Safety Notice 001/22

Avoiding thrombophlebitis with intravenous amiodarone (updated)

4 March 2022

Distributed to:

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

Action required by:

- Directors of Clinical Governance

We recommend you also inform:

- Directors of:
  - Emergency Medicine
  - Medical Services
  - Ambulance Services
  - Nursing and Midwifery
- Intensive Care Units
- Medical Staff
- Nurses
- Pharmacists
- Cardiology Units

Expert Reference Group Content reviewed by:

- Clinical Excellence Commission
- Medication Safety Expert Advisory Committee

Clinical Excellence Commission

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Internet Website: https://www.health.nsw.gov.au/sabs/

Intranet Website: http://internal.health.nsw.gov.au/quality/sabs/

Review date February 2024

PLEASE NOTE – this revision of SN009/16 includes a new recommendation regarding the use of in-line filters.

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 including thrombophlebitis.

Systematic analysis of incidents in NSW hospitals 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 peripherally.

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 2 mg/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 flexion and ensure peripheral intravenous cannula is stabilised.[2]
- Use the most appropriate cannula size for the vein. Use of a peripheral intravenous cannula that is too large in diameter for the vein increases the risk of phlebitis.[2]

For administration of a **high concentration infusion (greater than 2 mg/mL) or when repeated or continuous intravenous administration is anticipated** consider administration via a central venous access device (CVAD).[1,3,4]

The use of in-line filters may reduce risk of thrombophlebitis and is recommended.[5]

References

1. Symons K, Ermer J editors. Australian injectable drugs handbook. 8th ed. Collingwood: Society of Hospital Pharmacists of Australia; 2020
2. Gorski LA, et al. Infusion therapy standards of practice. Journal of Infusion Nursing. 2021 Jan-Feb; 44(suppl 1): S1-S224
3. MIMS Online (2021) 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: 498-50
5. Oragano CA, et al Phlebitis in intravenous amiodarone administration: incidence and contributing Factors. Critical Care Nurse. 2019 Feb; 39(1): e1-e12

Suggested actions for the Local Health Districts/Networks

1. Forward this Safety Notice to relevant clinicians, clinical departments and Drug and Therapeutics / Medication Safety Committees for action.
2. Ensure staff members new to clinical areas administering intravenous amiodarone are made aware of the risks associated with its 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, the use of in-line filters and situations where administration via a central venous access device should be considered.
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.
5. Ensure a system is in place to document and review actions taken and any incidents involving intravenous amiodarone.
6. Confirm receipt and distribution of this notice within 48 hours to CEC-MedicationSafety@health.nsw.gov.au