hydroxychloroquine (hye-drox-ee-klor-oh-kwin)

Classified

Therapeutic: antimalarial, antirheumatics (DMARDs)

Pregnancy Category C

Indications

Suppression/chemoprophylaxis of malaria. Treatment of severe rheumatoid arthritis/systemic lupus erythematosus.

Action

Inhibits protein synthesis in susceptible organisms by inhibiting DNA and RNA polymerase. Therapeutic Effects: Death of plasmodia responsible for causing malaria. Also has anti-inflammatory properties.

Pharmacokinetics

Absorption: Highly variable (31–100%) following oral administration.

Distribution: Widely distributed; high concentrations in RBCs; crosses the placenta; excreted into breast milk.

Metabolism and Excretion: Partially metabolized by the liver to active metabolites; partially excreted unchanged by the kidneys.

Half-life: 72–120 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE ONSET PEAK DURATION
PO rapid† 1–2 hr days–weeks

†Onset of antirheumatic action may take 6 wk.

Contraindications/Precautions

Contraindicated in: Hypersensitivity to hydroxychloroquine or chloroquine; Previous visual damage from hydroxychloroquine or chloroquine.

Use Cautiously in: Concurrent use of hepatotoxic drugs; History of liver disease, alcoholism or renal impairment; Severe neurological disorders; Severe blood disorders; Retinal or visual field changes; G6PD deficiency; Psoriasis; Bone marrow depression; Obesity (determine dose by ideal body weight); OB, Lactation: Avoid use unless treating/preventing malaria or treating another disease.

Adverse Reactions/Side Effects

CNS: seizures, aggressiveness, anxiety, apathy, confusion, fatigue, tremor, tinnitus, visual disturbances, ECG changes, hypotension, GI: abdominal cramps, anorexia, diarrhea, epigastric discomfort, nausea, vomiting, hepatic failure.

EENT: keratopathy, ototoxicity, retinopathy, tinnitus, visual disturbances.

CV: ECG changes, hypotension.

GI: abdominal cramps, anorexia, diarrhea, epigastric discomfort, nausea, vomiting.

Hemat: agranulocytosis, aplastic anemia, leukopenia, thrombocytopenia.

Neuro: neuritis, peripheral neuritis.

Interactions

Drug-Drug: May increase risk of hematologic toxicity when administered with penicillamine. May increase risk of dermatitis when administered with other agents having dermatologic toxicity. May decrease serum titer of rubella antibody when given concurrently with human diploid cell rubella vaccine. Urinary acidifiers may increase risk of toxic effects.

Route/Dosage

Malaria

PO (Adults): Suppression or chemoprophylaxis—310 mg once weekly; start 1–2 wk prior to entering malarious area; continue for 4 wk after leaving area. Treatment—620 mg, then 310 mg at 6 hr, 24 hr, and 48 hr after initial dose.

PO (Children): Suppression or chemoprophylaxis—5 mg/kg once weekly; start 1–2 wk prior to entering malarious area; continue for 4 wk after leaving area. Treatment—10 mg/kg initially, then 5 mg/kg at 6–12 hr, 24 hr, and 48 hr after initial dose.

Rheumatoid Arthritis

PO (Adults): 400–600 mg once daily initially, maintenance 200–400 mg daily divided 1–2 times/day.

PO (Children): 5 mg/kg once daily initially, maintenance 3.5 mg/kg/day divided 1–2 times/day
PO (Children): 3–5 mg/kg/day divided 1–2 times/day to a maximum of 400 mg/day; not to exceed 7 mg/kg/day.

PO (Adults): 400 mg once or twice daily, maintenance 200–400 mg/day.

PO (Children): 3–5 mg/kg/day divided 1–2 times/day to a maximum of 400 mg/day; not to exceed 7 mg/kg/day.

NURSING IMPLICATIONS

Assessment
● Assess deep tendon reflexes periodically to determine muscle weakness. Therapy may be discontinued should this occur.
● Patients on prolonged high-dose therapy should have eye exams prior to and every 3–6 mo during therapy to detect retinal damage.
● Malaria or Lupus Erythematosus: Assess patient for improvement in signs and symptoms of condition daily throughout course of therapy.

Lab Test Considerations: Monitor CBC and platelet count periodically throughout therapy. May cause decreased RBC, WBC, and platelet counts. If severe decreases occur that are not related to the disease process, hydroxychloroquine should be discontinued.

Potential Nursing Diagnoses
Risk for infection (Indications)
Chronic pain (Indications)

Implementation
● PO: Administration with milk or meals to minimize GI distress.
• Tablets may be crushed and placed inside empty capsules for patients with difficulty swallowing. Contents of capsules may also be mixed with a teaspoonful of jam, jelly, or Jell-O prior to administration.
● Malaria Prophylaxis: Hydroxychloroquine therapy should be started 2 wk prior to potential exposure and continued for 6–8 wk after leaving the malarious area.

Patient/Family Teaching
● Instruct patient to take medication exactly as directed and continue full course of therapy even if feeling better. Missed doses should be taken as soon as remembered before the next dose. Do not double doses.

● Advise patients to avoid use of alcohol while taking hydroxychloroquine.

● Cautious patient to keep hydroxychloroquine out of reach of children. Fatalities have occurred with ingestion of 3 or 4 tablets.

● Explain need for periodic ophthalmic exams for patients on prolonged high-dose therapy. Advise patient that the risk of ocular damage may be decreased by the use of dark glasses in bright light. Protective clothing and sunscreen should also be used to reduce risk of dermatoses.

● Advise patient to notify health care professional promptly if sore throat, fever, unusual bleeding or bruising, visual changes, ringing in the ears, difficulty hearing, or muscle weakness occurs.

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

● Malaria Prophylaxis: Review methods of minimizing exposure to mosquitoes with patients receiving hydroxychloroquine prophylactically (use repellent, wear long sleeves and long trousers, use screen or netting).

● Advise patient to notify health care professional if fever develops while traveling or within 2 mo of leaving an endemic area.

● Rheumatoid Arthritis: Instruct patient to contact health care professional if no improvement is noticed within a few days. Treatment for rheumatoid arthritis may require up to 6 mo for full benefit.

Evaluation/Desired Outcomes
● Prevention or resolution of malaria.
● Improvement in signs and symptoms of rheumatoid arthritis.
● Improvement in symptoms of lupus erythematosus.

Why was this drug prescribed for your patient?