

# Sharing progress in practice

Christine Clark and Hannah Pike report on research and best practice presented at the UK Clinical Pharmacy Association autumn symposium

**A**pproximately ten per cent of patients are admitted to hospital or have their length of stay increased because of an adverse drug reaction (ADR). This was a finding of work presented at the UKCPA symposium by Emma Davies from The Royal Liverpool and Broadgreen University Hospitals NHS Trust.

Over a six-month period 3,695 patient episodes across 12 wards were assessed for ADRs by review of prescription charts, medical and nursing notes and discussion with the multidisciplinary team. Of these, 559 (15.1 per cent) had resulted in at least one ADR. A total of 750 ADRs were identified and analysed for cause, severity and avoidability using validated scales, and for suitability for reporting to the yellow card scheme.

In over 80 per cent of cases the causative drug was initiated in hospital and in over 50 per cent of cases the ADR was found to be “definitely” or “possibly” avoidable. ADRs directly increased length of stay in 152 patients (27.2 per cent), equating to 4.1 per cent of all inpatients and accounting for 957 bed days. A total of 232 ADRs (30.1 per cent) met requirements for yellow card reporting.

The most frequent ADRs identified were electrolyte disturbance (22 per cent), constipation (14 per cent) and increased international normalised ratio (8 per cent).

Risk factors for ADRs included increasing age and increasing length of stay in hospital. Women were found to experience more ADRs than men.

The most frequent causative drug groups were opioids, loop diuretics, systemic corticosteroids and inhaled beta-agonists. The most frequent causative drugs relative to use were oral anticoagulants, fibrinolytics, unfractionated heparin and loop diuretics.

The fact that the most frequent causes of ADRs were commonly used drugs with a predictable side effect profile suggests that

there is scope for prevention strategies, Ms Davies pointed out. Her team now aims to develop a tool to identify those patients at risk of ADRs, to help ensure monitoring and assessment.

Limitations include that only ward patients were assessed, so might have been the most unwell patients, and patients with very short stays might not have been included since records were only checked once a day.

Ms Davies was presented with the Hameln best oral presentation award.



Emma Davies, Hameln best oral presentation winner, with Steve Watkin, managing director of Hameln

## Implementing risk assessment of injectables

**Medication** incidents involving injectable medicines are twice as likely to have serious adverse outcomes than incidents involving other types of medicines, said Gillian Cavell, deputy director of pharmacy, medication safety, at King's College Hospital NHS Foundation Trust. Speaking at a workshop about the safe use of injectable medicines, she said that during a recent 18-month period, 25 such incidents had caused deaths and 28 had resulted in severe harm to patients.

The recent National Patient Safety Agency alert requires NHS trusts to

The United Kingdom Clinical Pharmacy Association autumn symposium entitled “Progress in practice” was held in Leeds on 16–18 November. **Christine Clark** is a freelance journalist and **Hannah Pike** is editor of *Hospital Pharmacist*

undertake risk assessments of products and procedures, to ensure that up-to-date protocols are available and that essential technical information is available and accessible to the staff who need it. In addition, they are required to ensure that staff are trained and supervised and that injectable medicines practices are audited. This latter item is the biggest stumbling block for most organisations, said Ms Cavell.

Describing how the risk assessment process should be implemented, Clare Crowley, medicines safety pharmacist at Oxford Radcliffe Hospitals NHS Trust, emphasised that risk assessment is required for all clinical areas where medicines are used — including cardiac catheterisation laboratories and radiology departments. The risk assessment should be carried out by a pharmacist and a senior clinical practitioner.

“Be careful when you pick the clinical practitioner. Don't pick a locum or the manager — it needs to be someone who knows how people work in the department”, she advised. Risk assessments should be undertaken annually and whenever a new product or practice is introduced. They should be done in the areas where intravenous doses are prepared because there will be “quite a lot of clues around” about how the work is done. Moreover, assessors should translate their questions into understandable terms. For example, instead of asking if open systems are used, it would be better to ask if injections are ever poured out into a bowl before drawing up. It need only take 20 minutes to do a risk assessment but a little planning is worthwhile to avoid rushing and coming up with the wrong answers, said Dr Crowley.

# Etomidate toxicity in critical care disproved

For many years it was believed that increased mortality was associated with the use of etomidate for intubation of patients in critical care, but a study carried out by Rob Shulman and colleagues at University College Hospital and The School of Pharmacy suggests that this might not be the case after all.

Dr Shulman carried out a retrospective review comparing 55 patients who had received etomidate with a matched group of 49 who had not received etomidate. There were no differences in mortality, the use of vasopressors, SOFA score (a score of organ function) or intravenous colloid use. This study was powered to show a 28 per cent difference in mortality. In order to show a 5 per cent difference, 1,500 patients would be needed in each group.

A landmark study in 1984 showed that the mortality increased from 25 per cent to 44 per cent in parallel with the change from benzodiazepines to etomidate for intubation. Moreover, the etomidate-treated patients

required higher doses of vasopressors and had low cortisol levels. Etomidate is believed to interfere with corticosteroid synthesis by inhibition of cytochrome P450 activity. Other studies showed that the response to the Synacthen test (synthetic adrenocorticotrophic hormone) was blunted in etomidate-treated patients compared with those given midazolam or thiopentone. However, fewer than 200 patients in total were involved in the studies and so the results should be interpreted with caution, said Dr Shulman. Nevertheless, in 2005, anaesthetists were advised to discontinue the use of etomidate for intubation.

Dr Shulman said that in his study there was no indication that etomidate-treated patients had worse outcomes than the control group. As a result of this conclusion the intensive care team at UCH has decided to continue to use etomidate for intubation.

The GlaxoSmithKline advanced practitioner award was presented to Dr Shulman and colleagues for this work.



LAURENCE GOLDBERG

Robert Shulman: no indication that patients treated with etomidate have a worse outcome

## UKCPA has much to offer a professional leadership body

UKCPA members want the new professional body for pharmacy to provide networks and support, motivation and inspiration, and to be accessible at all levels of practice, said Catherine Duggan, chair of the UKCPA.

Speaking at the opening session of the symposium, she described the characteristics important for a professional body. "We would like to see accredited frameworks for practice and a voice of expertise that promotes us to the outside world," she said. "We need shared ownership and engagement. If we feel part of a Royal College we are able to feel proud of it, we are able to promote it."

She added: "UKCPA has a lot of those attributes already and waiting". The association provides practitioner support, showcases and shares best practice, and has some of the best leaders on board, she said.

Dr Duggan pointed out that many attributes needed from a professional body appear in the UKCPA mission statement.

"We have opportunity for collaboration, and dissemination of our innovative practice. And then we can best demonstrate the impact of good pharmacy practice on patient care," she said.

## UKCPA award winners 2007

Andrea Gill and colleagues from the Royal Liverpool Children's NHS Trust were presented with the Novartis antimicrobial management award during the symposium, for the introduction of a once daily aminoglycoside regimen in paediatrics using an evidence-based approach. Patricia Ging and her team from Mater Misericordiae University Hospital, Dublin, received the Lily UK Critical care award for the design, implementation and evaluation of a new drug chart in the intensive care unit at their hospital.

Further presentations were made during the symposium dinner. Sian Gaze (previously known as Sian Davies) from Guy's and St Thomas' NHS Foundation Trust was presented with the Hameln best postgraduate diploma award, for her team's

study on the use of lisinopril in children under six years of age.

There were two winners of the Hameln best poster award: Tracy Lyons from St Mary's Hospital, London for her team's poster entitled "Creation of a pharmacist-led antimicrobial IV-oral switch programme in a teaching hospital" and Katherine Foster and her team, from Guy's and St Thomas' NHS Foundation Trust and King's College London, for their poster "Development and assessment of a novel, evidence-based prioritisation tool for surgical pharmacists".

The Pfizer poster award went to Ciara Bergin and colleagues from King's College Hospital Foundation Trust, London for their audit of compliance with standards for completion of insulin prescriptions.



CHRISTINE CLARK

Ciara Bergin, winner of the Pfizer poster award, with Howard Tebby from Pfizer