University College London Hospitals NHS
NHS Foundation Trust

uclh

ePrescribing Masterclass Webex, 6 September 2017

Challenges with Prescribing Lidocaine:
Learning from an error

Dr Yogini Jani
Consultant Pharmacist Medication Safety

Synopsis

Previously well patient → two cardiac arrests during post-operative recovery

A serious incident investigation

- likely cause was an intravenous lidocaine infusion
- administered for acute post-operative pain management
- patient with complex longer-term pain management issues

Learning points identified through the investigation

- unlicensed or off-label use
- multiple indications and dosing regimens
- electronic prescribing system set up and human factors
- learning from near misses

Unlicensed or off-label use – spread to ICU

Theatres and recovery

- IV lidocaine infusions used by anaesthetists
- Management of acute pain in patients with complex pain histories

Transfer of patients

- from Recovery whilst still on lidocaine infusions
- occasionally prescribed for patients whilst in critical care areas – particularly in Post-Anaesthetic Care Unit (PACU) beds.

Unlicensed or off-label use - governance

Off-label use of medicines in critical care areas

- scope of practice?
- guidelines?
- guideline approval?

Multiple indications and dosing regimens

Licensed indication and dosing

- ventricular arrhythmia involves a bolus dose followed by a complex infusion regimen.
- BNF states:
  - Bolus – 50 to 100mg over a few minutes, followed immediately by
  - Intravenous infusion – 4 mg/minute for 30 minutes, then 2 mg/minute for 2 hours, then 1 mg/minute, reduce concentration further if infusion continued beyond 24 hours

Acute post-operative pain management

- typically 2 mg/kg lidocaine intravenously over two hours.

e-prescribing system set up and human factors

At UCLH ICU e-prescribing system configuration

- majority of drugs sit in one of two Order Set categories
  - ‘Drug Orders or ‘IV Infusions ’.

Rule of thumb

- infusions over a fixed period of time (≤ four hours) →‘Drug Orders’
- delivered continuously
  → ‘IV Infusions ’

Unforseen/ unintended consequence

- accessed lidocaine via infusions menu

Learning from near misses & robust process for managing changes

Audit

- retrospective review of previous prescriptions
  - same error had occurred
  - detected and corrected
  - not reported formally

Local M&M meeting 2 months prior

- agreed changes to highlight indications
- not actioned in time

Synopsis

Previously well patient → two cardiac arrests during post-operative recovery

Points identified through the investigation

- unlicensed or off-label use
- multiple indications and dosing regimens
- electronic prescribing system set up and human factors
- learning from near misses

Sharing the learning…..

- ✓ Be alert to new practice or procedures that spread from other clinical areas onto critical care units
- ✓ Ensure that comprehensive governance arrangements are agreed and in place to cover off-label use of medicines
- ✓ Be alert to the risks associated with drugs used for multiple indications especially where the dosage regimens differ significantly
- ✓ Reflect on human factors that impact on prescribing when considering how prescribing templates should be structured on electronic systems
- ✓ Make the most of opportunities to learn from near misses
- ✓ Ensure that a robust system is in place for agreeing, documenting, prioritising and implementing changes to electronic systems