Drug Guideline: Amiodarone (CordaroneX)

Summary:
Amiodarone is a Class III antiarrhythmic that prolongs the cardiac action potential and the refractory period of atrial, nodal and ventricular tissues. It is used to treat severe tachyarrhythmias.

Approved by: Medical Director
Publication (Issue) Date: August 2014
Next Review Date: August 2017
Replaces Existing Drug Guideline: amiodarone_2011

1. Introduction contains:
The risk addressed by this policy:

Patient Safety

The Aims / Expected Outcome of this policy:

Amiodarone will be administered safely and appropriately without any adverse side effects.

Related Standards or Legislation

- NSQHS Standard 1 Governance
- National Standard 4 Medication Safety

Related Policies
- LH_PD2013_C03.01 Drug Administration
- LH_PD2010_C03.00 Drug Prescribing
- LH_PD2008_C03.12 Administration of IV Medication
- LH_PD2012_C03.05 Accountable Drugs – Schedule 8 (S8) and S4D

2. Policy Statement:
- All care provided within Liverpool Hospital will be in accordance with infection control, manual handling and minimisation and management of aggression guidelines.
- Medications are to be prescribed and signed by a medical officer/authorised nurse practitioner (NP) unless required during an emergency.
- All drugs administered during an emergency (under the direction of a medical officer/authorised nurse practitioner) are to be documented during the event, then prescribed and signed following the event.
Medications are to be given at the time prescribed (as close to the time as is possible when multiple drugs require ‘same time’ administration and, when the nurse is caring for more than one patient, recognition is given to a possible short delay to administration – antibiotics and other lifesaving drugs are to be prioritised) and are to be signed by the administering nurse.

Parenteral medication prescriptions and the drug are to be checked with a second registered or endorsed enrolled nurse prior to administration. The “rights of drug administration” must be followed: right: patient, drug, dose, route, administration, time, reason for the drug, documentation, education and evaluation/outcome.

Adverse drug reactions are to be documented and reported to a medical officer.

Medication errors are to be reported using the hospital electronic reporting system: IIMS.

Guidelines are for adult patients unless otherwise stated.

Amiodarone infusions maybe weaned and or titrated by accredited RNs.

Medical Officers must ensure that titration and/or weaning parameters are specified on the management plan and have been discussed with the nurse caring for the patient. This information must be part of the clinical handover.

Amiodarone may be administered via a peripheral cannula or central line.

Amiodarone must always be administered via a dedicated lumen and never “piggybacked” with other drugs or fluids. Where multiple infusions are required, administer with other compatible drugs, via a three-way tap.

Amiodarone infusions must be administered by syringe pump or infusion pump.

Amiodarone infusions must not be administered via the drug infusion port on a haemodialysis circuit.

The patient must be monitored whilst on this infusion.

If administered peripherally the infusion must be diluted appropriately as it may cause pain and inflammation at the site.

For the purposes of this Policy, an accredited RN is: a Registered Nurse (RN) who has completed the required self directed learning packages and has been assessed by an Educator (CNE) /Clinical Nurse Consultant (CNC) /Nursing Unit Manager (NUM), to administer/titrate inotropic drugs when caring for an Intensive Care Unit (ICU) Patient. The CNE/CNC/NUM may deem the nurse competent if the nurse has previous documented experience/ qualifications.

3. Principles / Guidelines

Actions (1, 2)

- Class III antiarrhythmic
- Decreases sinus node and junctional automaticity, slows atrioventricular (AV) and bypass tract conduction and prolongs refractory period of myocardial tissues (atria, ventricles, AV node and bypass tract); also has weak beta-blocker activity
- Amiodarone increases coronary blood flow, decreases cardiac oxygen requirements and suppresses ectopic pacemakers.
- It has effects on sodium, potassium and calcium channels as well as alpha and beta-adrenergic blocking properties.

Indications (1, 2)

- Treatment and prophylaxis of tachyarrhythmia’s
- Atrial fibrillation and flutter
- Conscious ventricular tachycardia
- Pulseless ventricular tachycardia and ventricular fibrillation (between the third and fourth shock, when refractory to defibrillation and a vaspressor)\(^6\).

Contraindications (2)

- Bradycardia, A-V block with syncope, Sick sinus syndrome, A-V conduction and bi/trifascicular disorders
• Combined therapy with drugs that may induce torsades de pointes e.g. disopyramide, procainamide, quinidine, mexiletine, sotalol, bepridil
• Iodine hypersensitivity
• Thyroid dysfunction
• Severe respiratory failure, cardiomyopathy, circulatory collapse
• Pregnancy and lactation

Significant Interactions (1, 2)
• Co-administration with calcium antagonists may cause bradycardia.
• Potentiates the effect of Beta blockers.
• Potentiates the effect of warfarin by increasing prothrombin time
• It should be used cautiously with drugs that cause hypokalaemia such as diuretics, systemic corticosteroids and amphotericin.
• Causes increased serum levels of quinidine, procainamide, digoxin, flecainide and phenytoin
• Amiodarone is incompatible with heparin when mixed in an infusion administration set and is not to be mixed with other drugs.

Adverse Effects (1, 2)
• Bradycardia, heart block.
• Hypotension
• Excessive prolongation of QT interval (>0.6 seconds).
• Potentiates the effects of warfarin, calcium channel blockers and beta-blockers.
• Elevates the serum digoxin level.
• LONG TERM administration may cause photosensitivity, hyper/hypothyroidism, lung fibrosis, prolonged PT, corneal deposits.
• Abnormal liver function tests.
• If administered peripherally, may cause pain and inflammation at the infusion site if not properly diluted (see below for dilution guidelines when administering amiodarone peripherally)

Presentation (1, 2)
Amiodarone 150mg in 3mL ampoule

Administration Guidelines

BOLUS DOSE CARDIAC ARREST:
Initial Bolus Dose is 300mg. An initial dose of 150mg could be considered. This may be followed by an infusion of 15mg/kg over 24hrs (ARC Guideline 2010)

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<tr>
<th>LOADING DOSE (1, 2)</th>
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<tr>
<td>Dilute 150mg amiodarone in 50mL sterile 5% glucose and administer over 30 minutes OR dilute 300mg amiodarone in 100mL sterile 5% glucose and administer over 60 minutes.</td>
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<td>Then commence an infusion if necessary.</td>
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<tr>
<th>MAINTENANCE DOSE (1, 2)</th>
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<td>900mg in 24 hours to be administered as 2 x 12 hour infusions (450mg in 12 hours), this includes the above loading dose. Begin oral treatment as soon as possible overlapping oral and IV treatment by 2 days.</td>
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<th>MAINTENANCE DOSE: INFUSION FOR ADMINISTRATION VIA CENTRAL VENOUS ACCESS DEVICE</th>
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<tr>
<td>Dilute 450mg amiodarone to 50mL sterile 5% glucose, to give a final concentration of 9mg/mL.</td>
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<td>Administer this dose over 12 hours, i.e. at a rate of 4.2 mL/hr via a syringe driver.</td>
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MAINTENANCE DOSE: INFUSION FOR ADMINISTRATION VIA PERIPHERAL ACCESS

- Dilute 450mg amiodarone to 250mL sterile 5% glucose, to give a final concentration of 1.8mg/ml
- Administer this dose over 12 hours at a rate of 21mL/hr via volumetric pump.

NOTE:
- Monitor patient ECG and ST interval, perform serial 12-lead ECGs.
- Amiodarone is incompatible with 0.9% sodium chloride, or glucose/saline solutions.

Clinical Considerations
- Monitor for lengthening QT interval.
- Monitor for bradycardia and hypotension.
- Assess thyroid function.
- Chest X-ray to be performed if patient develops unexplained dyspnoea.
- Assess liver function tests.
- Peripheral infusions monitor for signs of phlebitis.
- Assess for possible drug interactions and monitor appropriately.

4. Performance Measures
All incidents are documented using the hospital electronic reporting system: IIMS and managed appropriately by the NUM and staff as directed.

5. References / Links
2. MIMS Online, CIAP: NSW Health Department, Copyright MIMS Australia Pty Ltd 2013. [http://www.mims.hcn.net.au/][http://www.mims.hcn.net.au/]

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