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Safety Notice 003/09

11 February 2009

Intravenous Amiodarone

Reducing the incidence of thrombophlebitis associated with intravenous administration.

Distributed to:

- Chief Executives
- Directors of Clinical Governance
- Directors of Clinical Operations

Action required by:

- Directors of Clinical Governance

We recommend you also inform:

- Directors of Emergency Medicine
- Directors of Medical Services
- Directors of Ambulance Services
- Directors of Intensive Care
- Cardiologists
- Directors of Nursing and Midwifery
- Medical staff
- Nurses
- Pharmacists

Expert Reference groups

Content reviewed by:

- Clinical Excellence Commission
- NSW Therapeutic Advisory Group
- NSW Medication Safety Strategy Committee
- Greater Metropolitan Clinical Taskforce Cardiac Network
- Emergency Care Taskforce

Quality and Safety Branch

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<http://www.health.nsw.gov.au/quality/sabs/index.html>

Background

Amiodarone is a medication used to treat cardiac tachyarrhythmias. Often in cases of severe cardiac arrhythmia, amiodarone is administered by the intravenous route, and care is required when administering amiodarone intravenously due to potential adverse effects.

Thrombophlebitis is a common reaction that may occur when intravenous amiodarone is administered peripherally at high concentrations or repeatedly or when continuous peripheral administration is required. Whilst this adverse effect is quite commonly observed, it can be avoided.

Harm to Patients

Systematic analysis of incidents involving amiodarone reported via the Incident Information Management System (IIMS) identified a significant number were attributed to the incorrect administration of intravenous amiodarone resulting in thrombophlebitis and considerable pain for the patient. The main contributing factors to the development of thrombophlebitis were administration of amiodarone peripherally at a concentration which was too high, repeated or continuously administered. A number of incidents also identified additional complications such as infection.

Steps to minimise harm associated with intravenous amiodarone

- For peripheral administration (single dose) of amiodarone, dilute amiodarone in glucose 5% (to a maximum of 2mg/mL except in emergencies) and infuse via a volumetric pump over a period of at least 20 minutes up to, but no more than, 2 hours. If giving higher concentrations, use a central/PICC line.
- A central venous catheter or a large bore peripheral catheter (18g or above), inserted via the cubital fossa should be used if repeated administration or continuous infusions of amiodarone are required.
- Amiodarone administered intravenously over 1-2 minutes, **should only be used in emergency situations.**
- Amiodarone should only be administered where cardiac monitoring and defibrillation are available.

References

The Society of Hospital Pharmacists of Australia, **Australian Injectable Drugs Handbook, Fourth Edition**, 2008. <http://proxy6.use.hcn.com.au/ebooks/aidh/>

Amiodarone. In: **MIMS Online** MIMS Australia; 2008- [Accessed 16 January 2009].

http://proxy8.use.hcn.com.au/ifmx-nsapi/mims-data/?Mlval=2MIMS_ssearch

Amiodarone. In: **Drugdex** Greenwood Village (CO): Thompson

Micromedex; 1974-2008 Accessed 16 January 2009].: <http://proxy1.use.hcn.com.au/hcs/librarian>

Suggested Actions by Area Health Services

1. Ensure that this safety notice is distributed to all clinical staff involved in the administration of medications.
2. Ensure staff members new to areas administering intravenous amiodarone are made aware of the risks associated with intravenous amiodarone use.
3. Where a specific protocol for use of amiodarone exists, ensure that it contains specific guidance on the concentration of infusions to be used.
4. Where a specific protocol on the use of amiodarone is not in place, ensure that generic advice, such as the Australian Injectable Drugs Handbook, is available to guide treatment decisions. The Handbook is available through the NSW Department of Health CIAP at: <http://www.ciap.health.nsw.gov.au/> or <http://internal.health.nsw.gov.au:2001/>