Metoclopramide – Palliative Care (Adults)

Contents

1. Overview

Purpose

This protocol outlines the administration, prescribing and monitoring of metoclopramide at Te Whatu Ora - Waitematā.

Scope

All medical and nursing staff.

⚠ This guideline is for use in Palliative Care ONLY.

2. Presentation

Metoclopramide 10mg tablets
Metoclopramide 10mg/2ml ampoules

3. Indications

Licensed:

- Nausea and vomiting particularly in gastrointestinal disorders i.e. gastric irritation and delayed gastric emptying.[1, 2]
- Nausea and vomiting associated with chemotherapy, radiotherapy, malignancy, dysmotility, dyspepsia, heartburn and migraine.[2]

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Unlicensed

- Intractable hiccups.[2]

Unlicensed route of administration

- Subcutaneous use (but widely practiced worldwide).

4. Contraindications and Precautions

Contraindications[1, 2, 6]

- Mechanical bowel obstruction
- Bowel perforation
- Gastrointestinal haemorrhage
- Phaeochromocytoma
- Acute porphyria
- Avoid within 3 days of gastrointestinal surgery
- Hypersensitivity to metoclopramide.

Precautions[1, 2, 6]

- Parkinson's disease
- History of seizures/epilepsy
- Moderated-severe renal or severe hepatic impairment (dose adjustment may be required)
- Cardiac disease
- Hypertension
- Dystonic reactions, especially in the elderly and young adults <20 years of age.

5. Mechanism of action

Metoclopramide is a combined dopamine (D2) receptor antagonist and serotonin (5HT4) receptor agonist which acts on the chemoreceptor trigger zone in the area postrema in the brain and the upper gastrointestinal tract. In doses over 100mg subcut it manifests 5HT3 antagonism. It increases upper gut motility and gastric emptying without stimulating gastric, biliary or pancreatic secretions. It also increases lower oesophageal sphincter tone.[2, 3] Metoclopramide is metabolized in the liver mainly by the CYP2D6 enzyme and eliminated mainly by the kidneys.[2]

6. Dose

Indication	Oral	Parenteral (IV/Subcut)	Via Syringe driver
Gastric Stasis	10mg TDS – QID	10mg q6H – q8H	30mg subcut over 24 hours (up to 100mg/24hr)
Functional Bowel obstruction due to Ileus/dysmotility without colic	10mg TDS – QID	10mg q6H – q8H ***(preferred route)***	30 – 60mg subcut over 24 hours (up to 100mg/24hr)
Medication-induced nausea and vomiting	10mg TDS – QID	10mg q8H ***(preferred route)***	30mg – 60mg subcut over 24 hours

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- The oral (PO), subcutaneous (subcut) and intravenous (IV) doses are the same.
- Patients with nausea and vomiting should be given anti-emetics regularly to prevent symptoms. Use the parenteral route if oral absorption is compromised by vomiting.
- Dose reductions of up to 50% may be necessary in patients with severe renal impairment (CrCl <30ml/min) or severe cirrhosis.

⚠ Metoclopramide is licensed for a maximum daily dose of 30mg daily in New Zealand.[1]
However, doses of up to 100mg over 24 hours are commonly used in selected patients.[2]

Note: In the last days of life, consider switching metoclopramide (unless if there is a strong indication to continue it) to another anti-emetic (e.g. haloperidol), particularly in anticipated or present delirium. This is due to metoclopramide's potential adverse effects (restlessness, anxiety and agitation).

7. Administration

7.1 Diluent

- For subcutaneous bolus / IV administration metoclopramide does not need to be diluted[4]
- When added to a syringe driver the recommended diluent is water for injection.[2]

7.2 Additional Equipment

- Subcutaneous Saf-T-Intima single lumen [ADM140] (*see Te Whatu Ora – Waitematā Policy Palliative Care- Subcutaneous Site Selection, Insertion and Monitoring of BD Saf-T-Intima Cannula*)
- Continuous subcutaneous infusion pump (Niki T34) if required.

7.3 Compatibility

Compatible with

- Water for injection, 0.9% sodium chloride, morphine tartrate, morphine sulfate, levomepromazine, midazolam, dexamethasone, methadone, octreotide, ondansetron, ketamine, haloperidol, glycopyrrolate, fentanyl, oxycodone, clonazepam[4, 5, 6, 7]
- Although compatible, combination with hyoscine butylbromide or hyoscine hydrobromide is usually best avoided as the prokinetic effect of metoclopramide is theoretically inhibited by hyoscine.[6]

Incompatible with

- Cyclizine - crystallization may occur if metoclopramide is mixed at higher concentrations with cyclizine. In addition, prokinetic effect of metoclopramide is inhibited by cyclizine. This combination is best avoided.[6]

⚠ Do not use if the solution is cloudy or a precipitate is present.

7.4 Administration Procedure

- Inject through a Saf-T-Intima or directly via a subcutaneous needle.

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- The Saf-T-Intima should be flushed with 0.2mL of water for injection after administration of medication.
- Can be administered via a continuous subcutaneous infusion pump (Niki T34).

8. Observation and Monitoring

- Observe patients for dystonic reactions (e.g. muscle twitching, involuntary movements) and akathisia (restlessness).
- Observe for increasing colic pain.
- Observe for increased frequency of vomiting.

9. Adverse effects

Occur in ~10% of patients:

- Restlessness
- Drowsiness, Fatigue / lassitude.

Less common:

- Insomnia
- Headache
- Dizziness
- Bowel disturbances – including diarrhoea
- Anxiety or agitation may occur, especially after rapid injection
- Extrapyramidal reactions
- Tardive dyskinesia
- Parkinsonian symptoms.

Very rare (<1 in 10 000)

- Neuroleptic malignant syndrome. [1, 4]

10. Drug Interactions

- Anticholinergic drugs (e.g. hyoscine) and opioids may antagonise the gastric emptying effect of metoclopramide.[1, 2]
- Ondansetron – combination of IV ondansetron with IV metoclopramide occasionally causes cardiac arrthymias.[2]
- Levodopa – metoclopramide can increase the rate of levodopa absorption but may also antagonise its effects due to its extrapyramidal side effects.[1]
- Metoclopramide may increase the absorption of some medications from the small bowel e.g. paracetamol, diazepam, tetracycline, ciclosporin.[1]
- Metoclopramide may reduce the absorption of some medications from the stomach e.g. digoxin, penicillin.[1]
- Additive sedative effects can occur when metoclopramide is administered with alcohol, sedatives, hypnotics or opioids.[1]
- Antidepressants with serotonergic activity e.g. increased risk of extrapyramidal effects and serotonin syndrome when given with SSRIs (e.g. fluoxetine, paroxetine) or venlafaxine (rare).[1, 2]

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11. References

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