What’s new?

We recently published a safety signal highlighting the need for all health professionals to note a patient’s previous adverse drug reactions (including allergies) before prescribing, dispensing or administering medicines. The safety signal offered ways to reduce risk, illustrating failings in the current system relating to documentation, review and response to a patient’s adverse reaction history. You can view it here: www.hqsc.govt.nz/assets/Medication-Safety/SafetySignal-PR/SafetySignalADR.pdf.

Update on national safe use of opioids collaborative

A very successful learning session three for the safe use of opioids collaborative took place on 10–11 November 2015. The DHB teams are working hard now, until the formal close of the collaborative testing cycle in March 2016, to test their proposed interventions using plan–do–study–act cycles. Teams are considering the suitability of their interventions for inclusion in a bundle and how the bundle could be implemented across all areas of the hospital.

Incidents and cautions

Acetic acid – glacial or dilute?

Do you know the difference between glacial acetic acid and dilute acetic acid? Dilute acetic acid can be used in colposcopy, wound irrigation and even ear drops, usually as 3 percent or 5 percent strengths. Glacial acetic acid is undiluted acetic acid. A patient experiences painful burns if glacial acetic acid is accidentally used instead of a diluted preparation. This has recently happened in New Zealand, when glacial acetic acid was accidentally supplied by a pharmacy and used in a hospital.

Diluted 3 percent and 5 percent preparations of acetic acid for medical use are available commercially. To eliminate the risk of this incident happening again, we advise community pharmacies and hospitals to order, stock, supply and use only 3 or 5 percent acetic acid.

Oralair – what’s in the package?

Oralair sub-lingual tablets contain allergen pollen extract of five grasses and are used to desensitise people who have grass pollen rhinitis. Starter packs, which contain both low-strength 100 IR (index of reactivity) (foil pack of three) and higher-strength 300 IR (foil pack of seven), are usually ordered through GPs.

There has been an incident when a patient presented for their first dose in an outpatient clinic and the 300 IR strength fell out of the pack. The nurse administered the higher strength rather than the correct lower-strength 100 IR. The nurse was unfamiliar with the product and didn’t realise two strengths were contained in the same pack. Fortunately, there was no harm to the patient.

Medication alerts and safety signals

Our alerts and safety signals provide information and actions about high-risk medicines and situations. They are issued to health care staff, managers and organisations. For more information, contact Beth Loe.

A survey has been completed on how tissue plasminogen activators alteplase and tenecteplase are stored, prescribed and administered in emergency departments. The survey information will inform an alert with actions targeted at reducing errors resulting from confusion between the activators that are used to treat different indications.

UPCOMING: Watch this space for news of medication safety webinars starting in 2016.
Using paracetamol safely

What is the most widely used and available analgesic in the world? The answer, paracetamol. Paracetamol is the first step on the World Health Organization pain ladder and is generally considered safer than other commonly used analgesics, such as non-steroidal anti-inflammatory drugs.

Taken at the recommended doses, paracetamol is usually safe and well tolerated. Occasionally, hypersensitivity reactions do occur.

The main risk from paracetamol is acute hepatotoxicity, particularly following overdose. Without prompt treatment, this results in hepatocellular necrosis and death. While the majority of overdoses are intentional, some are unintentional, for example, when the wrong strength of a paediatric preparation is used by mistake. Overdose can go unrecognised in the early stages, particularly when it is unintended, and the opportunity to treat the overdose may be missed.

The early symptoms, such as nausea, vomiting, lethargy and sweating are non-specific, may be attributed to another cause (such as the reason the paracetamol was being taken) and would not necessarily cause alarm. Damage to the liver starts early but more specific symptoms such as abdominal pain and tenderness followed by jaundice may not be apparent until later (24 hours to 6 days). This can delay diagnosis and treatment for paracetamol toxicity that can lead to severe liver damage and occasionally death. The way to prevent such toxicity is to consider risk factors, dosing guidelines and recommended treatment length when prescribing or advising on the use of paracetamol.

Hepatotoxicity due to paracetamol in adults

Two recent New Zealand paracetamol-related deaths have come to the attention of the Health and Disability Commissioner (13HDC00306) and Coronial Services, respectively. The deaths highlight the risk of the frail elderly taking paracetamol at usual adult doses. Similar cases have been reported internationally.

In an American study of 275 cases of severe paracetamol-induced hepatotoxicity, 131 (48 percent) were the result of an unintended overdose and 19 (7 percent) had not exceeded the recommended maximum daily dose of 4g. The majority of the 19 patients who had not exceeded the maximum daily dose reported excessive and prolonged alcohol use.

Risk factors for paracetamol hepatotoxicity in adults include:

- malnutrition or prolonged fasting and dehydration
- bodyweight less than 50kg associated with eating disorders, chronic disease or frailty
- impaired hepatic function
- use with medicines that induce cytochrome P450 (CYP) 2E1
- regular excessive alcohol use.

Hepatotoxicity due to paracetamol in children

A study of paediatric acute liver failure (ALF) in Australia and New Zealand identified that 14 of 54 cases (26 percent) were due to paracetamol. Medication error was positively identified in 10 of these 14 cases, either related to dose or frequency of administration.

An American review of ALF cases identified that 49 of 348 cases (14 percent) were caused by acute acetaminophen (paracetamol) toxicity. The review identified that, for children three years of age and older, acute acetaminophen toxicity was the most common identifiable cause of ALF (21 percent).

Risk factors for paracetamol hepatotoxicity in children include:

- prolonged fasting, vomiting or dehydration
- chronic under-nutrition
- hepatic impairment
- use of adult rather than paediatric formulations
- the availability of multiple strengths of liquid paracetamol.

Paracetamol has additional risks because:

- it is widely available as both a prescription and over-the-counter medicine
- people can inadvertently take or give too much because:
  - it comes in multiple forms and strengths
  - it is an ingredient in many over-the-counter combination products and some people have difficulty reading and comprehending this
  - many people self-manage their pain
  - people often share paracetamol-containing products purchased over-the-counter with friends or relatives.

Key messages for health professionals

1. Always ask about a patient’s use of over-the-counter analgesics/cough and cold remedies before prescribing or recommending paracetamol.
2. If a patient is taking multiple products containing paracetamol, help them understand the total amount that can be taken safely.
3. Ensure parents, whānau and caregivers understand the correct dose of paracetamol and the product they should use for their child.
4. Consider an adult patient’s weight and other risk factors, for example, alcohol consumption, when prescribing or recommending paracetamol. The usual maximum of 4g a day might be too much.
5. For adults <50kg (the frail elderly or those with eating disorders/chronic disease), reduce the maximum total daily dose from the usual 4g/day. Some organisations have developed paracetamol dosing guidelines.
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6. Ensure weight-based doses are based on an accurate and current weight. Calculate the dose and total daily dose using mg/kg and include this information on the prescription.

7. In obese children, use the ideal bodyweight rather than the actual bodyweight to calculate doses.

Key messages for consumers

1. Do not exceed the recommended maximum daily dose of paracetamol. Reduce the maximum dose if other risk factors are present, such as prolonged fasting, weight and frailty, and the amount of alcohol consumed daily.

2. Many over-the-counter painkillers/cough and cold remedies contain paracetamol. Check the label and ask your pharmacist if other remedies are safe to take at the same time as regular paracetamol.

3. Always check the strength of paracetamol products, particularly when giving to a child.

4. When using liquid paracetamol products, always use a proper measuring device to take or give doses.

Consumer resources

• Information leaflet ‘Giving paracetamol safely to babies and children’ (available in English, Korean and Chinese): www.saferx.co.nz/ PatientGuides.aspx


References


