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SAFER USE OF HIGH RISK MEDICINES

Waitemata District Health Board
Best Care for Everyone

AMIODARONE – SAFE PRESCRIBING – KEEP AN EYE ON IT

- MAKE SURE THERE IS A PLAN FOR MONITORING AND DOSE ADJUSTMENT
- CHECK LIVER FUNCTION AND THYROID FUNCTION EVERY 6 MONTHS
- INVESTIGATE NON-PRODUCTIVE COUGH AND DYSPNOEA
- ADVISE PATIENTS ABOUT PHOTOTOXICITY
- REFER TO AN OPTHALMOLOGIST IF VISION BECOMES IMPAIRED

Amiodarone is used for the treatment of arrhythmias, particularly when other drugs are ineffective or contraindicated. Amiodarone should be initiated under hospital or specialist supervision.

Note: Amiodarone has been confused with other agents, notably allopurinol and amlodipine. Please take special care with these medicines when prescribing or dispensing.

MAKE SURE THERE IS A PLAN FOR MONITORING AND DOSE ADJUSTMENT

Long-term monitoring and evaluation of amiodarone is often the responsibility of the primary care team. Please ensure it is clear who is organising and monitoring amiodarone for each patient. Check dose reductions occur post-discharge as planned. The high initial dose is necessary because it takes time before the optimal tissue levels of amiodarone are achieved.

Recommended amiodarone dosing regime

Week	Dose
Week 1	200mg three times daily
Week 2	200mg twice daily
Week 3 onwards	200mg* daily

*or the minimum required to control the arrhythmia

It is important that the minimum effective maintenance dose is used, especially in older adults who are more susceptible to bradycardia and conduction defects associated with higher doses.

Note: Some patients may have higher doses of amiodarone under the direct supervision of a cardiologist.

Interactions with amiodarone

Amiodarone increases serum digoxin; if both agents are necessary, reduce the dose of **digoxin** and monitor closely. Amiodarone impairs the metabolism of **warfarin**, potentiating its anticoagulant effect and risk of bleeding. If both are necessary, reduce the warfarin dose, and monitor INR weekly until stable.

Please refer to: www.nzf.org.nz for a comprehensive list

CHECK LIVER FUNCTION AND THYROID FUNCTION EVERY 6 MONTHS*

Liver function

Liver function tests are recommended at baseline and every 6 months. If serum transaminases are raised, a dose reduction is advised; if clinical signs of liver disease are evident, amiodarone should be stopped.

Thyroid function

Amiodarone can cause disorders of thyroid function. Thyroid stimulating hormone (TSH) levels, and clinical symptoms of thyroid dysfunction (such as weight loss, angina and congestive heart failure) should be assessed before treatment, every 6 months during treatment, and for several months after discontinuation.

Amiodarone-induced **hyperthyroidism** can develop rapidly and may present as a new arrhythmia. The occurrence, or recurrence of tachycardia or atrial fibrillation, is an indication to re-check thyroid function.

Hypothyroidism has also been associated with amiodarone use. Inform patients to report symptoms such as fatigue, cold intolerance and dry skin. If hypothyroidism is detected, refer to an endocrinologist for review.

***Note**: some cardiologists recommend 3-monthly testing.

INVESTIGATE NON-PRODUCTIVE COUGH AND DYSPNOEA

Pulmonary toxicity (including pneumonitis and fibrosis) is the most serious adverse effect of amiodarone. Patients should report non-productive coughing or dyspnoea. If pneumonitis is suspected, stop amiodarone and arrange lung function tests and a chest X-ray. Some guidelines recommend annual chest X-rays for all patients.

Cardiotoxicity including bradycardia and conduction disturbances can occur with higher doses, especially in older patients, or when combined with other antiarrhythmic agents.
Proarrhythmia (torsades) is rare when amiodarone is used alone, but the risk increases when combined with other drugs

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that prolong the QT interval (eg tricyclic antidepressants and sotalol). As with other antiarrhythmic medicines, it can be difficult to determine whether an observed arrhythmia is caused by antiarrhythmic-related toxicity, or because of a lack of therapeutic effect. Electrocardiogram (ECG) monitoring is usually recommended on an annual basis.

ADVISE PATIENTS ABOUT RISK OF PHOTOTOXICITY

Amiodarone causes photosensitivity reactions ranging from an increased likelihood to suntan, to intense burning and swelling of exposed areas. Patients should protect their skin during treatment and for several months after discontinuing amiodarone.

A persistent slate-grey skin discolouration may also occur and continue for up to 12 months after discontinuation. A dose reduction may help to avoid this; some patients may wish to discontinue amiodarone.

REFER TO AN OPTHALMOLOGIST IF VISION BECOMES IMPAIRED

Patients with pre-existing visual impairment should have an eye examination prior to amiodarone treatment.

Most patients develop corneal microdeposits which are reversible on amiodarone withdrawal, and sometimes following dose reduction. Although they rarely interfere with vision, drivers may be dazzled by headlights at night.

More serious ocular effects include optic neuritis and optic neuropathy, which can progress to blindness. Optic neuropathy can present acutely or gradually, with decreased visual acuity, decreased colour vision, or visual field loss. Optic neuropathy usually occurs in both eyes within 12 months of starting amiodarone, and improves or resolves when it is discontinued.

RECOMMENDED AMIODARONE MONITORING

	BASELINE	FOLLOW UP	
		6-monthly	Annually
Electrocardiogram (ECG)	✓		✓
Chest X-ray (CXR)	✓		✓
Thyroid function tests (TFTs)*	✓	✓	
Liver function tests (LFTs)*	✓	✓	
Pulmonary function tests (PFTs)	Only if any symptoms of respiratory deficiency	Only for those with suspicious symptoms	
Eye examination	Only if pre-existing visual impairment	Slit lamp assessment suggested for those with suspicious symptoms	

*__Note__: some cardiologists recommend 3-monthly testing.

KEY REFERENCES

1. Amiodarone, New Zealand Formulary www.nzf.org.nz/nzf_1090.html?searchterm=amiodarone (Accessed 16-09-13)
2. Sanofi-Aventis New Zealand Limited. Cordarone X Data Sheet. 12 December 2012. www.medsafe.govt.nz/profs/datasheet/c/cordaronextabinj.pdf (Accessed 19-09-12)
3. Mann S. Amiodarone montoring. Best Practice Journal 2008;14:50. http://bpac.org.nz/BPJ/2008/June/correspondence.aspx#3 (Accessed 11-10-13)

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CLICK HERE FOR FURTHER INFORMATION ON AMIODARONE AND A FULL REFERENCE LIST

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