
AUTHORIZED BY: CPC Quality of Care Committee
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TITLE: **AMIODARONE**

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- Other Names:**
- Cordarone, Pacerone
- Classifications:**
- Antiarrhythmic
- Pharmacodynamics:**
- Amiodarone hydrochloride is generally considered a Class III antiarrhythmic drug, but it possesses electrophysiologic characteristics of all four Vaughan Williams classes. Like Class I drugs, Amiodarone blocks sodium channels at rapid pacing frequencies, and like Class II drugs, it exerts antisymphathetic activity. One of its main effects, with prolonged administration, is to lengthen the cardiac action potential, a Class III effect. The negative chronotropic effect of Amiodarone in nodal tissues is similar to the effect of Class IV drugs. In addition to blocking sodium channels, Amiodarone blocks myocardial potassium channels, which contributes to the slowing of conduction and prolongation of refractoriness. The antisymphathetic action and block of calcium and potassium channels are responsible for the negative dronotropic effects on the sinus node and for the slowing of conduction and prolongation of refractoriness in the atrioventricular (AV) node.
 - Additionally, Amiodarone has vasodilatory action that can decrease cardiac workload and consequently myocardial oxygen consumption.
- Onset:**
- IV: 15 minutes
- Peak:**
- IV: 1 to 4 hours
- Duration:**
- IV: 3 to 6 hours
- Indications:**
- Amiodarone Hydrochloride for Injection is indicated for initiation of treatment of documented, life-threatening, frequently recurring ventricular fibrillation and hemodynamically unstable ventricular tachycardia in patients refractory to all other treatment. Additionally, intravenous amiodarone can be used to treat patients with VT/VF for whom oral amiodarone is indicated, but who are unable to take oral medication. During or after treatment with intravenous amiodarone patients may be transferred to oral amiodarone therapy.
 - Amiodarone is used in a wide variety of atrial and ventricular tachyarrhythmias and for rate control of rapid atrial arrhythmias in patients with impaired left ventricular function when digoxin had been proven ineffective.
- Contraindications:**
- In patients with known hypersensitivity to any of the components of Amiodarone Hydrochloride for Injection, and in patients with cardiogenic shock, marked sinus bradycardia, and second- or third-degree AV block unless a functioning pacemaker is available.

Precautions:

- Liver Enzyme Elevations: patients receiving oral or intravenous amiodarone should be monitored carefully for evidence of progressive hepatic injury.
- Electrolyte Disturbances: Patients with hypokalemia or hypomagnesemia should have the condition corrected whenever possible before being treated with amiodarone, since these disorders can exaggerate the degree of QTc prolongation and increase the potential for torsades de pointes. Special attention should be given to electrolyte and acid-base balance in patients experiencing severe or prolonged diarrhea and receiving concomitant diuretics.
- Terminal elimination is extremely long (half life lasts up to 40 days).

Adverse Reactions:

- Hypotension is the most common adverse event seen with intravenous amiodarone therapy. Hypotension should be treated initially by slowing the infusion: additionally standard therapy may be needed including vasopressor drugs, positive inotropic agents and volume expansion.
- Amiodarone may cause a worsening of the existing arrhythmias or precipitate a new arrhythmia. Amiodarone causes prolongation of the QT interval. Proarrhythmia, primarily torsades de pointes, has been associated with prolongation of the QTc interval to 500 ms or greater.
- Bradycardia was reported as an adverse drug reaction in 4.9% of patients receiving intravenous amiodarone for life-threatening VT/VF in clinical trials.
- During clinical studies using intravenous amiodarone, 2% of patients were reported to have adult respiratory distress syndrome (ARDS).
- The most common serious adverse events leading to discontinuation of intravenous amiodarone therapy are ventricular tachycardia, hypotension, cardiac arrest (asystole/PEA), and cardiogenic shock.

Drug Interactions:

- β -Blockers: Since amiodarone has weak beta-blocking activity, use with beta-blocking agents could increase risk of hypotension and bradycardia.
- Do not routinely administer with other drugs that prolong QT interval (i.e: procainamide)
- Calcium Channel Blockers: Amiodarone may have additive effects on atrioventricular conduction or myocardial contractility, increasing the risk of hypotension.

Preparations

- Each mL of clear, pale yellow, sterile aqueous solution contains: amiodarone HCl 50 mg.

References:

- Pharmacists Drug Handbook, Springhouse 2001
- Compendium of Pharmaceutical and Specialties 2013
- 2015 AHA Guidelines : ACLS
- Ontario Provincial ALS Patient Care Standards (ACP), Version 4.5

Note: The information contained herein does not supersede or negate the MoHLTC Provincial Advanced Life Support Patient Care Standards and should only serve as general information about the medication itself. . For medication dosages, please refer to the current version of the Ontario Provincial ALS Patient Care Standards.