How can you encourage medicines optimisation to prevent acute kidney injury?

In this article, ***Heidi Wright*** *complements the material in the medicines optimisation briefing on acute kidney injury.*

These briefings have been developed for pharmacists and pharmacy teams working in England and Wales.

Medicines optimisation is all about supporting patients so that they get the best possible outcomes from their medicines. It means using effective consultation skills (see: www.consultationskillsforpharmacy.com) in talking and engaging with individuals to understand their beliefs and concerns about their medicines and what they would like their medicine to achieve. It also involves ensuring that the medicine chosen for the patient is clinically appropriate, safe, effective and will help them to achieve their goals. It is about supporting the patient to continue to use their medicines in a way that fits with their lifestyle.

The medicines optimisation briefings we have produced are for pharmacy professionals working in all sectors of healthcare. We believe that, as experts in medicines and their use, pharmacy professionals are well placed to support patients to get the best outcomes from their medicines.

Acute kidney injury (AKI)

The briefing distributed with this week's issue of *The Pharmaceutical Journal* focuses on how pharmacy professionals can work with patients to prevent AKI. This is the fourth in a series of briefings that complement and build on each other. The content is not intended to be exhaustive; the aim is to improve your understanding and approach to preventing drug-induced AKI.

Acute kidney injury, previously called acute renal failure, affects one in six people admitted to hospital and is responsible for thousands of unnecessary deaths each year. Patients at risk of AKI should be advised to keep hydrated; one litre of all fluids in 24 hours, or about two pints, is sufficient, unless otherwise advised or acutely ill (in which case they should increase fluid intake). *See below for more information on this*.

Quick reference guide for AKI

Patient groups or conditions that are at high-risk of developing AKI

- Cardiac failure or low blood pressure
- Chronic kidney disease
- Dehydration
- Diabetes
- Elderly
- Family history of kidney disease
- Hypertension
- Kidney transplant
- Liver disease
- Obese
- Smokers

Medicines (or combinations of medicines) that increase the risk of AKI (particularly if the patient is in one of the high-risk groups listed above)

- Angiotensin-converting enzyme inhibitors (ACEI)
- Angiotensin II receptor blockers (ARB)
- Diuretics
- Non-steroidal anti-inflammatory drugs (NSAID)
- Metformin (a side-effect of metformin is lactic acidosis which is already raised in AKI)

Signs and symptoms

- A reduction in urine output, even if the patient is drinking lots of fluids.
- Yellow or brown urine.
- Feeling very unwell with no obvious reason.
- Symptoms of dehydration may include dizziness or light headedness; headache; tiredness; dry mouth, lips and eyes; passing small amounts of urine infrequently (less than three or four times a day). However, none of these are reliable indicators of dehydration and patients should be counselled to suspend any of the high-risk medicines listed above if they have diarrhoea, sickness or other cause of dehydration.

Advice

- If the patient develops new diarrhoea, sickness, or both, they should suspend their ACEI, ARB, diuretics, metformin or NSAID (without first speaking to their GP) until they are clearly improving; then they should restart their medicines.
- If they are not improving within 24 hours then medical advice should be sought urgently.
- Encourage patients to drink plenty of fluids, particularly if they have neurological or cognitive impairment or disability and are unable to do that themselves.
- Avoid over-the-counter NSAIDs (during any period of dehydration and in chronic kidney disease).

What other resources are available to help?

The accompanying medicines optimisation briefing for AKI contains signposting information for patients and pharmacy professionals, including the UK Renal Pharmacy Group AKI medication optimisation toolkit which is designed to ensure that the medicines received by patients with AKI are optimised.

What is happening nationally?

NHS England is focusing on AKI as one of its key clinical areas and a major priority for patient safety. Liz Butterfield FRPharmS, RPS board member and English board lead for medicines optimisation is a member of the NHS England AKI Risk Reduction workstream, a focus of the Think Kidneys programme.

There is recognition that pharmacists in all sectors have a great contribution to make in reducing the risk of medicines-related AKI. Community pharmacists are well placed to intervene where people are asking for advice about nausea, vomiting or diarrhoea. Increasing awareness of the risks of NSAIDs in all age groups is an essential part of over-the-counter support, particularly in people in high-risk groups. All pharmacists need to be aware of the sick day rules and the medicines which are particularly risky at times of dehydration or acute illness and what advice to give.[1]

Sick day rules to protect patients from AKI[1, 2]

This initiative aims to reduce the incidence of patients being admitted to hospital with AKI.

Patients with risk factors for AKI should be warned about the possibility of developing AKI if they become dehydrated or acutely ill, especially with diarrhoea, vomiting, fever or sweats. They should be advised to increase their fluid intake and avoid any medicines that may worsen renal function until their acute illness resolves. Specifically, this refers to:

- ACEIs
- ARBs
- NSAIDs
- Diuretics
- Metformin

Patients also need to be made aware of the importance of restarting their medicines once their illness resolves.

AKI is 100 times more deadly than MRSA

Around 20 percent of AKI cases are preventable

Signposting patients

- British Kidney Patient Association
- National Kidney Federation
- Kidney patient guide
- Think Kidneys

Signposting pharmacy professionals

Familiarise yourself with the NICE resources for AKI including the NICE pathway, quality standard and guidline.

- NICE AKI e-learning tool (open access but login required)
- NICE clinical knowledge summary for acute kidney injury
- UK Renal Pharmacy Group and AKI medication optimisation toolkit
- Renal Association
- Think Kidneys
- Centre for Pharmacy Postgraduate Education (CPPE)
    - Acute kidney injury learning@lunch flex programme
    - Consultation skills for pharmacy
    - Renal medicine e-learning programme

References

1. Malson G. Initiative seeks to protect patients from acute kidney injury. *The Pharmaceutical Journal* (online). 2014. www.pharmaceutical-journal.com/news-and-analysis/news-blog/initiative-seeks-to-protect-patients-from-acute-kidney-injury/20067440.article
2. Prescott AM, Lewington A, O'Donoghue D. Acute kidney injury: top ten tips. *Clinical Medicine* 2012;12(4): 328–332. www.clinmed.rcpjournal.org/content/12/4/328.full.pdf

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February 2015