration:

- Draw up 20mg Metaraminol and mix with 38ml of sterile 0.9% Sodium Chloride. This gives a total volume of 40mls with a concentration 0.5mg/ml
- Deliver through a syringe driver to maintain a constant delivery
- Infuse via a dedicated non reflux line where the Metaraminol is attached directly to the cannula or lumen of a central venous catheter. Do not attach a two way infusion as an inadvertent bolus may be delivered
- Ensure an arterial line is inserted to observe blood pressure closely
- Titrate the infusion (either increasing or decreasing) by 1 mL (=0.5mg) every 20 minutes to meet the prescribed parameters

Monitoring:

- Monitor patients requiring Metaraminol infusions in the Acute Care Centre
- Ensure patient is placed on continuous ECG and oxygen saturation monitor
- Monitor Blood Pressure (BP) every 15 minutes until stable and then monitor BP every hour
- Ensure correct skill mix, and nurse to patient ratio before attempting to wean Metaraminol
- Escalate per Rapid Response criteria when required, and if woman is unable to maintain blood pressure despite Metaraminol infusion escalate to Code Blue/Prince of Wales Code Blue as required.

7. DOCUMENTATION

- Integrated Clinical Notes
- Observation Chart
- NSW Health fluid order chart

8. EDUCATIONAL NOTES

Metaraminol

Action:

- A potent sympathomimetic amine that increases both systolic and diastolic blood pressure due its peripheral vasoconstrictor action.
- The pressor effect begins one to two minutes after intravenous injection with peak effect at 10 minutes and lasts about 20 minutes to one hour.

Contraindications:

- Hypersensitivity

Precautions:

- Avoid abrupt withdrawal.
- Avoid large bolus doses.
- Use cautiously in patients with asthma due to risk of allergy to sulphides.
- Used with caution in digitalised patients, since the combination of digitalis and sympathomimetic amines is capable of causing ectopic arrhythmic activity.
- Monoamine oxidase inhibitors (MAOIs) and tricyclic antidepressants (TCAs) have been reported to potentiate the action of sympathomimetic amines.

METARAMINOL cont'd

Adverse reactions:

- Avoid excessive blood pressure response causing acute pulmonary oedema, cardiac arrhythmias or arrest.
- Prolonged usage may cause excessive vasopressor response with elevated blood pressure even when therapy is discontinued.
- Because of the vasoconstrictor effect it should be used with caution in the presence of heart or thyroid disease, hypertension or diabetes.
- Tissue necrosis if extravasation occurs.
- Long periods of usage which may cause perpetuation of shock state due to vasoconstriction. Therefore blood or plasma volume expanders should be used when the principle reason for hypotension or shock is decreased circulating volume.

9. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Medication- Administration
- Labelling of injectable medicines, lines, fluids
- Acute Care – Patient Acuity Guide

10. RISK RATING

- **High**

11. NATIONAL STANDARD

- **MS - Medication Safety**

12. REFERENCES

- Australian Injectable Drugs Handbook, 7th Edition, Society of Hospital Pharmacists of Australia 2019. Accessed 28/08/2019
- MIMS online accessed via CIAP on 28/08/2019

REVISION & APPROVAL HISTORY

Reviewed and endorsed Therapeutic & Drug Utilisation Committee March 2020
(Author: A/Co-Medical Head, Anaesthetics)
Approved Quality & Patient Care Committee 16/8/18
Reviewed and endorsed Therapeutic & Drug Utilisation Committee 10/7/18
(Author:A/Co-Medical Head, Anaesthetics)
Approved Quality & patient Care Committee 5/5/18
Reviewed and endorsed Therapeutic & Drug Utilisation Committeee 12/5/16
Approved Quality & Patient Safety Committee 20/6/13
Therapeutic & Drug Utilisation Committee 11/6/13

FOR REVIEW : APRIL 2022