

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
<p>Non steroidal anti-inflammatory drugs (NSAIDs)³</p> <p>Includes selective COX-2 agents (e.g. celecoxib)³</p> <p>Does not refer to low dose aspirin</p>	<p><i>NB. NSAIDs are often in analgesic preparations and in non prescription medications.</i></p> <ul style="list-style-type: none"> • May cause sodium and water retention, peripheral vasoconstriction, worsen heart failure, and decrease renal function³⁻⁶ • 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 risk⁴ 	<ul style="list-style-type: none"> • Avoid use.^{2,4,8} Consider cardiac risk and comorbidities before prescribing⁴, 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 dose⁴ • Choose alternative analgesic for the condition, e.g.: <ul style="list-style-type: none"> – paracetamol for osteoarthritis⁷, 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 corticosteroids⁸
<p>Non-dihydropyridine calcium channel blockers –verapamil and diltiazem^{1,3}</p>	<p>Negative inotropic effect⁹ may further depress cardiac function. Risk is greatest with verapamil, then diltiazem and least risk with dihydropyridines, but use with caution⁷</p>	<ul style="list-style-type: none"> • Non-dihydropyridine calcium channel blockers are contraindicated in systolic heart failure⁷, 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

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Some anti-arrhythmics, such as flecainide ³ and dronedarone ¹⁰	<ul style="list-style-type: none"> • Flecainide may increase the risk of ventricular arrhythmias in impaired left ventricular function and may worsen heart failure⁷ • 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 failure¹⁰ 	<ul style="list-style-type: none"> • Preference is for heart failure specific beta-blockers (particularly in systolic heart failure) or amiodarone¹ • Digoxin may be used for rate control in atrial fibrillation¹⁰ • Dronedarone is contraindicated in patients with heart failure NYHA class IV and NYHA classes II-III with a recent hospitalisation for heart failure¹⁰ (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 SSRIs ⁸ but interactions via CYP450 system must also be considered
Thiazolidinediones (e.g. rosiglitazone, pioglitazone) ³	<ul style="list-style-type: none"> • 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 infarction⁴ 	<ul style="list-style-type: none"> • Rosiglitazone is contraindicated in patients with heart failure⁷ • Pioglitazone is contraindicated in heart failure NYHA classes II-IV.⁷ It should be used cautiously in NYHA class⁷
Corticosteroids ¹¹	<ul style="list-style-type: none"> • May worsen heart failure due to sodium and water retention (mineralocorticoid effect)^{5,7} • High dose corticosteroids may cause arrhythmias⁴ 	<p>Consider:</p> <ul style="list-style-type: none"> • Cardiac risk and comorbidities before prescribing⁴ • Alternative therapy² • Alternative route (intra-articular injection rather than systemic corticosteroids for the treatment of gout⁸ 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	<ul style="list-style-type: none"> • Consider cardiac risk and comorbidities before prescribing⁴ • Monitor cardiac function ensuring baseline measures pre-treatment are undertaken^{4,10}
Clozapine ¹¹	May cause cardiomyopathy and myocarditis ⁴	<ul style="list-style-type: none"> • Consider cardiac risk and comorbidities before prescribing⁴ • Monitor: cardiac function⁴ including measures pre-treatment and well as signs and symptoms of heart failure². A monitoring protocol is available from: www0.health.nsw.gov.au/policies/pd/2012/PD2012_005.html

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

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)	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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

References

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