Safety Notice 009/16

Avoiding thrombophlebitis with intravenous amiodarone (Revised 10 February 2017)

10 February 2017

Distributed to:

- Chief Executives
- Directors of Clinical Governance
- Director, Regulation and Compliance Unit
- Drug and Therapeutic Committees

Action required by:

- Directors of Clinical Governance

We recommend you also inform:

Directors of:

- Emergency Medicine
- Medical Services
- Ambulance Services
- Nursing and Midwifery

- Cardiology Units
- Intensive Care Units
- Medical Staff
- Nurses
- Pharmacists

Expert Reference Group

Content reviewed by:

- Clinical Excellence Commission
- Medication Safety Expert Advisory Committee

Clinical Excellence Commission

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Review date

November 2018

Background

Amiodarone is a medication used to treat cardiac tachyarrhythmias. In cases of severe cardiac arrhythmia, amiodarone is often administered by the intravenous route; however, 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, repeatedly, or when continuous peripheral administration is used.

Harm to Patients

Systematic analysis of NSW hospital incidents involving amiodarone has revealed that the main contributing factors to the development of thrombophlebitis were administration of amiodarone peripherally at a concentration that was too high, or repeated or continuous intravenous administration.

Steps to minimise thrombophlebitis associated with intravenous amiodarone

For administration of a **single dose** via a peripheral intravenous cannula:

- dilute in glucose 5% to a maximum concentration of 2mg/mL and infuse via an infusion device over a period of 20 minutes to 2 hours[1]. Amiodarone should only ever be administered over shorter time periods in emergency situations[1].

- avoid areas of flexure where it may be difficult to stabilise the peripheral intravenous cannula. Use the most appropriate cannula size for the vein as use of a peripheral intravenous cannula that is too large for the vein increases the risk of phlebitis[2].

For administration of a **high concentration infusion or repeated or continuous intravenous administration**:

- Consider administration via a central venous access device (CVAD) for concentrations greater than 2mg/mL[1], or if repeated administration or a continuous infusion of amiodarone are required [1, 3, 4].

References

1. Burridge N, Symons K editors. Australian injectable drugs handbook. 7th ed. Collingwood: Society of Hospital Pharmacists of Australia; 2017
2. Intravenous Nurses Society (2016) Intravenous Nursing Standards of Practice, 45 Phlebitis 2016:S95
3. MIMS Online (2017) https://www.mimsonline.com.au.acs.hcn.com.au/Search/Search.aspx
4. Norton L, et al Phlebitis in amiodarone administration: Incidence, contributing factors, and clinical implications. American Journal of Critical Care. 2013; 22: 498-505

Local Health Districts/Networks should:

1. Forward information to relevant clinicians, clinical departments and Drugs and Therapeutic/ Medication Safety Committees for action.
2. Ensure staff members new to areas administering intravenous amiodarone are made aware of the risks associated with intravenous amiodarone use.
3. Where a local protocol for use of amiodarone exists, ensure that it contains specific guidance on the concentration of infusions to be used.
4. Where a local protocol on the use of amiodarone is not in place, reference to appropriate medicines information texts, such as the Australian Injectable Drugs Handbook, should be used to guide treatment decisions. The Handbook is available at: http://aidh.hcn.com.au/browse/about_aidh
5. Ensure a system is in place to document and review actions taken and any incidents involving intravenous amiodarone.