



From the Clinical Director

Medicines prescribed to treat high blood pressure are amongst the most commonly prescribed drugs in Australia and around the world. Ironically enough, although high blood pressure (often referred to as hypertension) is a serious condition with potentially significant consequences, many people do not have any noticeable symptoms and the condition is quite commonly uncovered entirely by accident.

If left untreated, hypertension will often result in severe end-organ damage. This means that in the long term, people with poorly controlled blood pressure are prone to develop serious complications. High blood pressure can result in damage to the lining of the arteries, meaning that the walls of these blood vessels become thickened and less flexible. In this way, Hypertension leads to arteriosclerosis (hardening of the arteries). Eventually lipids infiltrate the damaged arteries (atherosclerosis) which can ultimately compromise blood flow to the heart, brain, and kidneys.

In this way, hypertension contributes directly to myocardial infarctions, congestive heart failure, renal impairment, strokes, and other problems like some forms of impaired vision and also some forms of dementia.

The relative risk of these complications is largely determined by the degree of severity of the hypertension, and the duration for which it remains uncontrolled. In many cases the risk is also compounded greatly by the presence of other comorbidities (concurrent medical conditions), in particular by the presence of diabetes mellitus or elevated serum lipids (hyperlipidaemia). Prescribing medications for the management of hypertension is essentially based on the need to reduce the risk of these complications.

Information from the Australian Bureau of Statistics suggests that somewhere in the order of a third of all adult Australians are affected by hypertension (defined people ≥ 18 years with systolic BP ≥ 140 mm Hg and/or ≥ 90 mm Hg or more), or those who are taking antihypertensive medications. Of these, almost half self-reported current and long-term heart or circulatory conditions.

High blood pressure is so common, it is very likely that many readers of this newsletter will have diagnosed hypertension, or will be taking one or more medicines with the objective of lowering BP. Of course, there will be some people who have elevated BP but who are unaware of the issue.

Hypertension can be related to the effects of another illness (e.g. kidney disease) or other circumstances (e.g. pregnancy), or can be a primary medical condition, sometimes referred to as essential hypertension. In some cases medications can actually cause hypertension – examples include some antidepressants and also anti-inflammatory medicines (NSAIDs).

About a third of all adult Australians are affected by hypertension

Given that high blood pressure is so common, antihypertensive agents are frequently encountered in the medication regimens of older people, including those in residential aged care.

Used prudently, these medicines produce substantial benefits, but as always, also have the potential to cause adverse effects and drug interactions. Wise drug selection and the use of an appropriate dosage is critical – a medication review is a helpful tool to be able to manage these issues.

Dr Chris Alderman, Director of Clinical Excellence, Ward MM.



Feature Article:

High blood pressure and antihypertensives – *what you need to know.*

A range of different medications are available for the management of hypertension in Australia, each has advantages and potential drawbacks.

In initiating treatment the Australian Medicines Handbook suggests a strategy that involves starting therapy with a single drug, with subsequent addition of a second agent if needed (it is estimated that up to 50% of people will achieve an adequate response with monotherapy).

The AMH suggests that initial treatment can be undertaken with an ACE inhibitor (e.g. perindopril or ramipril) or Angiotensin Receptor Antagonist (e.g. candesartan or irbesartan), or alternatively a dihydropyridine calcium channel blocker (amlodipine, felodipine or nifedipine), or, if dealing with a patient older than 65 years, a low dose thiazide diuretic.

In the event of an inadequate response to treatment, the suggested combination approaches involve the concurrent use of an ACE inhibitor with a calcium channel blocker, or calcium channel blocker with thiazide.

It is also important to consider non-pharmacological strategies such as weight loss, increased physical activity, smoking cessation and reduced alcohol intake.

Other drug treatment options that can also be considered include beta blockers such as atenolol and metoprolol, non-dihydropyridine calcium channel blockers (verapamil or diltiazem), alpha blockers (prazosin or terazosin) and miscellaneous other agents that are less commonly used in recent times (methyldopa, clonidine or moxonidine).

Different classes of antihypertensives may confer benefit in the context of specific comorbidities: for example, ACE inhibitors are nephroprotective for people with diabetes and can be useful as a treatment for Congestive Cardiac Failure (CCF), whilst diltiazem may help to reduce angina for people with Ischaemic Heart Disease (IHD).



Adverse effects associated with some classes of drugs may make the use of specific agents more difficult under some circumstances.

ACE inhibitors may cause acute renal impairment, high serum potassium and intolerable dry cough.

Asthmatic people can be severely affected by bronchospasm associated with beta blockers, whilst alpha blockers can contribute to urinary incontinence.

Both diltiazem and verapamil can exacerbate CCF, and may cause severe constipation.

For younger adults, the target BP is widely cited as $\leq 140/90$ mm Hg for those without key comorbidities, and $\leq 130/80$ mm Hg for those with established coronary heart disease, diabetes, previous stroke or TIA, or significant proteinuria.

More recently, some authorities have advocated a less assertive approach to treatment for older people, citing evidence from studies that suggest aggressive BP reduction may not produce substantial mortality reductions.

Treatment decisions around hypertension can be complex – your Ward MM pharmacist can provide tailored advice.

The Ward MM freecall number 1800 WARDMM (1800 927 366) can be used at any time to seek advice about the issues raised here, or indeed any medication-related matters.

Quick Tip

Combining aspirin with other drugs

Combined use of aspirin, an SSRI antidepressant (e.g. citalopram or sertraline) and a NSAID (e.g. diclofenac, naproxen) substantially increases the risk of upper GI bleeding.

If possible, this combination is best avoided – if unavoidable, the addition of a PPI medication such as esomeprazole, omeprazole, pantoprazole can be prescribed to reduce the risk of haemorrhage.

Quick Tip

Dealing with urinary retention

Many medications have been implicated as causes or contributing factors in urinary retention and urinary hesitancy (difficulty in initiating urinary flow).

There are also medicines that cause urinary incontinence. For older men, the most common cause of urinary symptoms is prostate pathology (benign prostatic hypertrophy or prostate carcinoma).

New urinary symptoms appearing after new medications are started need to be reviewed promptly – an RMMR is a good way to achieve this.

Notes from facilities serviced by Ward MM

It is quite common for us to receive similar enquiries from more than one facility in our network. In this section we summarise questions with a common basis – as a part of our “connect – network – share” ethos, we share the information with all of our facilities.

Q. “Some medicines are labelled to take with food, or on an empty stomach – why is that important?”

A. There are many reasons why the timing of the administration of an oral medicine with respect to food intake can be important. The presence of food in the stomach stimulates the secretion of gastric acid

and prolongs stomach emptying time. On the other hand, having an empty stomach and drinking fluids tends to make the stomach empty more rapidly. In this way, the presence or absence of food and drink in the stomach may influence the duration of time that the medicine may spend in contact with stomach acid.

Some medicines are considered to be “acid labile” – that is to say that prolonged exposure to highly acidic conditions in the stomach can lead to the medicine beginning to break down and become deactivated. What this means is that less of the active medicine is available to be absorbed into the systemic circulation. For this reason, the medication will be labelled “take on an empty stomach” or similarly.

On the other hand, there are some medications that are relatively irritating to the lining of the gastrointestinal tract, meaning that administration on an empty stomach may cause nausea, vomiting or even ulceration to the lining of the GI tract. Examples of these medicines include the NSAIDs such as diclofenac, naproxen, ibuprofen and celecoxib, as well as oral prednisolone and some antibiotics such as doxycycline. In these cases the usual instruction would be “take with food” or “take immediately after food.”

In many cases, the presence or absence of food in the gut has little influence upon the absorption of the medication or the tolerability of the drug. In this case, medicines are often administered with food (often breakfast) as a way to link the administration of the medications to a daily event – this can help with compliance and makes consolidated administration of drugs in the aged care setting more easily achieved.



Meet your Ward MM Team Member

Livia Gani is known to the team as the person to turn to when you have any form of IT question. Always eager to help, Livia is the source of creative solutions which always manage to solve the problem. It's easy to understand why she's such a valued member of the Ward MM family.

Most meaningful moment... My first job as an intern of the U.S. Embassy in Jakarta, became the first person to experience this opportunity, featured by a local magazine and received a certificate of appreciation directly from the ambassador.

My biggest challenge... The time when my brother was diagnosed by a Hodgkin lymphoma at only 17th years old and needed to go through a long process of chemotherapy and radiation therapy. My family suffered both financially and mentally.

I'd be lost without... Firstly, would be my partner, Hubert, and my family who motivates and supports me through the tough times. Secondly, would be my online games which keeps me entertained during my spare time.