dolasetron (dol-a-se-tron)

Antiemetic
Therapeutic: antiemetics
Pharmacologic: 5-HT3 antagonists

Indications
PO: Prevention of nausea and vomiting associated with emetogenic chemotherapy.
IV: Prevention and treatment of postoperative nausea/vomiting.

Action
Blocks the effects of serotonin at receptor sites (selective antagonist) located in vagal nerve terminals and in the chemoreceptor trigger zone in the CNS. Therapeutic Effects: Decreased incidence and severity of nausea/vomiting associated with emetogenic chemotherapy or surgery.

Pharmacokinetics
Absorption: Well absorbed but rapidly metabolized to hydrodolasetron, the active metabolite.
Distribution: Unknown.
Metabolism and Excretion: 61% of hydrodolasetron is excreted unchanged by the kidneys.
Half-life: Hydrodolasetron—8.1 hr (shorter in children).

TIME/ACTION PROFILE (antiemetic effect)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>unknown</td>
<td>1–2 hr</td>
<td>up to 24 hr</td>
</tr>
<tr>
<td>IV</td>
<td>unknown</td>
<td>15–30 min</td>
<td>up to 24 hr</td>
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</tbody>
</table>

Contraindications/Precautions

Contraindicated in: Hypersensitivity; Prevention of nausea and vomiting associated with emetogenic chemotherapy (for IV only) (may risk of QT interval prolongation); Congenital long QT syndrome; Complete heart block (unless pacemaker present).

Use Cautiously in: Patients with risk factors for cardiac conduction abnormalities (underlying structural heart disease, sick sinus syndrome, atrial fibrillation and slow ventricular rate, myocardial ischemia, concurrent β-blocker, verapamil, diltiazem, or antiarrhythmic therapy); Hypokalemia, hypomagnesemia, concurrent therapy with diuretics, or history of cumulative high-dose antineoplastic therapy; Geri: ↑ risk for cardiac conduction abnormalities; OB: Lactation: Safety not established.

Adverse Reactions/Side Effects


Interactions

Drug-Drug: Concurrent diuretic or antiarrhythmic therapy or cumulative high-dose antineoplastic therapy may ↑ risk of cardiotoxic abnormalities. Blood levels and effects of hydrodolasetron are ↓ by β-blockers, verapamil, diltiazem, or antiarrhythmic therapy; blood levels and effects of hydrodolasetron are ↑ by rifampin. ↑ risk of QT interval prolongation with other agents causing QT interval prolongation.

Route/Dosage

Prevention of Chemotherapy-Induced Nausea/Vomiting
PO (Adults): 100 mg given within 1 hr before chemotherapy.

PO (Children 2–16 yr): 1.8 mg/kg given within 1 hr before chemotherapy (not to exceed 100 mg).

Prevention/Treatment of Postoperative Nausea/Vomiting
IV (Adults): Prevention or treatment—12.5 mg given 15 min before cessation of anesthesia (prevention) or as soon as nausea or vomiting begins (treatment).

IV (Children 2–16 yr): Prevention or treatment—0.35 mg/kg (up to 12.5 mg) given 15 min before cessation of anesthesia (prevention) or as soon as nausea or vomiting begins (treatment).

NURSING IMPLICATIONS

Assessment

- Monitor patient for nausea, vomiting, abdominal distention, and bowel sounds before and after administration.

- Monitor ECG for cardiac conduction abnormalities.

- Monitor electrolyte levels.

- Monitor for signs and symptoms of serious side effects (cardiovascular, psychiatric).

- Monitor patient for signs and symptoms of infection (e.g., chills, fever, malaise).

- Monitor patient for signs and symptoms of diarrhea.

- Assess for symptoms of QT interval prolongation (bradycardia, heart block, hypotension).

NURSE TAUGHT PATIENT/FAMILY

- Inform patient and family of the potential side effects of nausea, vomiting, abdominal distention, and diarrhea.

- Instruct patient and family to report any symptoms of QT interval prolongation (bradycardia, heart block, hypotension).

- Instruct patient and family to notify health care provider if symptoms of infection (e.g., chills, fever, malaise) occur.

- Instruct patient and family to notify health care provider if symptoms of diarrhea occur.

- Instruct patient and family to notify health care provider if symptoms of QT interval prolongation (bradycardia, heart block, hypotension) occur.

NURSE TAUGHT PATIENT/FAMILY EDUCATION

- Inform patient and family of the potential side effects of nausea, vomiting, abdominal distention, and diarrhea.

- Instruct patient and family to report any symptoms of QT interval prolongation (bradycardia, heart block, hypotension).

- Instruct patient and family to notify health care provider if symptoms of infection (e.g., chills, fever, malaise) occur.

- Instruct patient and family to notify health care provider if symptoms of diarrhea occur.

- Instruct patient and family to notify health care provider if symptoms of QT interval prolongation (bradycardia, heart block, hypotension) occur.

Dosing Information

- Oral: 100 mg (Adults)

- Oral: 1.8 mg/kg (Children 2–16 yr)

- Intravenous: 12.5 mg (Adults)

- Intravenous: 0.35 mg/kg (Children 2–16 yr)

- Intravenous: 0.35 mg/kg (up to 12.5 mg)
Monitor vital signs after administration. IV administration may be followed by severe hypotension, bradycardia, and syncope.

Monitor ECG in patients with HF, bradycardia, underlying heart disease, renal impairment and elderly patients.

Lab Test Considerations: Monitor serum potassium and magnesium prior to and periodically during therapy.

Potential Nursing Diagnoses
Imbalanced nutrition: less than body requirements (Indications)

Implementation

● Do not confuse Anzemet with Avandamet.

● PO:
  Administer within 1 hr before chemotherapy.

● Injectable dolasetron may be mixed in apple or apple-grape juice for oral dosing for pediatric patients. Recommended oral dose in patients 2 to 16 years of age is 1.2 mg/kg (maximum 100-mg) given within 2 hours before surgery. The diluted product may be kept up to 2 hours at room temperature before use. May be stored at room temperature for 24 hr before use.

IV Administration

● Correct hypokalemia and hypomagnesemia before administering.

● IV:
  Administer 15 min before cessation of anesthesia, or postoperatively if nausea and vomiting occur shortly after surgery.

● Direct IV:
  Diluent: May be administered undiluted.
  Concentration: 20 mg/mL.
  Rate: Administer 100 mg over at least 30 sec.

● Intermittent Infusion:
  Diluent: May be diluted in 50 mL of 0.9% NaCl, D5W, dextrose/saline combinations, D5/LR, or 10% mannitol solution. Solution is clear and colorless. Stable for 24 hr at room temperature or 48 hr if refrigerated after dilution.
  Concentration: 20 mg/mL.

● Y-Site Compatibility:
  acetaminophen, alfentanil, amifostine, amikacin, amiodarone, anidulafungin, argatroban, aztreonam, bivalirudin, bleomycin, bumetanide, buprenorphine, busulfan, butorphanol, calcium chloride, calcium gluconate, carboplatin, carmustine, caspofungin, ceftazidime, chlorpromazine, ciprofloxacin, cisplatin, clindamycin, cyclophosphamide, cyclosporine, doxorubicin, doxycycline, enalaprilat, ephedrine, epinephrine, epirubicin, epfitibatide, ertapenem, erythromycin, esmolol, etoposide, etoposide phosphate, famotidine, fenoldopam, fentanyl, fluconazole, fludarabine, gemcitabine, gentamicin, haloperidol, hetastarch, hydromorphone, idarubicin, ifosfamide, imipenem/cilastatin, irinotecan, isoproterenol, leucovorin calcium, levofloxacin, levorphanol, lidocaine, linezolid, lorazepam, magnesium sulfate, mannitol, mechlorethamine, meperidine, mesna, methotrexate, methylene blue, miconazole, midazolam, milrinone, mitomycin, mitoxantrone, morphine, moxifloxacin, mycophenolate, nalbuphine, naloxone, nesiritide, nicardipine, nitroglycerin, nitroprusside, octreotide, oxaliplatin, oxytocin, paclitaxel, pamidronate, pancuronium, pemetrexed, pentamidine, phenylephrine, potassium acetate, potassium chloride, procainamide, promethazine, prostaglandin E1, protamine, quinupristin/dalfopristin, ranitidine, rauwolfia, sodium acetate, streptozocin, suxamethonium, teniposide, tetrodotoxin, theophylline, thiopental, thiotepa, tigecycline, tirofiban, tobramycin, vancomycin, vecuronium, vencleaxam, verapamil, vinblastine, vincristine, vinorelbine, voriconazole, zoledronic acid.

● Y-Site Incompatibility: Manufacturer recommends not admixing with other medications.
  acyclovir.
  alemtuzumab.
  aminocaproic acid.
  aminophylline.
  amphotericin B colloidal.
  amphotericin B lipid complex.
  amphenicomb AM.
  amphenicomb LI.
  pantoprazole.

Patient/Family Teaching

● Advise patient to notify health care professional if nausea or vomiting occurs.

● Advise patient to notify health care professional if symptoms of abnormal heart rate or rhythm (racing heart beat, shortness of breath, dizziness, fainting) occur.

Evaluation/Desired Outcomes

● Prevention of nausea and vomiting associated with emetogenic cancer chemotherapy.

● Prevention and treatment of postoperative nausea and vomiting.

Why was this drug prescribed for your patient?