mexiletine (mex-il-e-teen)

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Class: antiarrhythmics (class IB)

Pregnancy Category C

Indications
Prophylactic treatment of serious ventricular arrhythmias, including VT and PVCs.

Action
Decreases the duration of the action potential and effective refractory period in cardiac conduction tissue by altering transport of sodium across myocardial cell membranes. Has little or no effect on heart rate.

Therapeutic Effects:
Control of ventricular arrhythmias.

Pharmacokinetics
Absorption: Well absorbed from the GI tract.
Distribution: Enters breast milk in concentrations similar to plasma.
Metabolism and Excretion: Mostly metabolized by the liver; 10% excreted unchanged by the kidneys.
Half-life: 10–12 hr.

TIME/ACTION PROFILE (antiarrhythmic effects†)
ROUTE ONSET PEAK DURATION
PO 30 min–2 hr 2–3 hr 8–12 hr
†Provided a loading dose has been given

Contraindications/Precautions
Contraindicated in: Hypersensitivity; Cardiogenic shock; 2nd- or 3rd-degree heart block (if a pacemaker has not been inserted); Lactation.
Use Cautiously in: Sinus node or intraventricular conduction abnormalities; Hypotension; HF; Severe hepatic impairment (dosage reduction suggested); OB, Pedi: Safety not established.

Interactions
Drug-Drug: Opioid analgesics, atropine, and antacids may slow absorption. Metoclopramide may speed absorption. Phenytoin, rifampin, cigarette smoking, coadministration with oral contraceptives, and alcohol alter metabolism and effectiveness. Cimetidine may ↑ levels. Mexiletine may ↑ levels. May ↑ levels of other drugs (cf. theophylline). Additive cardiac effects may occur with other antiarrhythmics. Drugs that drastically alter urine pH may alter blood levels and risk of toxicity from theophylline. Drugs that drastically alter urine pH may alter blood levels. Alkalization may reduce absorption and effect levels.酸ification may reduce absorption and effectiveness.

Route/Dosage
PO (Adults): 400-mg loading dose initially, then 200 mg 8 hr later, then 200–400 mg q 8 hr; dosage alterations of 50–100 mg may be made q 2–3 days. If controlled on <300 mg q 8 hr, can give same daily dose at 12-hr intervals (not to exceed 1200 mg/day). Some patients may require q 6 hr dosing.

NURSING IMPLICATIONS
Assessment
● Monitor pulse, BP, and ECG periodically throughout therapy. Continuous Holter monitoring and chest x-ray examinations may be necessary to determine efficacy and aid in dosage adjustment.
● Pain: Assess type, location, and severity of pain prior to and periodically throughout therapy.
● Lab Test Considerations: May occasionally cause a positive ANA test result.

Adverse Reactions/Side Effects

NURSING IMPLICATIONS
● Cautiously increase dose to effect. May cause a transient increase in AST concentrations. May cause elevations in liver enzyme concentrations within a few days after initiation of therapy. May cause a transient increase in AST concentrations.
● Lab Test Considerations: May occasionally cause a positive ANA test result.
● May cause anemia. Therapy should be continued if anemia is discovered during therapy. Bolus therapy and reinstitution of therapy are safe. Serum mexiletine concentrations may be determined during dosage adjustment. Hematologic side effects are greater with concentrations >2 mcg/mL.

Discontinued
Potential Nursing Diagnoses
Decreased cardiac output (Indications)
Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation
- When changing from other antiarrhythmic therapy, give the 1st dose of mexiletine 6–12 hr after the last dose of quinidine, 3–6 hr after last dose of procainamide, or 8–12 hr after last dose of tocainide. When changing from parenteral lidocaine, decrease lidocaine dose or discontinue lidocaine 1–2 hr after administration of mexiletine or administer lower initial dose of mexiletine.
- Transfer of patients with life-threatening arrhythmias from other antiarrhythmics to mexiletine should be managed in the hospital.
- PO: Administer with food or antacids to minimize GI irritation.

Patient/Family Teaching
- Advise patient to take medication exactly as directed, at evenly spaced intervals, even if feeling well. Missed doses should be taken within 4 hr or omitted. Do not skip or double up on missed doses.
- Teach patients to monitor pulse. Advise patient to contact health care professional if pulse rate is <50 bpm or becomes irregular.
- May cause dizziness and light-headedness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Advise patient to avoid changes in diet that may drastically acidify or alkalinize the urine.
- Advise patient to notify health care professional if general tiredness, yellowing of the skin or eyes, fever, sore throat, or persistent side effects occur.
- Patients should carry identification describing disease process and medication regimen at all times.

Evaluation/Desired Outcomes
- Decrease in frequency or resolution of serious ventricular arrhythmias.
- Decrease in severity of chronic neurogenic pain.

Why was this drug prescribed for your patient?