Carbidopa/levodopa

**Classification**
- Antiparkinson agents
- Dopamine agonists

**Pregnancy Category C**

**Indications**
- Parkinson's disease.

**Contraindications/Precautions**
- Hypersensitivity.
- Angle-closure glaucoma.
- MAO inhibitor therapy.
- Malignant melanoma.
- Small intestinal absorption.

**Adverse Reactions/Side Effects**
- CNS: involuntary movements, anxiety, dizziness, hallucinations, memory loss, psychiatric problems, rashes (itching, sexual).
- EENT: blurred vision, mydriasis.
- GI: nausea, vomiting.
- Hemat: hemolytic anemia, leukopenia.
- Misc: darkening of urine or sweat.

**Interactions**
- Drug-Drug: Use with MAO inhibitors may result in hypertensive reactions. Risk of arrhythmias with inhalation hydrocarbon anesthetics (especially halothane; if possible discontinue 6–8 hr before anesthesia). Phenothiazines, haloperidol, papaverine, phenytoin, and reserpine may affect the effectiveness of levodopa and the risk of CNS side effects. Anticholinergics may absorb levodopa. Risk of adverse reactions with selegiline or encainide.

**Route/Dosage**

### Carbidopa/levodopa

**PO (Adults):**
- 25 mg carbidopa/100 mg levodopa 3 times daily; may be every 1–2 days until desired effect is achieved (max = 8 tablets of 25 mg carbidopa/100 mg levodopa/day).

### Carbidopa/levodopa Extended-Release

**PO (Adults):**
- Fatally not currently receiving: levodopa — 50 mg carbidopa/200 mg levodopa twice daily (minimum of 6 hr apart) initially. Conversion from standard carbidopa/levodopa — initial therapy with at least 45% more levodopa content (may need up to 35% more) given at 4–8 hr intervals while awake. Allow 3 days between dosage changes; some patients may require larger doses and shorter dosing intervals.
Assessment

- Assess parkinsonian symptoms (akinesia, rigidity, tremors, pill-rolling, shuffling gait, mask-like face, twisting motions, and drooling) during therapy. "On-off phenomenon" may cause symptoms to appear or improve suddenly.
- Assess BP and pulse frequently during period of dose adjustment.
- Lab Test Considerations: May cause false-positive test results in Coombs' test.
- May cause false-positive serum glucose. Dipstick for urine ketones may reveal false-positive results.
- Monitor hepatic and renal function and CBC periodically in patients on long-term therapy. May cause AST, ALT, bilirubin, alkaline phosphatase, LDH, and serum protein-bound iodine concentrations. May cause hemolytic and nonhemolytic anemia, thrombocytopenia, leukopenia, and WBC.
- Toxicity and Overdose: Assess for signs of toxicity (involuntary muscle twitching, facial grimacing, spasmodic eye winking, exaggerated protrusion of tongue, behavioral changes). Consult health care professional if symptoms occur.

Potential Nursing Diagnoses

- Impaired physical mobility (Indications)
- Risk for injury (Indications)

Implementation

- Do not confuse Sinemet with Janumet.
- In the carbidopa/levodopa combination, the number following the drug name represents the milligrams of each respective drug.
- In preoperative patients or patients who are NPO, confer with health care professional about continuing medication administration.
- PO: Administer on a regular schedule. Hospitalized patients should be continued on same schedule as at home. Administer while awake, not around the clock to improve sleep and prevent side effects.
- Controlled-release tablets may be administered as whole or half tablets, but they should not be crushed or chewed.
- For orally disintegrating tablets, just prior to administration remove tablet from bottle with dry hands. Immediately place tablet on top of tongue. Tablet will dissolve in seconds, does not swallow with saliva. Administration with liquid is not necessary.

Patient/Family Teaching

- Instruct patient to take medication at regular intervals as directed. Do not change dose regimen or take additional antiparkinson drugs, including more carbidopa/levodopa, without consulting health care professional. Take missed doses as soon as remembered, unless next scheduled dose is within 2 hr, do not double doses.
- Explain that gastric irritation may be decreased by eating food shortly after taking medications, but that high-protein meals may impair levodopa's effects. Limiting the daily protein intake among all the meals may help ensure adequate protein intake and drug effectiveness. Do not dramatically alter diet during carbidopa/levodopa therapy without consulting health care professional.
- May cause weakness, restlessness, or dizziness. Advise patient to avoid driving and other activities that require alertness until response to drug is known.
- Caution patient to change positions slowly to minimize orthostatic hypotension. Health care professional should be notified if orthostatic hypotension occurs.
- Instruct patient that frequent rinsing of mouth, good oral hygiene, and sugarless gums or candy may decrease dry mouth.
- Caution patient to monitor skin lesions for any changes. Health care professional should be notified promptly because carbidopa/levodopa may activate malignant melanoma.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, herbal products being taken and to consult with health care professional before taking other medications, especially sedatives, large amounts of vitamin B6, (pyridoxine) and iron may interfere with the action of levodopa.
- Inform patient that harmless darkening of stool, urine, or sweat may occur.
- Advise patient to notify health care professional if unusual bleeding, bruising, unusual fatigue, dizziness, lightheadedness, or new weakness occurs.
- Inform patient that sometimes a "wearing-off" effect may occur at end of dosing interval. Notify health care professional if this poses a problem to lifestyle.
- Advise female patients to notify health care professional if pregnancy is planned or suspected or if breast feeding.

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Evaluation/Desired Outcomes

- Resolution of parkinsonian signs and symptoms. Therapeutic effects usually become evident after 2–3 wk of therapy but may require up to 6 mo. Patients who take this medication for several yr may experience a decrease in the effectiveness of this drug.

Why was this drug prescribed for your patient?