Adult Ketamine Infusions

Policy

Ketamine infusions in Adults will be initiated and managed as per the following policy.

Purpose

To promote safe IV ward based infusion of Ketamine as an analgesic agent.

Scope

- Surgical Inpatient Services under the Acute Pain Management Service (APMS)
- Registered Nurses/Midwives with Canterbury IV Certification (Level 1 or 2), Approved persons in the above Surgical Inpatient Services
- Anaesthetist or designated APMS Medical Personnel (for Prescribing rights)
Associated documents

- Drug Treatment Sheet (QMR0004)
- Notes on Injectable Drugs
- Area specific Drug chart
- The Blue Book
- Adult Observation Chart C280010
- Adult Ketamine infusion form C260108

Background

Ketamine is an anaesthetic agent with analgesic effects in sub anaesthetic doses. It blocks excitatory nerve activity at the N-methyl-D-aspartate (NMDA) receptors in the spinal cord. These receptors are particularly active in hyperalgesic states. Ketamine administered as a continuous IV infusion may improve analgesia and reduce opioid requirements. The doses ordered for pain management are much lower than anaesthetic doses.

Indications for use

- Opioid tolerant patients
- Neuropathic pain
- Inadequate analgesic despite opioid therapy (e.g. as an adjunct to opioid PCA)
- Expected severe post op pain

Contraindications

- Known allergy to Ketamine
- Ketamine being used concomitantly in PCA

Important considerations

The prescriber and administrator should be cognisant of any pre-existing conditions the patient has which puts the patient at risk of adverse effects. These conditions include:

- Raised intracranial pressure
- Psychiatric conditions
- Uncontrolled hypertension
- Coronary artery disease
- Delirium
Recommended prescribing format

- Ketamine infusions must **only be prescribed by the APMS**
- **Use only premixed ketamine 100 mL polybags (1 mg per mL)**
- The recommended starting dose is 0.1-0.2 mg/kg/hr. (maximum rate 15 mg/hr. = 15 mL/hr. regardless of weight.)
- Infusions are usually run for 24-48 hours
- Ketamine infusions are administered via a dedicated Ketamine infusion Gemstar pump (grey colour coded)
- Ketamine infusions can be used concomitantly with intravenous or oral opioids (e.g. for a patient on morphine or Fentanyl PCA)

Observations and monitoring

- Monitoring must include full set of observations, including a sedation and pain score with a EWS calculation
- Hourly for **first four hours** following infusion commencement
- Four hourly thereafter if observations are stable.

Adverse effects and their management

- **Neurological**- agitation, vivid dreams, hallucinations floating sensation and drowsiness
- **Cardiovascular**- Ketamine may increase heart rate or blood pressure
  - Note: At the suggested dose range (0.1-0.2 mg/Kg/hr.) these adverse effects are unlikely
- If any of the above adverse effects occur contact the Acute Pain Management Service
- Management options for adverse effects may include reducing or stopping the Ketamine infusion.

Contact details

**CHRISTCHURCH CAMPUS under the APMS (Acute Pain Management Service)**

- Normal working hours
  - Medical Surgical Division APMS Nurse, **page 8114**
  - Gynaecology APMS Nurse, **page 7015**
  - Duty Anaesthetist, **page 8120**.
- After hours
  - On call Anaesthetic Registrar, **page 8212**
– On call Anaesthetist via telephone office.

**Measurement/Evaluation**

Ongoing evaluation of any variances to the policy will be undertaken by the Acute Pain Management Service.

**References**

- Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2010), Acute Pain Management Scientific Evidence, Second edition

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<th>Acute Pain Management Service</th>
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<td>Policy Authoriser</td>
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