perindopril (per-in-do-pril)

Action: perindopril is a prodrug (the active moiety is perindoprilat, the active metabolite). It inhibits angiotensin-converting enzyme (ACE). This inhibition lowers blood pressure by decreasing the concentration of angiotensin II, increasing the concentration of bradykinin, increasing plasma renin activity, and decreasing aldosterone levels. The end result is systemic vasodilation.

Indications

- Hypertension
- Stable coronary artery disease

Action

- Decrease in blood pressure
- Increase in plasma renin activity
- Decrease in aldosterone levels

Pharmacokinetics

- Absorption: 25% following oral administration
- Distribution: Crosses the placenta, may enter breast milk
- Metabolism: Converted to perindoprilat, the active metabolite
- Excretion: Primarily in urine
- Half-life: Perindoprilat: 3–10 hours (increased in renal impairment)

Contraindications/Precautions

- Hypersensitivity
- History of angioedema
- Concurrent use with aliskiren in patients with diabetes or moderate-to-severe renal impairment
- OB: Can cause injury or death of fetus. Discontinue immediately if pregnancy occurs.
- Lactation: Discontinue drug or use formula.
- Use Cautiously in renal impairment, hypovolemia, hyponatremia, concurrent diuretic therapy, Black patients, women of child-bearing potential, elderly patients

Adverse Reactions/Side Effects

- CNS: Dizziness, headache, weakness
- Resp: Cough
- CV: Hypotension
- GI: Diarrhea, dyspepsia
- GU: Impaired renal function
- Derm: Rashes
- F and E: Hyperkalemia
- MS: Back pain

Interactions

- Drug-Drug: Additive hypotension with other antihypertensives, risk of hyperkalemia with concurrent use of potassium supplements, potassium-containing salt substitutes, lithium, or angiotensin II receptor antagonists or aliskiren; avoid concurrent use in patients with diabetes or CCr < 60 mL/min. NSAIDs and selective COX-2 inhibitors may blunt the antihypertensive effect and the risk of renal dysfunction.

Route/Dosage

- Hypertension
  - PO (Adults): 4 mg once daily, or titrate to 16 mg/day
  - Stable Coronary Artery Disease
    - PO (Adults): 4 mg once daily

Use Cautionfully in: Renal impairment, hypovolemia, hypotension, concurrent diuretic therapy (titrate dosage recommended).

Black patients (monotherapy for hypertension less effective; may require additional therapy; higher risk of angioedema)

Role of Genetic Testing

- CAPI TALS indicate life-threatening, underline indicate most frequent. Strikethrough indicate discontinued.

Classification: Therapeutic: antihypertensives. Pharmacologic: ACE inhibitors

Pregnancy Category D

Canadian drug name:

Genetic Implication: CAPI TALS indicate life-threatening, underline indicate most frequent. Strikethrough indicate discontinued.
Renal Impairment

PO (Adults): CCr 30–60 ml/min — Initiate therapy at 2 mg once daily, may be slowly increased up to 4 mg once daily or in 2 divided doses; CCr <30 ml/min — Not recommended.

NURSING IMPLICATIONS

Assessment
- Monitor BP and pulse frequently during initial dose adjustment and periodically during therapy. Notify health care provider of significant changes.
- Monitor frequency of prescription refills to determine compliance.
- Lab Test Considerations: Monitor renal function. May cause ↑ BUN and serum creatinine.
- Monitor serum potassium periodically during therapy. May cause hyperkalemia.
- Monitor CBC periodically during therapy in patients with collagen vascular disease and/or renal disease. May cause ↓ hemoglobin and hematocrit as well as neutropenia and eosinophilia.

Potential Nursing Diagnoses
- Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation
- Correct volume depletion, if possible, before initiation of therapy.

Patient/Family Teaching
- Emphasize the importance of continuing to take medication as directed at the same time each day, even if feeling well. Take missed doses as soon as remembered but not if almost time for next dose. Do not double doses. Warn patient not to discontinue ACE inhibitor therapy unless directed by health care provider.
- Caution patients to avoid salt substitutes containing potassium or foods containing high levels of potassium or sodium unless directed by health care provider.
- Caution patient to change position slowly to minimize orthostatic hypotension.
- Instruct patient to notify health care provider of all Rx or OTC medications, vitamins, or herbal products being taken and to consult health care provider before taking any Rx, OTC, or herbal products, especially cough, cold, or allergy remedies.
- Monitor pulse and BP frequently during therapy. Notify health care provider of significant changes.
- Advise patient to avoid driving and other activities requiring alertness until response to medication is known.
- Advise patient to inform health care provider of all medication regimen prior to treatment or surgery.
- Instruct patient to notify health care provider if rash; mouth sores; sore throat; swelling of hands or feet; irregular heartbeat; chest pain; dry cough; insomnia; swelling of face, eyes, lips, or tongue; or if difficulty swallowing or breathing occurs. Persistent dry cough may occur and may not resolve until medication is discontinued. Notify health care provider if cough becomes bothersome. Also notify health care provider if rash; mouth sores; or swelling of hands or feet occurs.
- Advise women of childbearing age to use contraception and notify health care provider of pregnancy is planned or suspected, or if breast feeding.

Evaluation/Desired Outcomes
- Decrease in BP without appearance of excessive side effects.
- Reduction in risk of death from cardiovascular causes and myocardial infarction in patients with stable coronary artery disease.

Why was this drug prescribed for your patient?