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Rua Vergueiro, 1855 - 12º andar
Vila Mariana - São Paulo - SP
CEP 04101-000 - Tel./Fax: (11) 5083-4297
atendimento@sbrafh.org.br/www.sbrafh.org.br

Diagramação:Liana de Oliveira Costa

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Editorial

THE ROLE OF HOSPITAL PHARMACISTS IN THE PREVENTION OF ADVERSE DRUG REACTIONS

David J Woods

A significant proportion of these events are estimated to be preventable[1] so the question arises as to whether health professionals, including pharmacists, are doing enough to prevent ADRs at the time of prescribing or to identify their onset before the reaction becomes potentially serious.

An obvious opportunity to make a risk assessment for potential adverse reactions is to review newly prescribed medicines. A lot of emphasis is placed on checking for drug-drug interactions but less so with evaluating the potential for the drug to "interact" with a patients individual risk factors or comorbidities. This is partly due to lack of information and guidance, both in standard texts and in drug data sheets provided by manufactures. A prescriber or pharmacist is provided with a long list of cautions and adverse drug reactions which is often overwhelming and provides little information on risks that may be applicable to an individual patient. The intensity of risk assessment strategies is offset by the fact that many serious ADRs are rare and so the risks to patients on a population incidence perspective are relatively low. However, a large exposed population experiencing a rare event can result in a significant number of patients who experience harm. The serotonin reuptake inhibitors are widely prescribed and are associated with an increased risk of bleeding disorder and haemorrhage[2]. The risk of harm is significantly increased with concurrent use of NSAIDs, anticoagulants and in patients with a history of previous bleeding events[3]. If this risk is recognised the time of prescribing, the drug combination can be modified or the patient closely monitored as appropriate. Preventable bleeding events, particularly gastrointestinal haemorrhage, are a major cause of hospital admissions and drug related morbidity and mortality. SSRIs may contribute to this problem but the risks may not always be recognised at the time of prescribing.

Serious events, including death, still occur in patients who are re-administered a drug or drug-class that has previously caused anaphylaxis or a drug hypersensitivity reaction. Such events can be prevented by accurate and detailed documentation of the original event and appropriate alerting systems such as personalised bracelets and electronic allergy checkers in clinical decision support. The prevention of repeat events is often compromised as patients' drug allergy history is not always available to all prescribers at the point of care and there is a lack of standard information and guidance on the potential for cross reactivity. Two other factors may paradoxically lead to patient harm in this context. Firstly, computerised alerts for drug allergy are often overridden[4] as they are irrelevant or incorrect – so called alert fatigue. Alert overrides may dilute the importance and recognition of clinically significant and potentially serious events. Secondly, it is well recognised that many patients are incorrectly labelled as being allergic to a medicine; some studies have reported rates of false labelling in up to 90 per cent of patients with antibiotic allergy[5]. As a consequence, falsely labelled patients may actually be harmed if they are denied an effective medicine or prescribed an alternative medicine which is associated with a greater risk of adverse effects.

Many adverse effects are delayed and may occur after weeks to months of treatment. Appropriate monitoring may detect the early onset of a reaction and mitigate against potentially serious consequences. Effective and appropriate monitoring for an adverse reaction requires an understanding of the time-course, pathophysiology and characteristics of its presentation along with consideration of individual risk factors. Nitrofurantoin can cause serious inflammatory lung disease, especially after chronic treatment of six months or more. Early onset can be detected by advising the patient to report new respiratory symptoms such as cough or shortness of breath[6]. These symptoms may be more difficult to identify in patients with congestive heart disease or asthma which may indicate that nitrofurantoin poses a higher risk or may be inappropriate in such patients. The Proton Pump Inhibitors (PPIs) such as omeprazole are widely prescribed and available over the counter in many countries. Rare, but potentially serious ADRs include acute interstitial nephritis[7] (AIN) and hypomagnesaemia[8]. Whilst AIN is rare, it can lead to long-term kidney injury so it is important to identify non-specific symptoms such as raised plasma creatinine, rash, arthralgia, malaise, fever, nausea, lethargy and weight loss to differentiate these from other possible causes. Hypomagnesaemia can develop after chronic use of a PPI and monitoring would be especially appropriate if the patient has risk factors for arrhythmias or is taking digoxin.

Any monitoring must be logical and likely to be beneficial. For example, regular monitoring of the white cell count in patients taking antithyroid drugs is unlikely to detect neutropenia as the reaction occurs rapidly and unpredictably. A much more reliable marker is to report signs of infection such as a sore throat.

Pharmacists can contribute on several fronts to prevent ADRs by applying their knowledge and understanding in the recognition and management of risks. Pharmacists should be aware of patient related factors that may increase risks and institute and promote rational monitoring for ADRs. Other important roles are assisting in the review and validity of patients' drug allergy labels and contributing to the development of clinically meaningful decision support systems to prevent repeat events.

David J Woods MPharm FRPharmS FPS is consultant pharmaceutical adviser and professional practice fellow at School of Pharmacy, University of Otago, Dunedin, New Zealand

REFERENCES

1. Jeon N, Staley B, Johns T, Lipori GP, Brumback B, Segal R, et al. Identifying and characterizing preventable adverse drug events for prioritizing pharmacist intervention in hospitals. Am J Health Syst Pharm. 2017 Nov 1;74(21):1774–83.

2. Anglin R, Yuan Y, Moayyedi P, Tse F, Armstrong D, Leontiadis GI. Risk of upper gastrointestinal bleeding with selective serotonin reuptake inhibitors with or without concurrent nonsteroidal anti-inflammatory use: a systematic review and meta-analysis. Am J Gastroenterol. 2014 Jun;109(6):811–9.

3. Mort JR, Aparasu RR, Baer RK. Interaction between selective serotonin reuptake inhibitors and nonsteroidal antiinflammatory drugs: review of the literature. Pharmacotherapy. 2006 Sep;26(9):1307–13

4. Nanji KC, Seger DL, Slight SP, Amato MG, Beeler PE, Her QL, et al. Medication-related clinical decision support alert overrides in inpatients. J Am Med Inform Assoc. 2017 Oct 27;

5. Trubiano J, Phillips E. Antimicrobial stewardship's new weapon? A review of antibiotic allergy and pathways to 'de-labeling.' Curr Opin Infect Dis [Internet]. 2013 Dec [cited 2017 Nov 15]; 26(6). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3862073/

6. Nitrofurantoin – do the benefits outweigh the risks long-term? http://www.medsafe.govt.nz/profs/PUArticles/NitrofurantoinBenefitsOutweighRisksJune2012.htm (accessed November, 2017)

7. Blank M-L, Parkin L, Paul C, Herbison P. A nationwide nested case-control study indicates an increased risk of acute interstitial nephritis with proton pump inhibitor use. Kidney Int. 2014 Oct; 86(4):837–44.

8. Park CH, Kim EH, Roh YH, Kim HY, Lee SK. The Association between the Use of Proton Pump Inhibitors and the Risk of Hypomagnesemia: A Systematic Review and Meta-Analysis. PLoS One [Internet]. 2014 Nov 13 [cited 2017 Nov 15];9(11). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4230950/.