1 REMS

fingolimod (fin-go-lim-mod)

**Gilenya**

**Classification**
Therapeutic: anti-multiple sclerosis agents
Pharmacologic: receptor modulators

**Pregnancy Category C**

**Indications**
Treatment of relapsing forms of multiple sclerosis.

**Action**
Converted by sphingosine kinase to the active metabolite fingolimod-phosphate, which binds to sphingosine 1-phosphate receptors, resulting in inhibition of lymphocyte migration into peripheral blood. This may lead to lymphocyte migration into the CNS.

**Therapeutic Effects:** frequency of relapses/delayed accumulation of disability.

**Pharmacokinetics**
Absorption: Well absorbed (93%) following oral administration.
Distribution: Extensively distributed to body tissues; 86% of parent drug distributes into red blood cells; active metabolite uptake 17%.
Metabolism and Excretion: Converted to its active metabolite, then metabolized mostly by the CYP450 4F2 enzyme system, with further degradation by other enzyme systems. Most inactive metabolites excreted in urine (81%); 2.5% excreted as fingolimod and fingolimod-phosphate in feces.
Protein Binding: 99.7%.
Half-life: 6–9 hr.

**TIME/ACTION PROFILE**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>unknown</td>
<td>1–2 mo*</td>
<td>2 mo†</td>
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*Time to steady state blood levels, peak blood levels after a single dose at 12–16 hr.
†Time for complete elimination.

**Contraindications/Precautions**
Contraindicated in: MI, unstable angina, stroke, TIA, or class III or IV HF within previous 6 mo; 2nd or 3rd degree heart block or sick sinus syndrome (in the absence of a pacemaker); QT interval >500 msec; Concurrent use of class Ia or III antiarrhythmics; Active acute/chronic untreated infections. **Lactation:** Breast feeding should be avoided.

**Use Cautionally in:** Concurrent use of beta blockers, diltiazem, verapamil, or digoxin (risk of heart block, heart arrests, or severe hypotension); History of heart block, tachycardia, cardiac arrest, or severe hypotension; **Finger if of heart block or heart arrests; Severe hepatic impairment (risk of blood tests and risk of adverse reactions).** Diabetes mellitus/history of retinopathy (risk of macular edema). Negative history for chickenpox or vaccination against varicella zoster virus vaccination. **Geriatric:** Risk of adverse reactions may be higher, consider age-related risk in cardiac/renal/hepatic function, chronic illnesses and concurrent drug therapy; **Pedi:** Safety and effectiveness not established; **OB:** Use only if potential benefit justifies potential risk to fetus.

**Adverse Reactions/Side Effects**
CNS: progressive multifocal leukoencephalopathy, headache.
EENT: blurred vision, eye pain, macular edema.
Resp: cough, pulmonary function.
CV: asystole, bradycardia, heart block, Q T interval prolongation, hypertension, syncope.
GI: diarrhea, liver function tests.
Hemat: leukopenia, lymphopenia.
MS: back pain.

**Interactions**
Drug-Drug: Concurrent use of class Ia or class III antiarrhythmics may risk of serious arrhythmias, careful monitoring recommended. Concurrent use of beta blockers, diltiazem, verapamil, or digoxin may risk of bradycardia; careful monitoring recommended. Concurrent use of ketoconazole may risk of blood levels and of adverse reactions. Risk of immunosuppression with antineoplastics, immunosuppressants or immune modulating therapies. Live attenuated vaccines risk of infection.

**Route/Dosage**

**PO (Adults):** 0.5 mg once daily.

**NURSING IMPLICATIONS**

**Assessment**
- Monitor pulse and BP hourly for bradycardia for at least 6 hrs following first dose. Obtain baseline EKG before first dose and at end of observation period. If patient develops heart rate <45 bpm or new onset 2nd de-
- Advise patient to notify health care professional if signs and symptoms of liver dysfunction (unexplained nausea, vomiting, abdominal pain, fatigue, anorexia, jaundice, dark urine), infection, new onset of diabetes, or changes in vision develop.
- Advise patient not to receive live attenuated vaccines during and for 2 mo after treatment due to risk of infection. Patients who have not had chickenpox or vaccination should consider varicella zoster vaccine prior to starting therapy.
- Advise female patients to use contraception during and for at least 2 mo after discontinuation of therapy and to notify health care professional immediately if pregnancy is planned or suspected or if breastfeeding.
- Encourage pregnant patients to enroll in the pregnancy registry by calling 1-877-598-7237.

**Evaluation/Desired Outcomes**

- Reduction in frequency of clinical exacerbations and delay of accumulation of physical disability in patients with relapsing forms of multiple sclerosis.

**Why was this drug prescribed for your patient?**