Ward MEDICATION MANAGEMENT

E- News

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From the Head of Clinical Development

Welcome to the June 2018 newsletter. Whilst Nat is enjoying family-time and the World Cup in Russia, the team here at Ward MM has been busy preparing an informative newsletter for you.

The focus of this month's newsletter is the use of Novel Oral Anticoagulant (NOACs) medications to treat blood clots. Julian Soriano describes the risk factors, prevention and management of Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE). Melissa Riley has put together 'Quick Tips' on the clinical considerations with using Novel Oral Anticoagulants (NOACs) to treat DVTs and PEs. Saly Rashed has answered your question on how to manage NOAC associated bleeds.

Please see the 'Latest News' section for a discussion of the new Aged Care Accreditation Standards and how Ward MM can assist you to address these changes.

Starting from next month, you will receive the Ward MM Newsletter on a quarterly basis to make sure we provide a quality content for you and the email does not clog up your inbox. Our next newsletter will be sent out in September 2018.

Have a great month and stay warm!

DVT and PE

A deep vein thrombosis (DVT) is a blood clot that forms in the deep veins most commonly in the legs (calf and thigh) but can also occur in pelvic and abdominal regions. A pulmonary embolism (PE) can occur when one of these blood clots 'breaks off' and travels through the circulatory system to the lungs. Once in the lungs, these clots can restrict blood flow and decrease oxygenation of the blood. This is a serious medical event and can be fatal.

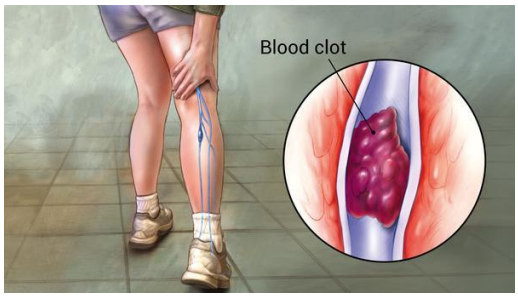
Signs and Symptoms of DVT and PE

The signs and symptoms of a DVT can vary in type and intensity. It is important to note that only about half of patients will show 'common signs' of a DVT, these include:

- Unilateral (one side) swelling of legs- the swelling is usually located along the veins that run through the leg
- Pain and tenderness in the affected leg- usually felt or aggravated when standing, walking or touched
- The skin around the affected area may become red and discoloured
- The affected area around the leg may become warm to touch

A deep vein thrombosis while a serious medical condition alone, can also lead to pulmonary embolism. However, sometimes a patient may experience a PE but not have displayed any symptoms of a DVT. Thus, is also important to know what the signs of a PE are, these commonly include:

- Unexplained shortness of breath - usually appears quite suddenly and worsens with exertion
- Coughing - can be accompanied by blood stained sputum
- Rapid shallow breathing and fast pulse rate
- Chest pain that may worsen with coughing, eating, breathing and bending over. Exertion may make the pain worse and the pain may then not ease with rest



Feature Article:

Risk Factors and Prevention for DVT and PE

Risk factors for DVT and PE

There are many factors that can influence a patient's chance of developing a DVT and/or PE. Many of these risk factors are common amongst residents in aged care homes, thus ensuring all care staff have a sound understanding of how to identify, prevent and treat DVT and PE is essential. The risk factors for DVT and PE are:

- **Age** - >=60 years of age
- **Prolonged periods of immobility and inactivity** - (post-op, post-fall)
- **Over-Weight** - increased strain on cardiovascular system
- **Heart Failure** - increased risk of blood pooling in blood vessels
- **History of DVT or PE**
- **Pregnancy**
- **Hormone replacement therapy (HRT) and birth control medications** - Some residents may still require HRT, this puts them at a greater risk of DVT and PE
- **Smoking**

Non-pharmacological prevention

Preventing DVT and PE, especially in patients with the risk factors outlined, is a very important strategy that should be considered when caring for the elderly. There are many non-pharmacological approaches to prevention which include:

- Regular exercise and avoiding long periods of immobility, this may involve simple things such as short walks. Walking will cause the muscles in the legs to contract which in turn will help to circulate the blood in the lower parts of the legs.
- Compression stockings
- Losing weight
- Smoking cessation

Pharmacological interventions

The goal of drug therapy in PE is to reduce mortality and in DVT is to reduce the probability of developing a PE. The mainstay of drug treatment and prevention in DVT and PE are anticoagulants. As with most drug therapies these medications come with significant risk, the most important being an increased chance of bleeding.

There are several different anticoagulants used in both the treatment and prevention of DVT.

- **Oral factor Xa inhibitors (apixaban and rivaroxaban)** – These are the preferred first line agents for treatment and prevention in most patients. They have a fast onset of action which and do not require 'pre-loading' with an injectable anticoagulant. They may be contra-indicated in patients with severe renal impairment (kidney disease) as this can increase the risk of bleeds. The doses are generally titrated down over the space of a few weeks and lower doses are used in prevention compared to treatment.
- **Dabigatran and Warfarin** – Both require initiation with an injectable anticoagulant and thus are not preferred choices. Warfarin requires significant drug monitoring due to inter-patient differences and significant drug-drug interactions. Dabigatran will require dose adjustment based on the patients, age, renal function and bleeding risk.
- **Parenteral anticoagulants (enoxaparin, dalteparin)** – These are injectable anticoagulants and the preferred medications in pregnant patients and patients starting warfarin or dabigatran. Enoxaparin can be dosed once or twice daily and doses are normally based on renal function and weight.
- **Unfractionated heparin** – is used in patients with severe renal impairment and who are at an increased risk of bleeding because its effects can be quickly reversed. It is generally only given in a hospital setting as it requires significant monitoring.
- **Aspirin** – Aspirin is not used in the treatment of DVT and PE but may be considered as prevention in patients who have ceased low-intensity anticoagulation therapy. Aspirin's effectiveness in preventing DVTs and PEs is much lower than that of anticoagulants.

Therapy is generally continued for three months after the initial DVT or PE. This is to help prevent subsequent episodes. Patients at high-risk of subsequent clots may be continued on anticoagulation therapy indefinitely. All oral therapies are appropriate for prevention but in lower risk patients a less intense dose may be considered.

Julian Soriano, Clinical Pharmacist, Ward MM

Quick Tip

Trouble with NOACs

NOACs (new or novel oral anticoagulants) include the following oral medications which are now commonly used in Aged Care:

- Dabigatran (Pradaxa®),
- Apixaban (Eliquis®),
- Rivaroxaban (Xarelto®)

Although NOACs have many attractive features, such as minimal interaction with medications and foods and no need for INR monitoring (as with warfarin), they also have several important limitations.

There is no antidote for these medications, with the exception of dabigatran. Idarucizumab (Praxbind®) is now available for rapid reversal in life-threatening or uncontrolled bleeding or for emergency surgery or urgent procedures. It is given as single dose IV infusion in a hospital setting and takes effect within 5 minutes.

Due to the physical instability of the capsule, dabigatran must be taken immediately after removal from the foil packaging, making it unsuitable for repacking into Dose Administration Aids. This can provide challenges for nursing staff in Aged Care settings. All other NOACs can be repacked into Dose Administration Aids.

Large amounts of alcohol may cause or trigger atrial fibrillation and can also increase the risk of bleeding. Therefore, it is recommended that alcohol intake is limited to no more than one standard drink daily.

Drug interactions may occur with these medications and some medications to use with caution include amiodaraone, clarithromycin, ketoconazole, phenytoin, rifampicin and ticagrelor. Other anticoagulants/antiplatelets or medications that increase risk of GIT bleeding (is NSAIDs) also require close monitoring if the combinations cannot be avoided. Herbal products containing St Johns Wort (also known as hypericum) should also be avoided as this herb is known to reduce the anticoagulant effects of warfarin.

Melissa Riley, Regional Pharmacist Manager, Ward MM

Latest News

Working Towards Consumer Focused Care: The New Aged Care Standards and How Ward MM Can Help

The 1st of July 2018 will see the commencement of a transition to the new Aged Care Quality Standards. These standards have been designed to put the consumer, their families, carers and representatives at the heart of decision making in aged care. A single set of standards will replace accreditation standards, home care standards, ATSI aged care program standards and transition care standards. Assessment against these standards will commence from 1st July 2019.

Ward MM is looking forward to supporting our partners through this transition period with particular focus on a consumer focused approach to clinical care. When undertaking our role as the guardians of medication, we will be paying special attention to the following standards:

Standard 1 – Consumer dignity and choice.

Standard 2 – Ongoing assessment and planning with consumers.

Standard 3 – Personal care and clinical care.

Standard 4 – Services and supports for daily living.

Standard 8 – Organisational governance.

In addition to continuing to support our partners in delivering quality of life focused medication reviews, governance advice and high quality clinical training, Ward MM is also currently working with a number of our providers to explore additional medication planning options for consumers living in aged and community care.

If you would like to know more, speak to your local Ward MM Clinical Pharmacist, call 1800 WARDMM or email info@wardmm.com.au

Your Questions Answered

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. "How do you manage New Oral Anticoagulation (NOAC) bleeds?"

A. NOACs available in Australia are:

- Direct thrombin inhibitor: Dabigatran (Pradaxa®) in 75mg, 110mg and 150mg.
- Factor Xa inhibitor: Apixaban (Eliquis®) in 2.5mg or 5mg.
- Factor Xa inhibitor: Rivaroxaban (Xarelto®) in 10mg, 15mg and 20mg.

It is important to note that NOACs, unlike warfarin, do not need routine monitoring but the people taking them do! It is recommended that patients using NOACs regularly have their renal function monitored as renal impairment can increase the risk of bleeding.

Reversal of anticoagulation may be required if the patient develops severe bleeding or requires emergency surgery.

There are no accepted antidotes to the factor Xa inhibitors, however, prothrombin complex concentrates or recombinant factor VIIa may be tried (there are no adequate studies).

Dabigatran is the only NOAC currently with a reversal agent. Idarucizumab has been developed to reverse the effect of dabigatran. The development of idarucizumab involved genetically engineering a humanised monoclonal antibody fragment. The affinity of this antibody for dabigatran is greater than the affinity of dabigatran for thrombin.

Although idarucizumab effectively reverses the anticoagulant effect of dabigatran, patients still require other supportive treatments. As the drug is specific for dabigatran it should not be used to reverse the effects of other anticoagulants.

All patients taking a NOAC should be encouraged to wear a warning bracelet or necklace; as a warning for increased bleeding risk.

Saly Rashed, Clinical Pharmacist, Ward MM

Meet your Ward MM Team Member

Jodie Hillen is a pharmacoepidemiologist from Adelaide, South Australia**.** The first part of her career was spent in clinical pharmacy (Flinders Medical Centre (SA), Wimmera Base Hospital (VIC) and Princess Alexandra Hospital (QLD)) with some time spent in retail pharmacy. She has spent many years in the quality use of medicines space working on indicator development, educational material and analysis of 'big data'. She is extremely passionate about Quality Use of Medicines (QUM), especially for the vulnerable sub-populations (geriatrics, paediatrics, end-of-life etc). Preventing and managing medication-related harm is the driving force behind all her research. The main reason she joined WardMM was to increase her opportunity to work towards innovative solutions to improve QUM in the aged care space (and the great team of course!!). She is married to an obstetrician and gynaecologist and together they have three children Erin (17), Cooper (14) and Nicholas (8).

Most meaningful moments… Seeing my family happy and creating yummy food together.

My biggest challenge… Being patient. There has never been and will never be anything patient about me.

I'd be lost without… A good French brie and a glass (or two 😊) of sav blanc.