Blood monitoring amiodarone/dronedarone

Both of these agents are commonly used anti-arrhythmic drugs and require infrequent blood monitoring.

Dronedarone:

This agent is licensed for maintenance of sinus rhythm in patients with paroxysmal atrial fibrillation, or persistent atrial fibrillation undergoing cardioversion. **This drug is initiated by a consultant cardiologist** and these patients are normally under routine specialist follow up to ensure clinical efficacy. The dose is 400mg bd.

Contraindications include clinical heart failure or left ventricular systolic dysfunction. Liver and kidney injury, heart failure and pulmonary toxicity are reported side effects encountered (see below). Baseline renal and hepatic function will be checked prior to initiation.

These blood monitoring requirements and side effects are also available to read in the British National Formulary (BNF).

Post initiation blood monitoring:
A table detailing monitoring requirements is presented at the end of this document.

Measure serum **creatinine 7 days** after initiation—if raised, measure again after a further **7 days**. Discontinue if creatinine continues to rise and contact Consultant Cardiologist in charge of care to explore alternative treatment options. Monitor 6 monthly thereafter – if any abnormalities contact Consultant Cardiologist for advice.

Monitor **liver function 1 week** and **1 month** after initiation, monthly until **6 months**, at **9, 12 months** then **6 monthly thereafter** – if any abnormalities contact Consultant Cardiologist for advice.

Reported side-effects:
If side-effects develop liase early with the Consultant Cardiologist while it is being investigated.

Liver injury: Liver injury including life-threatening acute liver failure reported rarely; discontinue treatment if 2 consecutive alanine aminotransferase concentrations exceed 3 times upper limit of normal.

Heart failure: New onset or worsening heart failure reported. If heart failure or left ventricular systolic dysfunction develops, discontinue treatment.

Pulmonary toxicity: Interstitial lung disease, pneumonitis and pulmonary fibrosis reported. Investigate if symptoms such as dyspnoea or dry cough develop and discontinue if confirmed.

Amiodarone:

This agent is licensed for a range of both ventricular and supra-ventricular arrhythmias and is usually initiated by a cardiologist. Patients undergo an initial loading regime followed by one daily maintenance dosing.

This drug is a potent anti-arrhythmic with side effects including phototoxicity, corneal micro-deposits, thyroid, liver and pulmonary toxicity. There are necessary monitoring requirements.

Monitoring requirements

A table detailing monitoring requirements is presented at the end of this document.

Thyroid function tests (TSH, T3 and T4), liver function tests, serum potassium should all be performed before treatment and then every 6 months. Clinical assessment of thyroid function alone is unreliable. Thyroxine (T4) may be raised in the absence of hyperthyroidism; therefore tri-iodothyronine (T3), T4, and thyroid-stimulating hormone (thyrotrophin, TSH) should all be measured. If this drug is initiated by a Cardiologist then they will use recent bloods or update bloods prior to initiation.

Post initiation blood monitoring:
TFTs and LFTs should be measured at **6 monthly** intervals following initiation. If any abnormalities contact Consultant Cardiologist for advice.

Reported side-effects:
If this drug is initiated by Cardiology the Cardiologist will counsel patients on side effects prior to initiation.

If side effects develop liase early with the Consultant Cardiologist while it is being investigated.

*Phototoxicity***:** Because of the possibility of phototoxic reactions, patients should be advised to shield the skin from light during treatment and for several months after discontinuing amiodarone; a wide-spectrum sunscreen to protect against both long-wave ultraviolet and visible light should be used.

Corneal microdeposits: Patients taking amiodarone may develop corneal microdeposits (reversible on withdrawal of treatment). However, if vision is impaired or if optic neuritis or

optic neuropathy occur, amiodarone must be stopped to prevent blindness and expert advice sought.

Thyroid function: Amiodarone contains iodine and can cause disorders of thyroid function; both hypothyroidism and hyperthyroidism can occur. Hypothyroidism can be treated with replacement therapy without withdrawing amiodarone if it is essential; careful supervision is required. If TFTs are outwith the reference range liase early with Consultant Cardiologist in the first instance.

Hepatotoxicity: Amiodarone is also associated with hepatotoxicity and treatment should be discontinued if severe liver function abnormalities or clinical signs of liver disease develop. If LFTs are above the reference range liase early with Consultant Cardiologist.

Pulmonary toxicity: Pneumonitis should always be suspected if new or progressive shortness of breath or cough develops in a patient taking amiodarone. If symptoms develop, liase early with Consultant Cardiologist whilst this is being investigated.

	7d	14 d	1month	2mo.	3 mo.	4 mo.	5 mo.	6 mo.	9 mo.	12 mo.	6 monthly thereafter
Dronedarone - U+E (creatinine)	x	(x) if raised at 7d						x		x	x
Dronedarone - LFTs	x		x	x	x	x	x	x	x	x	x
Amiodarone - TFTs								x		x	x
Amiodarone - LFTs								x		x	x