If any drug/drug or drug/solvent incompatibilities occur, physical-chemical reactions may occur at the Y-site expressed as clouding, colour variation, emulsion breaking. These reactions can give rise to clinically significant complications such as reduction of bioavailability and therapeutic effect, catheter obstruction, parenchymal deposits. The potential impact, in terms of increase of morbidity/mortality and prolonged hospitalisation, could be important.

Purpose To create a working tool to help health professionals make responsible and evidence-based decisions when administering several medicines to critical patients.

Materials and Methods A systematic search for stability/compatibility information for injectable drugs was performed (Trissel's, Stabilis, King's Guide to Parenteral Admixtures, Micromedex database, Martindale, Summary of Product Characteristics).

A literature review of data concerning compatibility for intravenous administration of 119 drugs and 4 diluents commonly used in anaesthesia and intensive care was undertaken.

Results 7488 drug/drug and drug/solvent compatibilities were analysed, showing: 44% compatibility, 12% physical and/or chemical incompatibility, 4.5% limited compatibility (depending on solvent, concentration, contact time, temperature). The data collected conflicted in 1.8% of references.

All data were summarised in a colour-code wall chart, which admits, circumscribes or denies the possibility of simultaneous infusion (green: compatible, red: incompatible, violet: limited data, yellow: conflicting data, white: no information). This working tool was shared with health staff and made available in the ward for a safe and quick search.

Conclusions The use of this visual working tool in ICUs and other units may reduce adverse events due to physical-chemical incompatibility of infused medicines, thus improving care quality and patient safety.

No conflict of interest.

GRP-164 RIVAROXABAN VERSUS ENOXAPARIN: COMPARISON OF OUTPATIENT TREATMENT ADHERENCE IN CLINICAL PRACTISE

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Background Rivaroxaban (Riv) is a selective, direct Factor Xa inhibitor indicated in the prevention of venous thromboembolism in adult patients undergoing elective hip or knee replacement surgery (HKRS). [1] It was introduced into the pharmacotherapeutic formulary of the Hospital Centre of Cova da Beira (CHCB) in February 2011. It is administered orally, which is a potential advantage in terms of compliance when compared to enoxaparin (Eno).

Purpose To compare adherence to Eno versus Riv in adult patients undergoing elective HKRS. The occurrence of adverse drug reactions (ADRs) was also compared between the groups.

Materials and Methods Cross-sectional study of outpatient compliance to Eno or Riv, in patients undergoing KHRS in CHCB, from February/2011 to April/2012. Medicines adherence was evaluated using a validated questionnaire and the occurrence of ADRs was evaluated in a structured interview.

Results The study included a total of 60 patients, who underwent elective knee (29 patients) or hip (31 patients) surgery; 41 patients were treated with Eno (17 knee + 24 hip) and 19 with Riv (12 knee + 7 hip). In all, 91.7% patients were considered adherent to the treatment, but a significant difference (P = 1) was not observed between patients anticoagulated with Eno (92.7% adherent) or Riv (89.5% adherent). Similarly, there was no significant difference (P = 0.35) in treatment adherence between patients undergoing knee or hip surgery. However, there was a significantly higher occurrence of ADRs (P = 0.001) in patients treated with Eno (39.0%; hematoma at the site of injection) when compared to patients treated with Riv (no ADRs were attributable to this drug).

Conclusions Although a significant difference in adherence to subcutaneous Eno vs oral Riv was not observed, which may be potentially attributed to the short-term anticoagulation treatment (2 to 5 weeks), the occurrence of ADRs was significantly lower in patients treated with the oral anticoagulant. This difference in drug-related adverse events differs from other studies that detected similar adverse-event profiles.[2] From a methodological point of view, this is a small cross-sectional study and our results must be considered exploratory in nature.

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No conflict of interest.

GRP-165 ROOT CAUSE ANALYSIS AS AN OPPORTUNITY TO IMPROVE THE SAFETY OF PAEDIATRIC CARE

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Background Patient safety is a serious global public health issue. Causal analysis with a systematic and participatory approach is a useful tool for improving safety.

Purpose To perform a root cause analysis (RCA) in a medication error in order to identify improvement opportunities, to propose actions aimed to increase patient safety and to promote a collaborative approach in the health team.

Materials and Methods Retrospective study by the Patient Safety Team using RCA to investigate the cause of a medication error that happened in the paediatric unit in a tertiary level hospital, Spain. It included the following steps: identification and selection of the error, data collection and description of the event, construction of facts map, analysis of contributing factors and study of barriers that may prevent damage and finally, developing solutions and an action plan.

Results An administration error in a paediatric patient was selected. The patient received a single dose of antibiotic instead of a dose every 24 hours. RCA permitted the identification of human and patient factors as well as latent system failures associated with organisational factors and factors related to equipment, procedures, working conditions, education and training. Electronic prescribing and an individualised dispensing system failed as the main barriers.

The action plan proposed by the interdisciplinary team included: modification of the individualised dispensing system for the paediatric unit, improved electronic prescribing software, systematic visitor pass medical-nurse, and review of returns in the individualised dispensing system to detect errors.

Conclusions The analysis of a medication error by RCA identified the factors that caused the event and was a learning opportunity for the health team. Its use permitted a patient safety improvement through the identification and correction of latent system failures.

No conflict of interest.