Itraconazole (i-tra-ka-wa-zole)

**Pharmacology**
- **Indications**: Antifungal. Effective against 
  - Systemic 
  - Dermatophyte 
  - Oral thrush 
  - Oropharyngeal and esophageal candidiasis.
- **Therapeutic Classification**: 
  - Antifungals (systemic)

**Absorption**
- Absorption is enhanced by food.

**Distribution**
- Tissue concentrations are higher than plasma concentrations.

**Metabolism and Excretion**
- Mostly metabolized by the liver by the CYP3A4 isoenzymes.
- Hydroxyitraconazole, the major metabolite, has anti-
  fungal activity.

**Pharmacokinetics**
- Systemic:
  - PO rapid: 4 hr; 12–24 hr
  - PO slow: 21 hr.

**Half-life**
- 99.8%; Itraconazole: 21 hr; hydroxyitraconazole: 99.5%.
  - Drug-Drug Interactions:
    - Risk of excessive sedation with midazolam (PO).
    - Risk of myopathy with simvastatin.
    - Risk of excessive sedation with midazolam (PO).
    - Risk of myopathy with simvastatin.
    - Risk of pseudomembranous colitis.
    - Risk of excessive sedation with midazolam (PO).
    - Risk of myopathy with simvastatin.

**Contraindications/Precautions**
- Use with caution in:
  - Pregnancy Category C.
agents that increase gastric pH, including the buffer in didanosine (take 2 hr after itraconazole). Phenobarbital, cochrome, and trileucone are examples of these agents. Blood levels (T1/2) may be necessary. If hypokalemia occurs, the risk of digoxin toxicity is Q.

Drug-Food: Food Q absorption.

Route/Dosage

Aspergillosis
PO (Adults): 200 mg once or twice daily for 3 mo.

Blastomycosis, Histoplasmosis
PO (Adults): 200 mg once daily; may be Q by 100 mg/day up to 200 mg twice daily.

Onychomycosis
PO (Adults): Toenail fungus with or without fingernail fungus — 200 mg/day for 12 consecutive wk. Fingernail fungus — 200 mg twice daily for 5 wk, then 50 mg/wk in maintenance therapy; then 200 mg once daily as an additional wk-Q.

Candidiasis
PO (Adults): Oral thrush — 200 mg (20 mL) daily for 1-2 wk. Oropharyngeal candidiasis (e.g., esophagitis, diaper dermatitis) — 100 mg (10 mL) twice daily for at least 2-4 wk. Esophageal candidiasis — 100 mg (10 mL) once daily for at least 5 wk.

NURSING IMPLICATIONS

Assessment

● Assess for signs and symptoms of infection (vital signs, lung sounds, sputum, WBC, oral and pharyngeal mucosa, nail beds) before and periodically during therapy.

● Obtain specimens for culture before instituting therapy. Therapy may be started before results are obtained.

● Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome or toxic epidermal necrolysis. Discontinue therapy if severe or if accompanied with fever, general malaise, fatigue, muscle or joint aches, hives, oral erosions, jaundice, and/or eosinophilia.

● Lab Test Considerations: Monitor hepatic function tests before and periodically during therapy, especially in patients with pre-existing hepatic function abnormalities. Discontinue therapy if abnormal values persist or worsen.

● Monitor serum potassium. May cause hypokalemia.

Potential Nursing Diagnoses

● Noncompliance (Patient/Family Teaching)

Implementation

● Do not interchange capsules and oral solution. Only oral solution is effective for oropharyngeal candidiasis. Oral solution is not recommended for initial treatment of patients at risk for systemic candidiasis.

● Administer with a full meal to minimize nausea and vomiting and to increase absorption.

● Do not administer with antacids or other medications that may increase gastric pH; may decrease absorption of itraconazole.

● Oral Solution: Administer without food if possible. Swish solution in mouth vigorously, 10 mL at a time, for several seconds, then swallow.

Patient/Family Teaching

● Instruct patient to take medication as directed, even if feeling better. Doses should be taken at the same time each day.

● May occasionally cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.

● Instruct patient to notify health care professional if signs and symptoms of liver dysfunction (unusual fatigue, anorexia, nausea, vomiting, jaundice, dark urine, or pale stools) or HF (dyspnea, peripheral edema, weight gain) occur. If rash or signs of HF occur, discontinue itraconazole and notify health care professional immediately.

● Advise patient to notify health care professional if signs and symptoms of hearing loss (urinary frequency, hearing loss, tinnitus, dizziness, difficulty hearing) occur. Advise patient to discontinue therapy if hearing loss occurs and notify health care professional immediately.

● Advise patient to notify health care professional if vision changes or photosensitivity reactions occur. Advise patient to wear protective clothing to prevent photosensitivity reactions.

● May cause hearing loss; usually resolves when treatment is stopped, but can persist. Advise patient to discontinue therapy and notify health care professional if any hearing loss symptoms occur.

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Evaluation/Desired Outcomes

- Resolution of clinical and laboratory indications of fungal infections. Minimal treatment for systemic fungal infections is 3 mos. Inadequate period of treatment may lead to recurrence of active infection.

Why was this drug prescribed for your patient?