



From the Clinical Director

Cardiac disease of various different types is one of the most common and important issues encountered amongst the residents of residential aged care facilities. Clinical problems affecting the heart can arise from various factors – in some cases because of sustained hypertension, in others related to elevated serum lipid concentrations (high cholesterol). Ischaemic Heart Disease (IHD) happens when the blood supply to the heart muscle is compromised, and Congestive Heart failure is seen when the heart muscle begins to have difficulty in being able to circulate blood around the body. All of these situations will be explored in detail in the Ward Medication Management publications over coming months, but in this edition we will look in more details at Atrial Fibrillation (AF), by far the most common type of cardiac arrhythmia observed in the aged and extended care setting. The prevalence of AF is lower for younger people (< 1% for people aged less than 60 years) but increases steadily with age, affecting up to 15% of people aged > 80 years.

When in AF, a person experiences rapid, uncoordinated electrical signals from the atria, causing fibrillation - very fast and irregular contractions. AF is associated with a range of key symptoms – people often describe palpitations, exercise intolerance and fatigue, shortness of breath, chest pain, and dizziness (and in some cases, syncope). Episodes of AF may occur only rarely, intermittently or chronically. Some people with AF actually do not experience notable symptoms, and the problem is only detected during routine examination or health checks. Even if asymptomatic, AF is an important finding that requires assessment and management, because of important associated complications. When the heart is affected by AF, the inefficient heart rhythm may lead to the pooling of blood in the atrial chambers of the heart – this happens because the normal way in which the heart pumps blood completely into the ventricles is disrupted – the major potential complication of this is a dramatically increased risk of stroke (refer to discussion later). Other problems that may occur include chest pain or congestive heart failure, especially when the rhythm is very rapid.

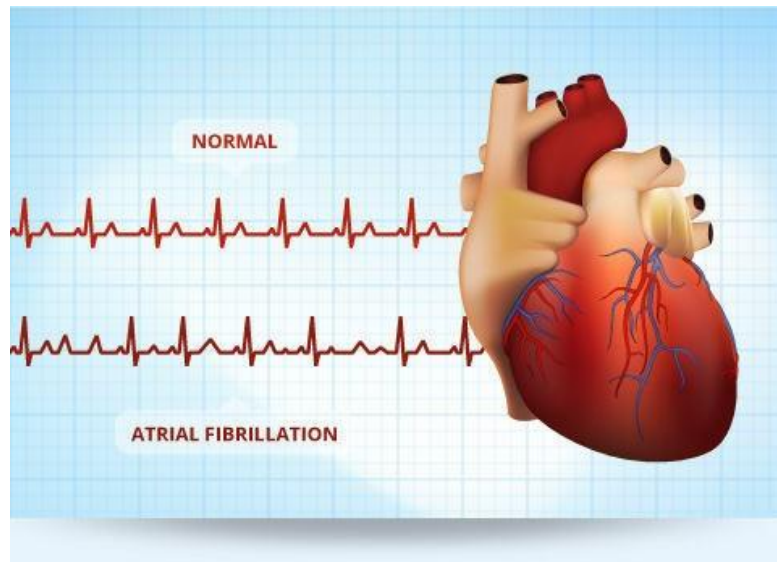
Many factors can contribute to the development of AF – some of these (sustained hypertension, IHD, and valvular heart disease such as mitral regurgitation or stenosis) are of cardiac origin, whereas others such as acute infection, electrolyte disturbances, pulmonary embolus or the effects of some drugs (sympathomimetics) do not arise in the heart. Uncommon but important causes include phaeochromocytoma and Wolff-Parkinson-White Syndrome. The ventricular rate in AF is commonly in the order of 110 – 160 bpm: the term 'rapid ventricular response' is often used to describe situations where the ventricular rate is > 100 bpm, whereas 'slow' AF is often used to describe AF with a ventricular rate < 60 bpm. Causes of 'slow' AF include hypothermia, digoxin toxicity, and sinus node dysfunction.

Atrial fibrillation can be secondary to factors arising in the heart, as well as non-cardiac causes

Contemporary management of AF commonly requires pharmacological intervention. The focus may be prevention of complications, but may also involve medicines used to achieve better rate control. One of the particularly grave complications associated with AF is the occurrence of embolic stroke, whereby a thrombus formed in the atria dislodges an embolus to the brain, commonly with catastrophic consequences. For this reason, the use of anticoagulant medication in the aged care setting is far more prevalent in recent times than was the case previously. For older people, multi-morbidity is more often the rule rather than the exception, and although anticoagulation may be life-saving, the need to accommodate other conditions and overall consideration of the individual is important when using these medicines for older people in aged care.

Many of the medications used in the management of atrial fibrillation are known to be drugs of low therapeutic index, associated with many adverse effects and require careful monitoring. Polypharmacy and significant drug interactions are common amongst these residents, creating significant complexity in the medication regimens. Making arrangements for an RMMR to detect and resolve medication-related problems can prove to be critically important. Your Ward MM pharmacist is available to assist where this is needed.

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



Feature Article:

Anticoagulation in Atrial Fibrillation

Pharmacotherapy has become a very important and integral part of the overall management strategy for AF. The focus of treatment is generally two-fold. Firstly, a determination must be made to decide on the extent of risk for embolic stroke associated with AF. Certain risk factors are known to definitively increase the risk of stroke in this context - for example, AF associated with valvular heart disease is more likely to result in a CVA than other variants. Insofar as anticoagulation itself is associated with the potential for serious adverse outcomes, it is important that in the course of clinical assessment, the risks and benefits of anticoagulation should be assessed in context. One way of achieving this is to utilise a structured assessment tool, and the most common instrument that has become to be used for this purpose is the so called CHADS2 score. This numerical instrument generates a score ranging from 0 - 6. One point is allocated if the patient is over 75 years of age, and additional points are allocated for a history of hypertension, congestive heart failure and diabetes mellitus. A further two points are allocated if the patient has already had a previous stroke or transient ischemic attack. A patient with a CHADS2 score of 1 or less is regarded to be at intermediate risk of thromboembolic event, with a risk of an event estimated at 2.8% risk per annum if not anticoagulated. The estimated risk increases with each point on the CHADS2 score scale, rising to a high risk with a score of 3 (5.9% risk of CVA per year without anticoagulation). At a CHADS2 score of 4 or more the risk is further elevated: At a score of 6 the estimated annual risk of stroke is thought to be in the order of greater than 18% in the absence of anticoagulation.

The benefits associated with anticoagulation for the prevention of embolic stroke must be balanced against the risks associated with treatment. The most important risk to consider is that of haemorrhage, and this risk may be dramatically increased by the presence of certain comorbidities that are common amongst older people. The risk of haemorrhagic complications with anticoagulation may be estimated using an instrument such as the HAS-BLED scale, which allocates points rating for each of several risk factors. One point is allocated for each of the following: (H) hypertension (systolic blood pressure > 160 mm Hg), (A) Abnormal renal or liver function, (S) stroke (history of), (B) bleeding history or predisposition to bleeding, (L) labile INRs with warfarin (<6 in 10 INRs in therapeutic range), (E) elderly - age > 65 years and (D) drugs (antiplatelet agents, NSAIDs, or alcohol \geq 8 units per week). The HAS-BLED system calculates the risk of major bleeding, defined as intracranial bleeding, bleeding requiring hospitalization, a haemoglobin decrease of more than 2 g/dL, or the need for transfusion secondary to bleeding. The higher the score, the greater the risk, with scores > 5 associated with an annual risk of major bleeding estimated between 7 - 12.5%). More information can be obtained by accessing <http://clincalc.com/Cardiology/Anticoagulation/HAS-BLED.aspx>

It is never possible to definitively assign relative risk and benefit when dealing with drugs of low therapeutic index. In coming editions of the Ward MM newsletter, we will further explore the complex issues associated with the management of AF. Suggestions from readers would be most welcome as a way to guide discussion.

Quick Tip

Antibiotic interactions with anticoagulants

As drugs of low therapeutic index, anticoagulants are relatively frequently implicated in significant drug interactions. The mechanisms for these interactions may vary from drug to drug, but are commonly caused due to inhibition of hepatic enzymes responsible for the clearance of the anticoagulant.

The coadministration of warfarin with various antibiotics that are commonly prescribed in the aged care setting can frequently cause the potentiation of the anticoagulant effect and elevation of the INR.

Careful selection of antibiotic treatment is required to ensure that adverse effects associated with this type of interaction are not incurred during the treatment of common infections like UTIs and upper respiratory tract infections.

Antibiotics known to potentiate the anticoagulant effect of warfarin include cotrimoxazole (e.g. Bactrim), metronidazole, macrolide antibiotics such as erythromycin and clarithromycin, and even some oral antifungal agents such as miconazole gel. Extreme caution and frequent monitoring of the INR with dosage adjustment is necessary if concurrent treatment is unavoidable.

Newer anticoagulant such as dabigatran, rivaroxaban and apixaban may also be involved in significant drug interactions. This being the case extreme caution is required when any anticoagulant is used concurrently with antibiotics.

For specific advice contact your Ward MM pharmacist all the ward toll free number 1800WARDMM (927 366)

Latest News

Ward MM Masterclass

On Monday 24th October Ward MM once again hosted a successful medication masterclass. Attended by a varied audience including clinical nurses, facility managers, GPs and others, the masterclass included a range of presentations from a multidisciplinary team of presenters including GPs, a clinical psychologist, a physiotherapist specialising in the aged care sector, and a clinical pharmacologist with an interest in pharmacogenomics.

The sessions were enthusiastically received and provided some practical insight into the many complexities associated with the management of pain in the aged care sector. Ward MM was once again very grateful to have been able to work with Leading Aged Services Australia (LASA) at their magnificent Victorian branch office facility.

The twice-yearly Ward MM masterclasses have quickly become a fixture on the aged care calendar, and places for staff to attend these events are keenly sought after. Participants have noted that the masterclass provides an enjoyable and engaging opportunity to engage in high quality, relevant continuing professional development opportunities.

Ward MM anticipate holding further master classes in 2017, and once again aim to assemble an interesting and engaging team of presenters to address contemporary issues relating to the use of medicines for older people. To register your advanced interest in attending one of these events please contact our head office at <http://wardmm.com.au/contact-us/>

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. “What are the common forms of anaemia seen in aged care, and how do they relate to medications?”

A. Anaemia usually signifies disease that should be diagnosed and treated. The mechanisms of anaemia include decreased red blood cell production, bleeding or increased red blood cell destruction.

Iron-deficiency anaemia is generally caused by inadequate intake, reduced absorption, or blood loss. In affluent countries the commonest cause is blood loss.

Drugs that may contribute to deficiency should be reviewed and ceased if possible. Severe iron-deficiency anaemia may require transfusion, but less severe cases can be treated with oral iron replacement. Intravenous iron may be preferred if a patient is unable to tolerate the oral treatment, is suffering from severe/ongoing blood loss, or has compromised oral absorption. For correction of iron deficiency, the Australian Medicines Handbook recommends 100-200mg of elemental iron per day. Common side effects of oral iron are dark stools, metallic taste, nausea, flatulence, constipation, diarrhoea, epigastric distress, and vomiting. Oral iron may reduce the bioavailability of other drugs like thyroxine, tetracycline, oral bisphosphonate, and fluoroquinolones.

While both B12 and folic acid deficiency can cause megaloblastic anaemia, B12 deficiency can result in serious neurologic effects, so it is important to differentiate between B12 and folic acid-deficient anaemias. Lack of intrinsic factor or pernicious anaemia is a common cause of B12 deficiency, which should be treated with intramuscular B12 injections. The commonest dose for maintenance is 1000 mcg of hydroxocobalamin every 2-3 months. B12 deficiency due to partial/total gastrectomy and/or non-functioning/resected terminal ileum should be treated with long-term IM B12 injections. In other patients, gastric acid suppressants such as proton pump inhibitors and H2 receptor antagonists may contribute to B12 deficiency as an acidic environment is needed to release vitamin B12 from foods. Also, up to 1/3 of patients on metformin have reduced B12 absorption. Folic acid-deficiency anaemia should be treated with oral folic acid at the dose of 1-5mg daily for 1-4 months.

Anaemia of chronic disease (ACD) is caused by reduced erythropoiesis secondary to inflammation, associated with infection, malignancy, autoimmune diseases, diabetes mellitus, old age, etc. This type of anaemia may not necessarily need to be treated unless it is severe (Hb < 10g/dl) or causes significant symptoms. Erythropoietin or similar derivatives can be used to treat severe symptomatic ACD.



Meet your Ward MM Team Member

Andrew Antonijevic (Drew) joined WardMM as a clinical pharmacist in 2016. Having little prior experience in aged care, it has been quite a journey for Drew, but he continues to grow every day, forming new relationships, experiencing new challenges and finds pride in what he does.

Most meaningful moments... working as a pharmacist. Whether it be in the community, or in aged care, I feel as a primary healthcare professional, the most meaningful moments in my life are those when I have a role in a person's direct healthcare. Seeing a good healthy change in patients on the opioid substitution program, or helping someone through minor ailments brings me joy and meaning to my career and myself as a person.

My biggest challenge... learning to love and accept myself. It can be so easy to be the person everyone wants and expects you to be, but the most important thing is to find what makes you happy, and comfortable in your own skin, and go with it. As soon as we can find this, everything else in life comes easily.

I'd be lost without... the internet! I feel that almost everything is now linked to the internet, whether it be our social lives, entertainment, the latest research and articles in regards to quality use of medicines, or just something as simple as looking up recipe ideas.