maraviroc (mar-va-ri-cock)

Classification
Therapeutic: antiretrovirals
Pharmacologic: CCR5 co-receptor antagonists

Pregnancy Category B

Indications
HIV infection (with other antiretrovirals), specifically in treatment-experienced or treatment-naive patients with CCR5– tropic HIV-1 infection. Use should be determined by tropism testing.

Action
Blocks a specific receptor on CD-4 and T-cell surfaces which prevents CCR5– tropic HIV-1 from entering.

Therapeutic Effects: Decreased invasion of CD-4 and T-cells by CCR5– tropic HIV-1 virus resulting in viral replication.

Pharmacokinetics
Absorption: 2–33% absorbed following oral administration.
Distribution: Unknown.
Metabolism and Excretion: Mostly metabolized by the liver (CYP3A enzyme system); 8% renal excretion as unchanged drug.
Half-life: 14–18 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE ONSET PEAK DURATION
PO unknown 0.5–4 hr 1–2 hr

Contraindications/Precautions
Contraindicated in: Dual/mixed or CXCR4– tropic HIV-1; Patients with severe renal impairment or end-stage renal disease who are taking potent CYP3A inhibitors or inducers; Children ≤16 yr (safety not established). See Precautions. Use Cautiously in: Pre-existing liver disease including hepatitis B or C (may increase risk of hepatotoxicity); Cardiovascular disease or risk factors (may increase risk of cardiovascular events); Orthostatic hypotension; Hepatic impairment; Patients with severe renal impairment or end-stage renal disease who are not taking potent CYP3A inhibitors or inducers; Lactation: Breast feeding not recommended for HIV-infected patients.

Adverse Reactions/Side Effects
CNS: dizziness.
CV: myocardial ischemia/infarction, orthostatic hypotension.
Resp: cough, upper respiratory tract infection.
GI: abdominal pain, appetite disorder.
Derm: drug rash with eosinophilia and systemic symptoms, STEVENS-JOHNSON SYNDROME, TOXIC EPIDERMAL NECROLYSIS.
MS: musculoskeletal pain.
Misc: allergic reactions, fever, immune reconstitution syndrome, risk of infection.

Interactions
Drug-Drug: Levels are increased by CYP3A inhibitors including protease inhibitors (excluding tipranavir/ritonavir), delavirdine, ketoconazole, itraconazole, clarithromycin, nefazodone, telithromycin, lopinavir/ritonavir, saquinavir, and azole antifungals (fluconazole, itraconazole) (use with caution); levels are decreased by CYP3A inducers including efavirenz, rifampin, etravirine, carbamazepine, phenytoin, and phenobarbital (may need to increase dosage of maraviroc). Levels are decreased by CYP3A inhibitors including elainotre, rifatrapine, strimacin, ranabuamizine, phenobarbital, and phenobarbital (may need to decrease dose of maraviroc). Antihypertensives may increase risk of orthostatic hypotension.

Drug-Natural Products: St. John’s wort may decrease levels; concurrent use not recommended.

Route/Dosage
PO (Adults): Concurrent CYP3A inhibitors (with or without potent CYP3A inducers) including protease inhibitors, delavirdine, ketoconazole, itraconazole, clarithromycin, and other potent CYP3A inhibitors (including elainotre, rifatrapine, strimacin, ranabuamizine, phenobarbital) (use with caution); Concurrent CYP3A inducers with or without potent CYP3A inhibitors (including elainotre, rifatrapine, strimacin, ranabuamizine, phenobarbital) (use with caution); Concurrent CYP3A inhibitors (without a potent CYP3A inhibitor) (including elainotre, rifatrapine, strimacin, ranabuamizine, phenobarbital) (use with caution); Other co-antiretroviral medications including ARTIs, tipranavir/ritonavir, adefovir, valganciclovir, efavirenz, and other drugs that are not strong inhibitors/inducers of CYP3A—150 mg twice daily.
Renal Impairment

(Adults): Ccr ≥ 30 mL/min or on hemodialysis (not receiving potent CYP3A inhibitors or inducers)—300 mg twice daily; dose to 150 mg twice daily if symptoms of orthostatic hypotension occur. Ccr < 30 mL/min or on hemodialysis (receiving potent CYP3A inhibitors or inducers)—Contraindicated.

Nursing Implications

Assessment

- Assess patient for change in severity of HIV symptoms and for symptoms of opportunistic infections throughout therapy.
- Assess for signs or symptoms of hepatitis or allergic reaction (pruritic rash, jaundice, dark urine, vomiting, abdominal pain, fever, eosinophilia, elevated IgE). If symptoms occur, discontinue maraviroc immediately.
- Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome. Discontinue therapy if severe or if accompanied with fever, general malaise, dermatitis, muscle or joint aches, blistering, oral lesions, conjunctivitis, hepatitis and/or eosinophilia.
- Lab Test Considerations: Testing for CCR5-tropic HIV-1 should be obtained prior to initiating therapy.

Potential Nursing Diagnoses

Risk for infection (Infections)

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

Implementation

- PO: May be administered without regard to food. Tablets should be swallowed whole; do not break, crush, or chew.
- Patient/Family Teaching
  - Emphasize the importance of taking maraviroc as directed, at the same time each day. Advise patient to read the Patient Information that comes with the medication with each Rx refill. Maraviroc must always be used in combination with other antiretroviral drugs. Do not take more than prescribed amount and do not stop taking without consulting health care professional. Take missed doses as soon as remembered, then return to regular dose schedule. If it is within 6 hr of next dose, omit dose and take next dose at regular time. Do not double doses.
  - Inform patient that maraviroc does not cure AIDS or prevent associated or opportunistic infections. Maraviroc does not reduce the risk of transmission of HIV to others through sexual contact or blood contamination. Caution patient to use a condom and to avoid sharing needles or donating blood to prevent spreading the AIDS virus to others. Long-term effects of maraviroc are unknown at this time.
  - If new symptoms of infection develop after starting maraviroc, notify health care professional.
  - Immune reconstitution syndrome may trigger opportunistic infections or autoimmune disorders. Notify health care professional if symptoms occur.
  - Advise patient to discontinue maraviroc and notify health care professional if chest pain, signs of hepatitis (itchy rash, yellow colored skin or eyes, dark urine, vomiting, or abdominal pain) or signs of immune reconstitution syndrome (signs and symptoms of an infection) occur.
  - May cause dizziness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
  - Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.
  - Emphasize the importance of regular follow-up exams and blood counts to determine progress and monitor for side effects.
  - May cause dizziness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.

Evaluation/Desired Outcomes

- Delayed progression of AIDS and decreased opportunistic infections in patients with HIV.
- Decrease in viral load and increase in CD4 cell counts.

Why was this drug prescribed for your patient?

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