Lidocaine Hydrochloride Injection USP
Lidocaine and Epinephrine

THERAPEUTIC CATEGORY: LOCAL ANESTHETIC

PHARMACOLOGY: Lidocaine stabilizes the neuronal membrane by inhibiting the influx of the calcium ions required for neurotransmitter release. Lidocaine has a direct depressant effect on the myocardium and decreases coronary vasodilation. Lidocaine is a local anesthetic with a spectrum similar to that of procaine and many other like agents.

Absorption and Distribution: After parenteral administration, lidocaine is absorbed by the tissues and absorbed into the bloodstream. When it is administered by intravenous route, lidocaine is absorbed rapidly into the bloodstream, reaching maximum concentration in 5 minutes to 1 hour, depending on the dosage and the patient's physical condition. When given intramuscularly or subcutaneously, lidocaine is absorbed more slowly and in less predictable concentration.

Lidocaine is bound to plasma proteins. In clinical concentrations, up to 90% of lidocaine is bound to plasma proteins. Approximately 60% of lidocaine is excreted in the form of various metabolites, and less than 40% is excreted unchanged in the urine. The primary metabolic route is via the liver to excrete metabolites of the drug. The parent compound is excreted in the urine and feces. The metabolites of lidocaine are also excreted in the urine and feces.

CONTRAINDICATIONS: Lidocaine is contraindicated in patients with a known history of hypersensitivity to lidocaine or to any of the local anesthetics of related chemical composition. Lidocaine is not recommended in the treatment of pediatric patients or patients with compromised renal or cardiac function.

ADVERSE EFFECTS: Lidocaine can cause systemic toxicity, including CNS effects, such as CNS depression, vomiting, and hypotension. Cardiac arrhythmias such as tachycardia, ventricular arrhythmias, and cardiac arrest can occur with lidocaine.

PRECAUTIONS: Lidocaine should be used with caution in patients with conditions that may affect its metabolism or its toxic effects, such as renal or hepatic impairment.

Pediatric Use: The safety and effectiveness of lidocaine in pediatric patients have not been established.

Drug Interactions: Lidocaine should not be used with other medications that have similar effects on the myocardium, such as calcium channel blockers or beta blockers. Lidocaine should be used with caution in patients taking medications that may increase the risk of cardiac arrhythmias.

HOW SUPPLIED: Lidocaine hydrochloride injection is available in vials containing 50 mg/mL of lidocaine hydrochloride and 1:200,000 epinephrine. The solution is colorless or pinkish to slightly yellow, and it contains a precipitate.

Phenytoin and other antiepileptic drugs such as phenobarbital, primidone, and carbamazepine are known to increase the risk of lidocaine toxicity, particularly in patients with renal failure. Lidocaine should be used with caution in patients taking these medications.

Adverse Reactions: The most common adverse reaction to lidocaine is CNS depression, including dizziness, drowsiness, and headache. Other adverse reactions include nausea, vomiting, and respiratory depression.

Phenothiazine and/or related compounds (procaine, tetracaine, benzocaine, etc.) have not shown cross sensitization with lidocaine.

The recommended dosage should not be exceeded (see DOSAGE AND ADMINISTRATION).

Dosage and Administration: The dosage of lidocaine and epinephrine should be administered only for the purpose of achieving a therapeutic response.

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