**didanosine** (die-dan-o-seen)

**Videx, Videx EC**

**Pharmacologic class:** Nucleoside reverse transcriptase inhibitors

**Indications**

Antiretroviral therapy for treatment of HIV infection (with other antiretrovirals). Indications for prevention of primary infection are not established.

**Pregnancy Category B**

**Contraindications/Precautions**

**Contraindicated in:** Hypersensitivity; History of seizures; Diabetes mellitus; Renal impairment; History of gout; Fat redistribution, hyperglycemia.

**Use Cautiously in:** History of pancreatitis; History of bone marrow depression.

**Lactation:** Use cautiously.

**Drug Interactions**

**Drug-Food:** Administration with food decreases oral absorption by 50%.

**Drug-Drug:** Concurrent use with ganciclovir, lamivudine, or zidovudine is contraindicated (risk of lactic acidosis, hyperlactatemia, severe bone marrow depression, and lactic acidosis).

**Mechanism of Action:** Inhibits viral replication by interfering with viral RNA-directed DNA polymerase (reverse transcriptase). Converted intracellularly by the phosphorylation process to its active form.

**Pharmacokinetics**

**Absorption:** Rapidly degrades at gastric pH.

**Distribution:** CSF levels are 21% of plasma levels in adults. Rapidly degrades at gastric pH.

**Elimination:** Metabolized as a purine; 55% eliminated by the kidneys (18% as unchanged drug; urinary excretion is less in children). Metabolic and Excretion: Metabolized as a purine; 55% eliminated by the kidneys (18% as unchanged drug; urinary excretion is less in children).

**Half-life:** 1.6 hr (0.8 hr in children).

**TIME/ACTION PROFILE (antiretroviral plasma levels)**

**PO**

- **Adults:** 120 mg q 12 hr.
- **Children (6–18 yr and ≥20 kg):** Videx EC capsules—200 mg once daily; Videx EC capsules—400 mg once daily.
- **Children (≥20 kg):** Oral solution—60 mg/m² q 12h.

**Drug Reactions/Side Effects**

**CNS:** Headache, dizziness, insomnia, vertigo, paresthesia.

**Resp:** Hyperventilation, respiratory distress.

**CV:** Hypertension, fever.

**GI:** Flatulence, stomatitis.

**GU:** Rhinitis, conjunctivitis, retinal depigmentation, sialoadenitis.

**MS:** Fat redistribution, hyperglycemia.

**EENT:** Conjunctivitis, rhinitis, ear pain, optic neuritis, parotid gland enlargement, photophobia, photophobia, photophobia.

**Skin:** Rash, pruritus.

**Other:** Muscle cramps, lactic acidosis.

**Adverse Reactions/Side Effects**

**Contraindicated in:** Hypersensitivity; Use Cautiously in: History of seizures; Diabetes mellitus; Fat redistribution, hyperglycemia.

**Lactation:** Use cautiously.

**Drug Interactions**

**Drug-Food:** Administration with food decreases oral absorption by 50%.

**Drug-Drug:** Ribavirin or allopurinol.

**Concurrent use with ganciclovir, lamivudine, or zidovudine is contraindicated (risk of lactic acidosis, hyperlactatemia, severe bone marrow depression, and lactic acidosis).**

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**Lactation:** Use cautiously.
Renal Impairment

PO (Adults ≥60 kg): CCr 30–59 mL/min—Oral solution—100 mg q12 hr or 200 mg once daily; Videx EC capsules—200 mg once daily; CCr 10–29 mL/min—Oral solution—150 mg once daily; Videx EC capsules—125 mg once daily; CCr 10 mL/min—Oral solution—100 mg once daily; Videx EC capsules—125 mg once daily.

PO (Adults <60 kg): CCr 30–59 mL/min—Oral solution—75 mg q12 hr or 150 mg once daily; Videx EC capsules—125 mg once daily; CCr 10–29 mL/min—Oral solution—100 mg once daily; Videx EC capsules—125 mg once daily; CCr 10 mL/min—Oral solution—75 mg once daily; Videx EC capsules—not to be used.

NURSING IMPLICATIONS

Assessment

● Monitor for change in severity of HIV symptoms and for symptoms of opportunistic infections before and during therapy.

● Monitor patient for peripheral neuropathy (distal numbness, tingling, or pain in feet or hands) during therapy. Dose may need to be decreased.

● Monitor for symptoms of pancreatitis (abdominal pain, nausea, vomiting, increased amylase, lipase, or triglyceride concentrations). If amylase is elevated 3–5 times the normal limit and/or the patient has symptoms of pancreatitis, didanosine should be discontinued. Pancreatitis may be fatal.

● May cause lactic acidosis and severe hepatomegaly with steatosis; increased risk in patients who are female, obese, or receiving nucleoside analog medications for extended periods of time. Monitor patient for signs (increased serum lactate levels, elevated liver enzymes, liver enlargement on palpation). Therapy should be suspended if clinical or laboratory signs occur.

● Assess for signs of non-cirrhotic portal hypertension (elevated liver enzymes, esophageal varices, hematemesis, ascites, and splenomegaly); may occur months or years after starting therapy. Monitor for early signs (thrombocytopenia and splenomegaly) during therapy. Discontinue didanosine if signs occur; may lead to liver transplantation or death.

● Lab Test Considerations: Monitor viral load and CD4 count before and routinely during therapy to determine response. Monitor BUN, creatinine, and electrolyte concentrations during therapy. May cause leukopenia, granulocytopenia, thrombocytopenia, and anemia. May cause AST, ALT, alkaline phosphatase, bilirubin, and triglyceride concentrations. Lactic acidosis may occur with hepatic toxicity causing hepatic steatosis; may be fatal, especially in women. Monitor liver enzymes, serum bilirubin, albumin, complete blood count, and international normalized ratio (INR) and ultrasonography routinely; may be fatal in patients with non-cirrhotic portal hypertension.

● Monitor serum potassium concentrations routinely before therapy. Serum bilirubin, albumin, complete blood count, and INR should be considered. VIDEX should be discontinued in patients with evidence of non-cirrhotic portal hypertension.

Potential Nursing Diagnoses

Risk for infection (Indications) (Side Effects)

Implementation

● Commonly identified by abbreviation “ddI,” but generic and brand names should be used when ordering to prevent errors.

● If solution or powder spills or leaks, a wet mop or damp sponge should be used for cleaning to avoid generation of dust. Clean surface with soap and water as needed.

● PO: Administer every 12 hr on an empty stomach, 30 min before or 2 hr after meals. Do not administer for extended periods of time with food. Do not administer with antacids, digoxin, tetracyclines, or fluoroquinolones.

● Swallow capsules whole; do not open, crush, or chew.

● Solution for pediatric use is mixed by pharmacist and is stable for 30 days if refrigerated. Shake admixture immediately before administering.

Patient/Family Teaching

● Instruct patient on the importance of taking didanosine exactly as directed, even if feeling better. Caution patient not to share or trade this medication with others.

● MANAGE ADVERSE REACTIONS:

1. Monitor for the importance of taking didanosine exactly as directed, even if feeling better. Caution patient not to share or trade this medication with others.

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didanosine

- Instruct patient to notify health care professional immediately if symptoms of lactic acidosis (tiredness or weakness, unusual muscle pain, tender breathing, stomach pain with nausea and vomiting, cold especially in arms or legs, dizziness, fast or irregular heartbeat) or if signs of hepatotoxicity (yellow skin or whites of eyes, dark urine, light-colored stools, loss of appetite for several days or longer, nausea, abdominal pain) occur. These symptoms may occur more frequently in patients that are female, obese, or have been taking medications like didanosine for a long time.

- Instruct patients to avoid crowds and persons with known infections.

- Advise patient to notify health care professional immediately if numbness or tingling of the hands or feet occurs.

- Caution patient to use a condom to prevent transmission of HIV and not to share needles with anyone.

- Inform patient that redistribution and accumulation of body fat may occur, causing central obesity, dorsocervical fat enlargement (buffalo hump), peripheral wasting, breast enlargement, and the cushingoid appearance. The cause and long-term effects are not known.

- Children should have dilated retinal exams every 3–6 mo or if there is a change in vision throughout therapy.

- Emphasize the importance of regular exams to monitor for side effects.

Evaluation/Desired Outcomes

- Decreased incidence of opportunistic infection and slowed progression of HIV infection.

Why was this drug prescribed for your patient?