Ward MEDICATION MANAGEMENT

E- News

Volume 1, Issue 17: August 2016

From the Clinical Director

Proton pump inhibitors (or PPIs) are very widely prescribed medications that are most commonly used for gastro-oesophageal reflux disease (often abbreviated to the acronym GORD). They are also used for the treatment of peptic ulcer disease, dyspepsia and other conditions where reduction of stomach acid is required to prevent ulceration or bleeding of the gut. Under some circumstances, treatment with other medications may create an unacceptably high risk of GI bleeding (e.g. the use of anticoagulants such as warfarin in the presence of other risk factors for GI bleeds), and under these circumstances it is often the case that PPIs are prescribed to lessen the risk of serious bleeding.

PPIs work by irreversibly inactivating acid pumps (proton pumps) in the stomach lining, thereby suppressing basal (background) acid secretion as well as extra acid secretion that occurs in response to the intake of food. Interestingly, PPIs have a very short half-life (~1-2 hours) and therefore the timing of administration can alter the overall efficacy. PPIs are best taken around 30 minutes before a meal, when the concentration of acid pumps is highest. Morning doses are thought to be more effective since the concentration of acid pumps tends to be higher after prolonged fasting. Although these drugs have a short half-life, their effects last much longer, since the body must rebuild the inactivated acid pumps before significant gastric acid production can commence again.

As is the case with any medication, the use of the PPIs needs a considered and cautious approach to ensure that appropriate benefit can be gained without creating a risk of untoward effects.

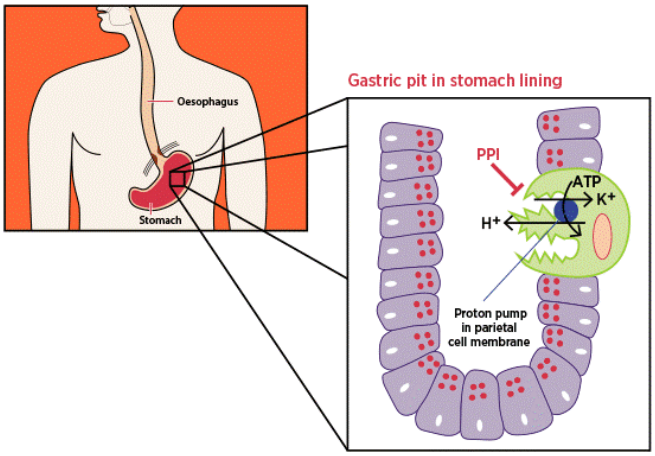
It is very important to note that PPIs are relatively safe, effective and well tolerated. They are the most effective acid reducing agents available and are the mainstay for most of the conditions that they are indicated for. It is not surprising then that they are one of the most widely prescribed classes of medications worldwide.

During the 2014/15 financial year esomeprazole was the second most prescribed PBS-subsidised item in Australia, with almost 7 million prescriptions filled. There were also well over 7 million prescriptions filled for other PPIs (pantoprazole, omeprazole, rabeprazole and lansoprazole).

These numbers may perhaps be surprising given that PPIs have few indications for long-term use. However, one would not need to spend much time in the medical system in Australia to notice that many people tend to take PPIs on a long-term basis. This appears to be a worldwide phenomenon and has been documented in the literature for many years. It is for this reason that there has been some concern over the long-term adverse effects associated with PPIs.

In the short-term these agents are well tolerated, with their most common adverse effects being relatively mild (headache, nausea, vomiting, diarrhoea, abdominal pain, constipation and flatulence) and occurring in less than 10% of patients. However, many researchers have been looking for long-term adverse effects of PPIs that would not necessarily be detected in short term clinical trial data. In this edition of your Ward MM newsletter, we will look at some of these issues in greater detail.

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



Feature Article:

Proton Pump Inhibitors

Some broad research investigations (meta-analyses) published in recent years have established that in wide scale use, ongoing treatment with a PPI may be associated with some degree of increase in the risk for significant adverse health events that do not necessarily appear to be related to the suppression of gastric acid secretion in an obvious way. For example, some research suggests that ongoing PPI treatment over an extended period of time does seem to be associated with an increased risk of hip and spine fractures. Interestingly, there does not appear to be a link with reduced bone density or osteoporosis. Two separate studies have also linked PPIs to a small increase in risk of pneumonia, although more data are required to establish the clinical significance of this.

A link between PPI use and enteric infections (Salmonella, Campylobacter and C. difficile) has also been postulated for a number of years now. However, the most recent meta-analysis from 2012 indicates that the evidence for this link is weak and causation has not been established. Similarly, vitamin and mineral deficiencies appear to be rare with PPI-use. Low swerum concentrations of vitamin B12, iron and magnesium deficiencies have been reported in various case studies, but strong evidence is still lacking. Due to the potential danger of severe magnesium deficiency, however, the TGA released a safety alert in 2011 to warn prescribers of this possible link and to consider discontinuing PPI therapy in severe cases. Of course, it is important to be proactive when monitoring those who are treated with PPIs over a long period of time – periodic monitoring of the vitamin B12 and serum magnesium concentration may reveal issues that are amenable to supplementation – deficiency does not automatically rule out ongoing PPI use.

More recently, a large case-controlled cohort study from New Zealand, looking at over 500,000 patients, concluded that current use of PPIs was associated with increased risk of interstitial nephritis compared to past users. Although this risk is small, the large number of people using PPIs means that this is likely to be an issue. If an unexplained change in renal function is observed for a resident treated with a PPI, this possibility needs to be taken into account.

All of this information highlights the point that PPIs should not be overused, despite their apparent relatively benign side effect profile. Their risks, though they appear rare or infrequent, can be significant and even severe.

Perhaps another reason to avoid overuse of PPIs is potential drug interactions. Polypharmacy is associated with significant morbidity and mortality in the elderly, and as the number of medications a single person takes increase, obviously the chance of a drug interaction increases. PPIs are not the worst offenders when it comes to drug interactions, however, they do have some important interactions to look out for. For example, some PPIs reduce the clinical efficacy of clopidogrel, a medication used to prevent heart attack and stroke. Omeprazole is known to inhibit the enzyme CYP2C19 that turns clopidogrel into its active form. Although data on this interaction are conflicting, the ramifications of this interaction are serious. Hence, omeprazole and esomeprazole should be avoided in people taking clopidogrel (alternative PPIs should be safe). PPIs can also reduce the absorption of thyroxine (used to correct thyroid hormone deficiency) by reducing gastric acidity.

For more information about the PPIs, speak with your Ward MM pharmacist, or make arrangements for a targeted education session in your facility.

Quick Tip

Alternative for Mylanta

Do you find it a challenge to keep of all of your opened Mylanta bottles in the fridge? Are you ALWAYS reminding your staff to label the opened Mylanta bottles with the date of opening to ensure it is discarded after 6 months? If so, we may have a simple solution for you!!!

Did you know that Gastrogel, another brand of antacid, has almost the SAME ingredients as Mylanta, but does NOT need to be refrigerated OR discarded after 6 months? This could be a great alternative to ensure you are complying with all medication storage standards.

Although Mylanta and Gastrogel are not strictly therapeutically interchangeable, in many cases it would be possible to speak to the GPs who visit your Aged Care Facilities about making this change.

Latest News

In the international literature…

Ward MM continue to make regular contributions to the medical and pharmaceutical literature surrounding safe and effective use of medicines in the residential aged care setting.

Dr Alderman was recently invited to write an editorial for the Annals of Pharmacotherapy, one of the most widely read journals that focuses on the safe and effective use of medications. In his article, "Protecting the elderly from drug related harm" he explains the benefits of targeted medication reviews for older people living in the aged care setting.

In keeping with the commitment of Ward MM to contribute to the training and education of the next generation of pharmacists working in the aged care sector, Dr Alderman has also written for the Journal of the Asian Association of Schools of Pharmacy, outlining the rich teaching opportunities that exist for clinical edicatiob in the aged care sector.

In other news…

Chris Alderman is currently on a brief visit to Singapore, where he is lecturing to the next intake of the International Masters of Clinical Pharmacy degree offered by the University of South Australia. During his visit Dr Alderman will visit the home base of the National Healthcare Group (NHG) – a leading provider of public health services in Singapore, as well as Tan Tok Seng Hospital, and will meet with representatives of the Singaporean Ministry of Health, including Dr Huei-Xin Lou, Director of Medication Management Capabilities and Clinical Safety.

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. "What is Gloop?"

A. Gloop® is the first purpose designed medication lubricant to become available in Australia. The use of the Gloop product provides a range of potential benefits:

- Gloop is an effective lubricating gel that may negate the need to crush/alter medication (thus reducing time in equipment preparation/cleaning and reducing the exposure of staff to medication).
- The products is not involved in known drug interactions, and if sugar, lactose and gluten free.
- The cost of the product is comparable to yoghurt, fruit puree or jam.
- Gloop is presented in an easy to use pump pack that can be stored in the fridge or at room temperature.
- Gloop is a TGA registered product (Class 1 medical device) with a long shelf life (discard 60 days after opening).
- Consistent with viscosity of a level 400 "moderately" thickened fluid, but unlike some thickeners, breaks down and separates from the medication upon entering the stomach acid therefore has little to no impact on absorption.

For more information contact your Ward MM Pharmacist or visit www.gloup.com.au

Meet your Ward MM Team Member

Natalie Soulsby is known to the team as "Nat". She is the Director of Clinical Operations. For as long as she can remember that has been what she has been called. If she gets called Natalie she knows she's in trouble!

Most meaningful moments… Waiting whilst my children looked up their year 12 results! My son forgot his login password and kept us waiting for 15 minutes! Thank goodness they all did well! Also, when I got my PhD whilst trying to juggle a young family and a shift working husband.

My biggest challenge… Getting to the bottom of my ever increasing list of things to do!

I'd be lost without… My family and my headphones. My family have been very supportive of me taking on my new role with WardMM. Working for WardMM this last year has been both challenging and rewarding. As I am based in Adelaide and head office is in Melbourne I spend a LOT of time on the phone and my headphones are an extremely valuable possession and are also comfortable!