

Southern Illinois Regional EMS System

JJ-17 LIDOCAINE

Class:

- Antidysrhythmic (Class I-B), local anesthetic.

Description:

- Lidocaine is a sodium channel blocker that decreases phase 4 diastolic depolarization, which decreases automaticity.

Onset and Duration:

- Onset 30-90 seconds.
- Duration: 10-20 minutes.

Indications:

- Ventricular arrhythmias when amiodarone is contraindicated or not available.
- Stable wide-complex tachycardia of uncertain origin.

Contraindications:

- Hypersensitivity
- Bleeding
- Adams-Stokes syndrome
- Wolf-Parkinson-White Syndrome
- Second- or third-degree heart block in the absence of an artificial pacemaker

Adverse Reactions:

- Light-headedness
- Confusion
- Blurred vision
- Hypotension
- Cardiovascular collapse
- Bradycardia
- Altered level of consciousness, irritability, muscle twitching, seizures with high doses

Drug Interactions:

- Metabolic clearance of Lidocaine may be decreased in patients taking beta-adrenergic blockers or in patients with decreased cardiac output or liver dysfunction.
- Apnea induced with succinylcholine may be prolonged with large doses of Lidocaine.
- Cardiac depression may occur if Lidocaine is given concomitantly with IV phenytoin.
- Additive neurological effects may occur with procainamide and tocainide.

How Supplied:

- Prefilled syringes, 100mg in 5mL of solution.
- 1 and 2 gram vials
- Pre-mixed bag
 - 2g in 500mL D5W

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LIDOCAINE (XYLOCAINE) (continued)

Dosage and Administration:

- Ventricular Tachycardia/Ventricular Fibrillation/Cardiac Arrest:
 - Adult:
 - 1-1.5mg/kg IV/IO or:
 - Endotracheal tube at 2-2.5 times the IV/IO dose.
 - Consider repeat in 3-5 minutes.
 - Repeat dose is half of original dose
 - 0.5-0.75mg/kg IV/IO
 - Maximum total dose of 3mg/kg.
 - Pediatric:
 - 1mg/kg IV/IO or:
 - Endotracheal tube (diluted to 3-5mL).
 - Maximum dose 100mg
- Maintenance Infusion after Resuscitation from Ventricular Tachycardia/Ventricular Fibrillation/Cardiac Arrest:
 - Adult
 - 30-50mcg/kg/minute
 - Pediatric
 - 20-50mcg/kg/minute
- Wide complex Paroxysmal Supraventricular Tachycardia/Wide Complex Tachycardia of Uncertain Type/Stable Ventricular Tachycardia:
 - Adult:
 - Initial loading dose of 1-1.5mg/kg IV/IO
 - If needed give 0.5-0.75mg/kg in 5-10 minutes (max total dose of 3mg/kg)
 - After conversion, start an infusion per above
 - Pediatric:
 - Initial loading dose of 1mg/kg IV/IO:
 - Followed by an infusion per above

Special Considerations:

- Pregnancy Category B.
- If bradycardia occurs along with premature ventricular contractions, always treat the bradycardia first with atropine.
- Exceedingly high doses of Lidocaine can result in coma or death.
- Consider decreasing dose in the elderly.
- Avoid Lidocaine for reperfusion dysrhythmias following fibrinolytic therapy.
- Use extreme caution in patients with hepatic disease, heart failure, marked hypoxia, severe respiratory depression, hypovolemia or shock, incomplete heart block, or bradycardia and atrial fibrillation.