alogliptin (al-oh-glip-tin)

**Name**

**Classification**

Therapeutic: antidiabetics
Pharmacologic: dipeptidyl peptidase-4 (DDP-4) inhibitors

**Pregnancy Category** B

**Indications**

Adjunct with diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.

**Action**

Acts as a competitive inhibitor of dipeptidyl peptidase-4 (DDP-4) which slows the inactivation of incretin hormones, thereby increasing their concentrations and reducing fasting and postprandial glucose concentrations. Therapeutic Effects: Improved control of blood glucose.

**Pharmacokinetics**

**Absorption:** Completely absorbed following oral administration (100%).
**Distribution:** Well distributed into tissues.
**Metabolism and Excretion:** Not extensively metabolized, 76% excreted unchanged in urine.
**Half-life:** 21 hr.

**TIME/ACTION PROFILE (inhibition of DDP-4)**

<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>24 hr</td>
</tr>
</tbody>
</table>

†Multiple dosing.

**Contraindications/Precautions**

Contraindicated in: Type 1 diabetes; Diabetic ketoacidosis; Previous severe hypersensitivity reactions.

Use Cautiously in:
- Liver disease;
- Geri: Elderly patients may have decreased sensitivity to effects;
- Lactation: Use cautiously;
- OB: Use during pregnancy only if clearly needed; Pedi: Safe and effective use has not been established.

**Adverse Reactions/Side Effects**

CNS: headache.
GI: hepatotoxicity, pancreatitis, nausea, vomiting, diarrhea, abdominal pain.
Misc: hypersensitivity reactions including anaphylaxis, angioedema, severe cutaneous reactions including Stevens-Johnson syndrome.

**Interactions**

Drug-Drug: ↑ risk of hypoglycemia with sulfonylureas and insulin, dose adjustments may be necessary.

**Route/Dosage**

**PO (Adults):** 25 mg once daily.

**Renal Impairment**

**PO (Adults):**
- CCr 30 mL/min–60 mL/min: 12.5 mg once daily;
- CCr 30 mL/min: 6.25 mg once daily.

**NURSING IMPLICATIONS**

**Assessment**

- Observe for signs and symptoms of hypoglycemic reactions (abdominal pain, sweating, headache, tremor, tachycardia, anxiety).
- Monitor for signs of pancreatitis (nausea, vomiting, anorexia, persistent severe abdominal pain, sometimes radiating to the back) during therapy. If pancreatitis occurs, discontinue alogliptin and monitor serum and urine amylase and amylase/creatinine clearance ratio, electrolytes, serum calcium, glucose, and lipase.
- Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome, toxic epidermal necrolysis, or if accompanied with fever, general malaise, fatigue, muscle or joint aches, blisters, oral lesions, conjunctivitis, hepatitis, or eosinophilia.

**Lab Test Considerations:** Monitor hemoglobin A1C prior to and periodically during therapy.

**Nursing Considerations**

- Patients stabilized on a diabetic regimen who are exposed to stress, fever, trauma, infection, or surgery may require administration of insulin.
- PO: May be administered without regard to food.

**Potential Nursing Diagnoses**

- Imbalanced nutrition: more than body requirements (Indications)
- Noncompliance (Patient/Family Teaching)

**Implementation**

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**PO (Adults):** 25 mg once daily.

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**PO (Adults):**
- CCr 30 mL/min–60 mL/min: 12.5 mg once daily; CCr < 30 mL/min: 6.25 mg once daily.

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Patient/Family Teaching

- Instruct patient to take alogliptin as directed. Take missed doses as soon as remembered, unless it is almost time for next dose; do not double doses. Advise patient to read Medication Guide before starting and with each Rx refill in case of changes.
- Explain to patient that alogliptin helps control hyperglycemia but does not cure diabetes. Therapy is usually long term.
- Instruct patient not to share this medication with others, even if they have the same symptoms. It can harm others.
- Encourage patient to follow prescribed diet, medication, and exercise regimen to prevent hyperglycemic or hypoglycemic episodes.
- Review signs of hyperglycemia and hypoglycemia with patient. If hyperglycemia occurs, advise patient to take a glass of orange juice or 2–3 tsp of sugar, honey, or corn syrup dissolved in water, and notify health care professional.
- Instruct patient in proper testing of blood glucose and urine ketones. These tests should be monitored closely during periods of stress or illness and health care professional notified if significant changes occur.
- Advise patient to stop taking alogliptin and notify health care professional promptly if symptoms of hypersensitivity reactions (rash; hives; swelling of face, lips, tongue, and throat; difficulty in breathing or swallowing) or pancreatitis occur.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.

Evaluation/Desired Outcomes

- Improved hemoglobin A1C, fasting plasma glucose, and 2-hr post-prandial glucose levels.

Why was this drug prescribed for your patient?