entacapone  (en-tak-a-pone)

Contact

Classification
Therapeutic: antiparkinson agents
Pharmacologic: catechol-O-methyltransferase inhibitors

Pregnancy Category C

Indications
With levodopa/carbidopa to treat idiopathic Parkinson's disease when signs and symptoms of end-of-dose "wearing off" (so-called fluctuating patients) occur.

Action
As a selective and reversible inhibitor of the enzyme catechol-O-methyltransferase (COMT). Inhibition of this enzyme prevents the breakdown of levodopa, increasing availability to the CNS.

Therapeutic Effects:
Prolongs duration of response to levodopa with end-of-dose motor fluctuations. Decreased signs and symptoms of Parkinson's disease.

Pharmacokinetics
Absorption: 35% absorbed following oral administration; absorption is rapid.
Distribution: Unknown.
Protein Binding: 98%.
Metabolism and Excretion:
Minimal amounts excreted unchanged; highly metabolized followed by biliary excretion.
Half-life: Initial phase—0.4–0.7 hr; second phase—2.4 hr.

TIME/ACTION PROFILE (inhibition of COMT)

ROUTE ONSET PEAK DURATION
PO unknown unknown up to 8 hr

Contraindications/Precautions
Contraindicated in: Hypersensitivity; Concurrent nonselective MAO inhibitor therapy.
Use Cautiously in: Hepatic impairment; Concurrent use of drugs that are metabolized by COMT; OB, Lactation: Safety not established; Pedi: No identified use in children.

Adverse Reactions/Side Effects
CNS: NEUROLEPTIC MALIGNANT SYNDROME, dizziness, hallucinations, syncope, urges (gambling, sexual). Resp: pulmonary infiltrates, pleural effusion, pleural thickening.

Interactions
Drug-Drug: Concurrent use with selective MAO inhibitors is not recommended; both agents inhibit the metabolic pathways of catecholamines. Concurrent use of drugs that are metabolized in COMT such as isoproterenol, epinephrine, nor-epinephrine, dopamine, dobutamine, and methyldopa may ↑ risk of tachycardia, BP, and arrhythmias. Phenothiazine, chlorpromazine, haloperidol, thalidomide, amphetamine, and chlorpromazine may interfere with biliary elimination of entacapone use concurrently with caution.

Route/Dosage
PO (Adults): 200 mg with each dose of levodopa/carbidopa up to a maximum of 8 times daily.

NURSING IMPLICATIONS

Assessment
• Games parkinsonian and extrapyramidal symptoms (restlessness or desire to keep moving, rigidity, tremors, pill rolling, masks-like face, shuffling gait, muscle spasms, twisting motions, difficulty speaking or swallowing, loss of balance control) prior to and during therapy. Digestive may increase with therapy.
• Monitor patient for development of diarrhea. Usually occurs within 4 to 12 wk of start of therapy, but may occur as early as the first week and in late months after initiation of therapy.
• Monitor patient for signs similar to neuroleptic malignant syndrome (elevated temperature, muscle rigidity, altered consciousness, elevated CPK). Symptoms have been associated with rapid dose reduction or withdrawal of other dopaminergic drugs. Withdrawal should be gradual.

Potential Nursing Diagnoses
Impaired physical mobility (Indications)
Risk for injury (Indications)

● G - Genetic Implication
● ORTHO indicate life-threatening; underline indicate most frequent
Implementation

- **PO:** Always administer entacapone with levodopa/carbidopa. Entacapone has no antiparkinsonism effects of its own.

Patient/Family Teaching

- Encourage patient to take entacapone as directed. Take missed doses as soon as possible, up to 2 hr before the next dose. Taper gradually when discontinuing or a withdrawal reaction may occur.
- May cause dizziness or hallucinations. Advise patient to avoid driving or other activities that require alertness until response to the drug is known.
- Inform patient that nausea may occur, especially at initiation of therapy and diarrhea. Advise patient with diarrhea to drink fluids to maintain adequate hydration and monitor for weight loss. If diarrhea is prolonged, may resolve with discontinuation. Therapy may cause change in urine color to brown/orange.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Advise patient to notify health care professional if suspicion or unusual skin changes, hallucinations, or new or increased gambling, sexual, or other intense urges occur.
- Instruct patient to notify health care professional if pregnancy is planned or suspected, or if breast feeding.
- Emphasize the importance of routine follow-up exams.

Evaluation/Desired Outcomes

- Decreased signs and symptoms of Parkinson’s disease.

Why was this drug prescribed for your patient?