PHARMACY PROFILE: Cyclizine

Key Messages

- Always consider reversible causes of nausea and vomiting, which may be multifactorial, before starting an antiemetic. Cessation of medications that can cause nausea and vomiting may be considered.
- Antiemetics that can be administered by the subcutaneous route are used in palliative care for practical reasons.
- Cyclizine is reserved for use when other antiemetics (e.g. metoclopramide, 5-HT3 receptor antagonists, haloperidol and other antihistamines) failed to control nausea and vomiting.
- Cyclizine may be used in combination with other antiemetics.

Cyclizine is a histamine H1 receptor antagonist. It is classified as a sedating antihistamine with anticholinergic effects, although its sedative effects are comparatively slight. Cyclizine is effective for preventing postoperative nausea and vomiting, and is comparable to other antiemetics such as ondansetron, granisetron and droperidol. It is used in palliative care for nausea vomiting due to mechanical bowel obstruction, raised intracranial pressure, and motion sickness. Cyclizine is not recommended for children less than 6 years of age and there have been no studies in the elderly.

The recommended adult dose of cyclizine is 50 mg PO (Nausicalm®) or IV/SC (Valoid®) every four hours up to three times a day. Oral cyclizine is absorbed from the gastrointestinal tract and has an onset of action within 2 hours. The duration of action is reported to be about 4 hours. Cyclizine is metabolised in the liver to the relatively inactive metabolite, norcyclizine. Both cyclizine and norcyclizine have plasma elimination half-lives of 20 hours.

Due to its anticholinergic effects, cyclizine may worsen glaucoma and urinary retention. Caution is recommended in patients with glaucoma, obstructive disease of the intestine, liver disease, epilepsy and prostatic hypertrophy. Cyclizine should be used with care in patients with asthma or chronic obstructive pulmonary disease as it may cause thickening of bronchial secretions. It may potentiate the adverse effects of other anticholinergic drugs.

Considerations for use in palliative care

- Nausea can be persistent or intermittent in palliative care patients.
- Always consider reversible causes of nausea and vomiting, which may be multifactorial, before starting an antiemetic. Cessation of medications that can cause nausea and vomiting may be considered.
- Anxiety related nausea may be controlled with behavioural measures such as meditation and cognitive behavioural therapy and if clinically appropriate, small dose of anxiolytics may be trialled.
- Antiemetics that can be administered by the subcutaneous route are used in palliative care for practical reasons in cases of swallowing difficulty.

- Cyclizine is not PBS listed and not considered the first line treatment. It can be used when other agents have failed to control nausea and vomiting in palliative care.
  - For many this would mean that its availability is prohibitive. In South Australia Cyclizine has a streamlined Non Formulary Approval for patients who have protracted nausea and had no response to Ondansetron, Droperidol and Dexamethasone or that these are contraindicated. (other states may also have similar schemes).

**Tips for palliative care nurses**

- It was reported that cyclizine tablets have been misused for their euphoric effects either alone or in combination with opioids. Abuse of cyclizine has been reported in cancer patients receiving it by injection to control chemotherapy or disease-related nausea. Cyclizine dependence has been suggested when it is used with opioids in the treatment of chronic pain. [1]

**Evidence of efficacy**

- Evidence of cyclizine use in palliative care is not well established.

- A Cochrane analysis of antiemetics in 10 studies of parenteral cyclizine [2] found that cyclizine reduced the risk of nausea by 65% and vomiting by 55%, compared to placebo. Overall, cyclizine’s antiemetic effect was similar to ondansetron. However in one study of boys having surgery for hypospadias, cyclizine was not superior to placebo. [3]

- A study of 30 women who were randomised to receive IV cyclizine or IV droperidol during surgery and then after with patient-controlled morphine showed that nausea scores were similar between treatments, with 3 patients in each group requiring extra antiemetics. [4]

- Cyclizine has been used concurrently with other antiemetics. A study of 960 women who underwent day surgery were administered intravenous cyclizine 50 mg, intravenous granisetron 1 mg, or both, before anaesthesia, found that postoperative nausea and vomiting were less common with combination treatment than with cyclizine or granisetron alone (17% vs 23% and 24%). [5]

**Safety**

- Sedation is a common side effect with cyclizine and it may be more pronounced with alcohol and other drugs that cause nervous system suppression such as sedatives and anaesthetics. Other adverse effects include dizziness, dry mouth, constipation, blurred vision, headache, somnolence, dyskinesia, tremor, convulsions, transient speech disorders and injection site reactions. Disorientation, restlessness, agitation, insomnia and hallucinations have also been reported.
• Cyclizine should be avoided in patients with acute myocardial infraction and severe heart failure due to its detrimental haemodynamic effects. It is a category B3 drug and its use in pregnancy and lactation is not recommended. [6]

• Agranulocytosis has been reported in a patient treated with cyclizine 50 mg three times daily for 6 weeks. The blood count normalised following the withdrawal of cyclizine. [7]

References


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Useful resources


• Contact your local pharmacist or hospital drug information service.

• National Prescriber Service Website - 'NPS MedicineWise' is an excellent resource for consumers and health professionals.