Clinical evaluation of Druglog® apparatus for the control of parenteral preparations in operative room and high dependency unit.

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**Background and objectives:** Medication errors (ME) might affect patient?s prognosis in operative room (OR) and high dependency unit (HDU). Despite drug labelling or barcode reader use, checking the prepared drug before administration could secure medicinal care. With UV absorption technology, a new apparatus, Druglog® can identify and quantify drugs in two seconds. The objective was to assess the Druglog®’s robustness to intercept ME.

**Methods:** According to french society of pharmaceutical science and technology recommendations, 28 drugs were calibrated at concentrations commonly used in anaesthesia. During three months, in OR and HDU, a 1mL sample of random prepared drugs was analysed. In case of non-conformity, it was prepared and analysed once again. A multi-professional meeting assesses the criticality of intercepted DE according to the french society of clinical pharmacy table.

**Results:** 22 drugs were calibrated with 5 to 15 calibration points. Lack of UV absorption, crossed identifications and non-granted accuracy profile caused calibration failures, probably because of the high inter-variability between manufacturers? batches. Relative errors vary from 0.5 to 7.9%. With 232 samples (3/4 in OR), 6.9% (n=16) ME were intercepted. Druglog® was not able to analyse mix of drugs (n=7). 81% of ME had a low criticality, mainly in the OR thanks to the anaesthetist acute survey.

**Conclusion:** Druglog® is compatible with clinical use and can intercept ME. However, some calibration rules have to be followed to ensure reliable results in clinical use, and without medico-economic study, we can?t predict his impact in unit?s organisation. Moreover, neonatology might be more relevant, where multiple dilutions are required.

**Keywords:** Medication error - Pharmaceutical technology ? Pharmaceutical preparation ? Anaesthesia ? Medication system, hospital

Control of chemotherapy-induced nausea and vomiting in patients with gastrointestinal tumours

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**Objectives:** During cancer treatment, many patients experience chemotherapy-induced
nausea and vomiting (CINV), which leads to a lower quality of life and poorer adherence to the subsequent chemotherapy cycles. The aim of the study was to assess antiemetic therapy prescribing and CINV control in the acute phase (24 hours post-chemotherapy) and the delayed phase (days 2-4 post-chemotherapy). Factors influencing CINV control were also determined.

**Methods:** Information on antiemetic premedication was gathered from patient medical records. Data regarding antiemetic therapy post-discharge and CINV control were in both phases obtained using patient questionnaires. Antiemetic therapy prescribing was compared with internal CINV prevention and control guidelines. Predictive factors for CINV control were evaluated using binary logistic regression.

**Results:** There were 62 patients enrolled in the study, out of which 50 (80.6%) received adequate antiemetic premedication. In the acute phase, 46 (74.2%) patients reported well-controlled CINV, whereas 16 (25.8%) reported uncontrolled CINV. None of the patients was prescribed post-discharge antiemetic therapy as per guidelines. In the delayed phase, CINV was more frequent as 39 (62.9%) patients reported well-controlled CINV, whereas uncontrolled CINV was reported in 23 (37.1%) patients. The predictive factors for overall CINV control were prescription of corticosteroids (OR=9.025, p=0.019) and patient age (OR=0.851, p=0.002). The delayed CINV control was dependent on age (OR=0.885, p=0.030) and acute CINV control (OR=17.377, p=0.001).

**Conclusions:** The majority of the patients were prescribed adequate antiemetic therapy for the acute phase but not for the delayed phase, which may have resulted in more patients experiencing delayed CINV.

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**Compliance with the Health Information and Quality Authority of Ireland National Standard for Patient Discharge Summary Information: a retrospective study in secondary care**

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Background: Unexplained changes to medication are common at hospital discharge and underscore the need to standardise patient discharge clinical documentation. In 2013, the Health Information and Quality Authority in Ireland published a Standard on the structure and content of discharge summaries. The intention was to ensure that all necessary information was complete and communicated to the next care provider.

Objectives: This study investigated one Hospital's compliance with the Standard, and appraised two methods of electronic discharge communication (Symphony or Tallaght Education and Audit Management System (TEAMS)).

Method: A retrospective survey of 198 randomly selected discharge summaries was conducted at the study hospital, a 600 bed academic teaching hospital located in Dublin, Ireland.

Results: Of the 198 evaluated summaries, mean total compliance was 77%±4.2 (95% CI 76.3
Most (84.7%, n=173) summaries were completed using one of the systems (TEAMS). Absence of communication about alteration of preadmission medication was frequent (107 out of 130 patients (82.3%, CI 76.2 to 89.2)). Higher compliance rates were observed however, when information was interfaced or where there were dedicated fields to be completed.

**Conclusions:** Efforts to improve compliance with the National Standard for Patient Discharge Summary Information should focus on reporting changes made to medication during hospitalisation.

**Pharmacist intervention in pain management following heart surgery**

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**Objectives:** Pain is a common symptom in cardiac surgery patients. This study aimed to investigate the influence of pharmacist intervention to ease postoperative pain in cardiac surgery patients.

**Methodology:** Patients undergoing heart surgery were randomised to control or intervention. The intervention group was given systematic verbal information and, at discharge, a pharmaceutical care plan. Pain score and diary assessment were compared up to 6?weeks after the surgery.

**Results:** 100 patients participated. Mean Pain Score was lower in the intervention group from week 1 to 6 (p<0.05). Compliance with analgesic was higher in the intervention group.

**Conclusions:** The intervention improved compliance and decreased pain score, illustrating the positive effect the pharmacist had on these patients.

**Molecular characterisation of CTX-M-type extended-spectrum ?-lactamases of Escherichia coli isolated from a Portuguese University Hospital**
Study objectives: The aim of this work was to study the prevalence of CTX-M-producing Escherichia coli isolates collected from the Hospital of the University of Coimbra (HUC) and to characterise these isolates both phenotypically and genotypically.

Methods: Between November and December 2007, 220 non-duplicate E. coli isolates were recovered at HUC. The extended-spectrum β-lactamases (ESBL)-producers were identified by the automatic VITEK 2 system and advanced expert system (bioMérieux, Marcy l’Étoile, France), further confirmed by the disk diffusion synergy test. The blaCTX-M genes were detected by PCR, and the amplicons were sequenced. Genetic relatedness was assessed by ERIC-PCR. A CTXM-15-producing E. coli isolate collected in 2004 at the same hospital was included in the study.

Results: Twenty-one isolates were identified as ESBL-producers resistant to all penicillins, first generation cephalosporins, cefotaxime and/or ceftazidime, but susceptible to imipenem. The majority of the isolates were collected from urines. Sequence analysis identified the CTX-M-15 enzyme in all isolates. All the isolates were clonally related. DNA fingerprinting was identical with the CTX-M-15-producing strain collected in 2004.

Conclusion: Our results showed the spread of hospital-acquired urinary tract infections caused by CTX-M-15-producing E. coli, and the prevalence of these infections in women. Also, the emergence of CTX-M-15 in this institution is related to the spread of a clone over time. We concluded the need to upgrade the control infection measures in this hospital, as this study confirmed the presence of an endemic E. coli clone disseminated in different wards, a clone already identified in 2004, and according to our results, maintained at this hospital until 2007.

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