For use by a qualified physician, a hospital, or a laboratory

Lidocaine Injection BP 1% w/v

Composition: Each ml contains:
Lidocaine Hydrochloride BP 10 mg
Water for Injections BP q.s.

Pharmacological action: Lidocaine stabilizes the neuronal membrane and prevents the initiation and transmission of nerve impulses, thereby producing a local anesthetic effect. Onset of action is rapid, and the block may last up to 2 hours. In the heart, lidocaine reduces automaticity by decreasing the rate of diastolic depolarization (phase 4). Lidocaine is classified as a Class 1b antiarrhythmic agent (membrane stabilizer). Action potential duration is reduced due to sodium channel blockade, and the refractory period is shortened.

Pharmacokinetics: Lidocaine is rapidly distributed to all body tissues. Approximately 65% is bound to plasma proteins. Lidocaine crosses the placenta and the blood-brain barrier.
The plasma half-life is 1.6 hours. Approximately 80% of the dose is metabolized in the liver; less than 10% is excreted unchanged in the urine.

Indications: Lidocaine Injection is indicated for local infiltration anesthesia, intravenous regional anesthesia, and nerve blocks, as well as for intravenous injection in the emergency management of ventricular arrhythmias, particularly following myocardial infarction and cardiac surgery.

Dosage and administration:
For local anesthesia: Dosage varies depending on the area to be anesthetized, tissue vascularity, the number of neuronal segments to be blocked, individual tolerance, and the anesthetic technique used. The lowest dose required to achieve anesthesia should be administered.
Adults: The usual dose should not exceed 200 mg.
Children: The usual dose should not exceed 3 mg/kg. For intravenous use in cardiac arrhythmias:
Adults: The usual dose is 50 to 100 mg administered intravenously under ECG monitoring. This dose may be injected at a rate of approximately 25 to 50 mg (2.5 to 5.0 ml of 1% solution or 1.25 to 2.5 ml of 2% solution) per minute. Sufficient time should be allowed for the drug to be transported via the circulation to the site of action. If the initial dose of 50 to 100 mg does not produce the desired response, a second dose may be administered after 5 minutes. No more than 200 to 300 mg of Lidocaine should be administered within a one-hour period.
Children: Experience with Lidocaine is limited. A suggested pediatric regimen is a loading dose of 0.8 to 1 mg/kg, repeated if necessary up to a total of 3–5 mg/kg, followed by a continuous infusion of 10 to 50 mcg/kg/minute.
Elderly: Doses may need to be reduced depending on age and physical condition, or as directed by the physician.

Undesirable effects:
Adverse effects are generally due to inadvertent intravenous administration or overdose.
Allergic reactions (including anaphylaxis) have been rarely reported. The following systemic reactions have been reported in association with lidocaine:
Central nervous system: Lightheadedness, drowsiness, dizziness, apprehension, nervousness, euphoria, tinnitus, blurred or double vision, nystagmus, vomiting, sensations of heat, cold, or numbness, muscle fasciculations, tremors, paresthesia, convulsions, unconsciousness, depression, and respiratory arrest.
Cardiovascular system: Hypotension, cardiovascular collapse, and bradycardia, which may lead to cardiac arrest. Allergic reactions may occur with any drug, including Lidocaine Injection; however, reported cases involving this drug are rare.

Pregnancy and breastfeeding: The safety of lidocaine use regarding possible adverse effects on fetal development has not been established. Lidocaine is excreted in breast milk; therefore, it should be used with caution in nursing women.

Warnings and precautions: Continuous ECG monitoring is required during IV administration. Resuscitation equipment and drugs must be immediately available to manage severe cardiovascular, respiratory, and central nervous system adverse effects. If severe reactions occur, lidocaine must be discontinued. Use with caution in patients with epilepsy, liver disease, congestive heart failure, severe renal disease, marked hypoxia, severe respiratory depression, hypervolemia, or shock, and in patients with any type of heart block or sinus bradycardia. Hypokalemia, hypoxia, and acid-base imbalances should be corrected before initiating treatment with lidocaine.

Drug interactions: Propranolol and cimetidine may reduce the renal and hepatic clearance of lidocaine, thereby increasing toxicity. The cardiac depressant effects of lidocaine are additive to those of other antiarrhythmic agents. Lidocaine prolongs the action of suxamethonium.

Storage: Store in a cool (below 25°C) and dark place. Injection vial.

KEEP ALL MEDICINES OUT OF THE REACH OF CHILDREN.

Presentation: 50 ml glass injection vial.

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