Flucytosine (fluu-sye-toe-see-n)  

**Genus**  

**Classification**  Antifungals  

**Pregnancy Category C**  

**Indications**  

Treatment of serious fungal infections including: Endocarditis, Meningitis, Septicemia, Urinary tract infections, Pulmonary infections.  

**Action**  

Following penetration into fungi, converted to fluorouracil, which interferes with fungal DNA and RNA synthesis. Synergistic action with amphotericin B against some fungi.  

**Therapeutic Effects:** Fungicidal action against susceptible organisms.  

**Spectrum:** Active against only a small number of fungi, mainly: Candida, Cryptococcus.  

**Pharmacokinetics**  

**Absorption:** Well absorbed (80–90%) from the GI tract following oral administration.  

**Distribution:** Widely distributed. Crosses the blood-brain barrier.  

**Metabolism and Excretion:** 80–90% excreted unchanged by the kidneys.  

**Half-life:** 2.5–5 hr (in renal impairment).  

**TIME/ACTION PROFILE (antifungal blood levels)**  

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>PO</td>
<td>rapid</td>
<td>1–2 hr</td>
<td>6 hr</td>
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</tbody>
</table>

**Contraindications/Precautions**  

- **Contraindicated in:** Hypersensitivity, GI bleeding, Pregnancy, Lactation.  
- **Use Cautiously in:** Bone marrow depression (especially following radiation therapy or antineoplastics).  
- **Exercise Extreme Caution in:** Renal impairment (blood level monitoring, dose, and dosage interval recommended if CCr >40 mL/min).  

- **Adverse Reactions/Side Effects**  

**CNS:** Seizures, ataxia, confusion, dizziness, disorientation, fatigue, headache.  

**CV:** Chest pain.  

**EENT:** Hearing loss.  

**GI:** Diarrhea, nausea, vomiting, abdominal pain, dry mouth.  

**Derm:** Photosensitivity, pruritis, rash, urticaria.  

**Endo:** Hypoglycemia.  

**F and E:** Hypokalemia.  

**GU:** Azotemia.  

**Hemat:** Aplastic anemia, eosinophilia, leukopenia, pancytopenia, anemia, thrombocytopenia.  

**Neuro:** Peripheral neuropathy.  

**Resp:** Dyspnea.  

**Misc:** Fever.  

**Interactions**  

**Drug-Drug:** Additive bone marrow depression with other bone marrow depressors, including antineoplastics and radiation therapy. Amphotericin B may reduce effectiveness of flucytosine but may also increase its antifungal activity. Cytarabine may enhance activity.  

**Route/Dosage**  

**PO (Adults):** 12.5–37.5 mg/kg every 6 hr.  

**PO (Children):** 12.5–37.5 mg/kg every 6 hr.  

**Renal Impairment**  

**PO (Adults):** CCr 20–40 mL/min—12.5 mg/kg every 12 hr; CCr 10–20 mL/min—12.5 mg/kg every 24 hr; CCr < 10 mL/min—12.5 mg/kg every 48–96 hr.  

**NURSING IMPLICATIONS**  

**Assessment**  

- Assess patient for signs and symptoms of systemic fungal infection prior to and periodically throughout therapy.  
- Obtain specimens for culture prior to initiating therapy. First dose may be given before receiving results.  
- **Lab Test Considerations:** Monitor ALT, AST, serum bilirubin, and alkaline phosphatase prior to and frequently during therapy.  
- Monitor hematologic function periodically during therapy. May cause anemia, leukopenia, or thrombocytopenia.  
- **Pregnancy and Lactation:** Therapeutic peaks serum flucytosine levels range from 25–100 mcg/mL. Peak levels should be obtained 2 hours after a dose.
Potential Nursing Diagnoses

Risk for infection (Indications)

Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation

- The number 5 in 5-FC is part of the drug name and not the dose.

- PO: To reduce nausea and vomiting, administer capsules a few at a time over 15 min.

Patient/Family Teaching

- Advise patient to take medication as directed, even if feeling better. Missed doses should be taken as soon as remembered, if not almost time for next dose; do not double doses.

- May cause dizziness or drowsiness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.

- Caution patient to use sunscreen and wear protective clothing to prevent photosensitivity reactions.

- Instruct patient to notify health care professional promptly if rash, fever, sore throat, yellowing of skin or eyes, changes in color of stool or urine, diarrhea, unusual bleeding or bruising, unusual tiredness, or weakness occurs.

- Emphasize the importance of follow-up exams to determine effectiveness of treatment.

- Instruct patient to notify health care professional immediately if planning to become pregnant.

Evaluation/Desired Outcomes

- Resolution of the signs and symptoms of fungal infection. Duration of therapy is generally 4–6 wk but may continue for several months.

Why was this drug prescribed for your patient?