Potentially harmful drugs to avoid in heart failure

Regularly review medicines as some pose a cardiac risk including exacerbation of heart failure.[1,2]
Examples of some medicines that require caution are listed below.

Medicine	Issue	Management
Non steroidal anti-inflammatory drugs (NSAIDs)[3] Includes selective COX-2 agents (e.g. celecoxib)[3] Does not refer to low dose aspirin	*NB. NSAIDs are often in analgesic preparations and in non prescription medications.* • May cause sodium and water retention, peripheral vasoconstriction, worsen heart failure, and decrease renal function[3-6] • Acute renal failure may be more likely when these agents are used in combination with an ACE inhibitor (ACEI) / angiotensin receptor blocker (ARB) and/or diuretic[3,7] • May increase the risk of myocardial infarction, particularly in patients with higher cardiovascular risk[4]	• Avoid use.[2,4,8] Consider cardiac risk and comorbidities before prescribing[4], and weigh up whether the benefits outweigh the potential harms. • If essential to use with ACEI/ARB, monitor renal function, serum potassium, and signs of heart failure.[9] Use for the shortest time at the lowest possible dose[4] • Choose alternative analgesic for the condition, e.g.: – paracetamol for osteoarthritis[7], headache or mild pain – paracetamol with codeine for more severe pain – Gout may be treated with: colchicine (however consider the potential for diarrhoea and impact upon fluid status); or intra-articular corticosteroids[8]
Non-dihydropyridine calcium channel blockers –verapamil and diltiazem[1,3]	Negative inotropic effect[9] may further depress cardiac function. Risk is greatest with verapamil, then diltiazem and least risk with dihydropyridines, but use with caution[7]	• Non-dihydropyridine calcium channel blockers are contraindicated in systolic heart failure[7], but may be useful in heart failure with preserved ejection fraction where slowing heart rate can increase filling time • Dihydropyridine calcium channel blockers, such as amlodipine and felodipine, may be used to treat comorbidities such as hypertension or coronary heart disease.[10] NB. Can compromise attaining optimal dosage of ACEIs/ARBs, beta-blockers and aldosterone antagonists in systolic heart failure

Potentially harmful drugs to avoid in heart failure continued...

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Medicine	Issue	Management
Some anti-arrhythmics, such as flecainide[3] and dronedarone[10]	• Flecainide may increase the risk of ventricular arrhythmias in impaired left ventricular function and may worsen heart failure[7] • Dronedarone has been associated with an increased mortality in patients with heart failure NYHA class IV and NYHA classes II-III with a recent hospitalisation for heart failure[10]	• Preference is for heart failure specific beta-blockers (particularly in systolic heart failure) or amiodarone[1] • Digoxin may be used for rate control in atrial fibrillation[10] • Dronedarone is contraindicated in patients with heart failure NYHA class IV and NYHA classes II-III with a recent hospitalisation for heart failure[10] (Dronedarone is not currently marketed in Australia)
Tricyclic antidepressants[3]	May prolong QT interval and cause arrhythmias[4] as well as hypotension from alpha-blocking effects	Consider cardiac risk and comorbidities before prescribing[4]. Alternatives may be SSRIs8 but interactions via CYP450 system must also be considered
Thiazolidinediones (e.g. rosiglitazone, pioglitazone)[3]	• May cause fluid retention and heart failure by increasing renal sodium reabsorption.[4] • Insulin increases risk of heart failure[2,7] • Rosiglitazone increases risk of myocardial infarction[4]	• Rosiglitazone is contraindicated in patients with heart failure[1] • Pioglitazone is contraindicated in heart failure NYHA classes II–IV.[7] It should be used cautiously in NYHA class I [7].
Corticosteroids[11]	• May worsen heart failure due to sodium and water retention (mineralocorticoid effect)[5,7] • High dose corticosteroids may cause arrhythmias[4]	Consider: • Cardiac risk and comorbidities before prescribing[4] • Alternative therapy[2] • Alternative route (intra-articular injection rather than systemic corticosteroids for the treatment of gout[8] or oral corticosteroids for short courses)
Oncology treatments such as anthracyclines, trastuzumab[11]	Anthracyclines (doxorubicin, daunorubicin), cyclophosphamide, trastuzumab, tyrosine kinase inhibitors (e.g. sunitinib) may cause heart failure[4]	• Consider cardiac risk and comorbidities before prescribing[4] • Monitor cardiac function ensuring baseline measures pre-treatment are undertaken[4,10]
Clozapine[11]	May cause cardiomyopathy and myocarditis[4]	• Consider cardiac risk and comorbidities before prescribing[4] • Monitor: cardiac function4 including measures pre-treatment and well as signs and symptoms of heart failure[2]. A monitoring protocol is available from: www0.health.nsw.gov.au/policies/pd/2012/PD2012_005.html

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Medicine	Issue	Management
Tumour necrosis factor antagonists (e.g. infliximab, etanercept)[11]	May cause heart failure[4]	Contraindicated in moderate or severe heart failure (NYHA class III–IV) and left ventricular ejection fraction <50%; use cautiously in mild disease[7]
Moxonidine[10]	Associated with increased mortality in heart failure[10]	Contraindicated in heart failure[7,10]
Medicines available without a prescription (Note that many NSAIDs are also available without a prescription see NSAIDS above)	• Medicines with high salt content may cause fluid retention, e.g. effervescent preparations such as Panadol Soluble®, Berocca®, and Ural® sachets • Decongestants for coughs and colds such as pseudoephedrine may increase workload on the heart • Constipation medications taken with a large amount of water such as bulk-forming agents (e.g. Metamucil)	• Check label of preparations such as vitamins for sodium content and choose alternatives lower in salt • Avoid decongestants. If necessary use topical preparations such as nasal sprays, rather than the systemic route • Water required for medicines should be included as part of daily fluid allowance. Consider alternatives if unable to keep to recommended fluid allowance

Information contained in the above tables is a guide only. Please refer to a comprehensive reference for further information.

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