posaconazole (po-sa-kon-a-zole)

Classification
Antifungals
Pharmacologic: Triazoles

Pregnancy Category: C

Indications
Prevention of invasive aspergillus and candida infections in severely immunocompromised patients. Treatment of oropharyngeal candidiasis (including candidiasis unresponsive to itraconazole or fluconazole).

Action
Blocks ergosterol synthesis, a major component of fungal plasma membrane. Therapeutic Effects: Fungistatic/fungicidal action against susceptible fungi.

Pharmacokinetics
Absorption: Well absorbed following oral administration; absorption is optimized by food.
Distribution: Extensive extravascular distribution and penetration into body tissues.
Protein Binding: 98%.
Metabolism and Excretion: Some metabolism via UDP glucuronidation; 66% eliminated unchanged in feces, 13% in urine (mostly as metabolites).
Half-life: 35 hr.

TIME/ACTION PROFILE (blood levels)
ROUTE ONSET PEAK DURATION
PO unknown 3–5 hr 8 hr

Contraindications/Precautions
Contraindicated in: Hypersensitivity to posaconazole or otherazole antifungals; Concurrent use of pimozide, quinidine, ergot alkaloids, sirolimus, simvastatin, atorvastatin, or lovastatin.
Use Cautiously in: History of QTc prolongation including congenital QTc prolongation, concurrent use of other drugs that prolong QTc, high cumulative anthracycline therapy or electron beam radiation therapy (epididymitis, hyperprolactinemia), correct pre-existing abnormalities prior to administration, severe diarrhea, vomiting, or renal impairment (monitor for breakthrough fungal infections) OR GI, Hepatic: Use only if maternal benefit outweighs risk to child; Pedi: Children 13 yr (safety not established).

Adverse Reactions/Side Effects
CNS: Headache.
CV: TORSADES DE POINTES, QT interval prolongation.
GI: Hepato-cellular damage, diarrhea, nausea, vomiting.
Endo: Adrenal insufficiency.
Resp: Cough.
Metab: Allergic reactions.
Misc: Fever.

Interactions
Drug-Drug: Posaconazole inhibits the CYP3A4 enzyme systems and should be expected to interact with other drugs affected by this system. Pseudomonas, staphylococcal, and stenotrophomonas levels and risk of toxicity; use with extreme caution; concurrent use contraindicated. May ↑ quinidine and diltiazem levels; concurrent use contraindicated. May ↑ cyclosporine, sirolimus, and tacrolimus levels and risk of toxicity; use with sirolimus contraindicated; for cyclosporine and tacrolimus, p dose initially and monitor levels frequently. May ↓ levels and risk of toxicity from ergot alkaloids, including ergotamine and dihydroergotamine; concurrent use contraindicated. May ↑ levels and risk of toxicity from statins, including simvastatin, atorvastatin, and lovastatin; concurrent use contraindicated. May ↑ levels and risk of toxicity from HMG CoA reductase inhibitors (statins); consider ↓ statin dose. May ↓ levels and risk of neurotoxicity of vinca alkaloids, including vincristine and vinblastine; consider ↓ dose adjustment. May ↑ levels and risk of toxicity from β-blockers; consider ↓ dose adjustment. May ↑ levels and risk of adverse cardiovascular reactions to calcium channel blockers; consider ↓ dose adjustment.

Route/Dosage
PO (Adults and Children ≥ 13 yr): Prophylaxis of invasive fungal infections — 200 mg 3 times daily.
PO (Adults): Oropharyngeal candidiasis — 100 mg 2 times daily for 1 day, then 100 mg daily for 13 days; Refractory oropharyngeal candidiasis — 400 mg 2 times daily.

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NURSING IMPLICATIONS

Assessment

● Assess for signs and symptoms of fungal infection.

● Lab Test Considerations: Monitor liver function tests prior to and periodically during therapy. May cause q ALT, q AST, q alkaline phosphatase and q total bilirubin levels, generally reversible on discontinuation. Discontinue posaconazole if clinical signs and symptoms of liver disease develop.

Potential Nursing Diagnoses

Risk for infection (Indications)

Implementation

● PO: Shake suspension well before use. Administer with a full meal, liquid nutritional supplement or an acidic carbonated beverage (ginger ale) to enhance absorption. Rinse spoon for administration with water after each use. Alternative therapy or close monitoring for breakthrough fungal infections should be considered for patients unable to eat a full meal or tolerate a nutritional supplement.

Patient/Family Teaching

● Instruct patient to take posaconazole during or immediately (within 20 min) following a full meal or liquid nutritional supplement in order to enhance absorption. Take missed doses as soon as remembered. Instruct patient to read the Patient Information before taking posaconazole and with each Rx refill, may be new information.

● Advise patient to notify health care professional if severe diarrhea or vomiting occurs; may decrease posaconazole blood levels and allow breakthrough fungal infections or if signs and symptoms of liver injury (diabetes, yellow eyes or skin, fatigue, flu-like symptoms) occur.

● Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult health care professional before taking any new medications.

● Advise patient to notify health care professional of pregnancy is planned or suspected or if breast feeding.

Evaluation/Desired Outcomes

● Resolution of clinical and laboratory indications of fungal infections. Duration of therapy is based on recovery from infection or neutropenia or immunosuppression.

Why was this drug prescribed for your patient?