adherence to the intravenous potassium programme after its completion 5 years ago.

Material and methods A retrospective observational study was conducted between June and December 2019. Potassium CS and PS used in our hospital were identified and the potassium mEqs consumed with both methods were calculated. The intensive care unit was excluded because its use of CS is accepted by the ISMP.

Results Two types of CS were found: potassium chloride 2 mEq/mL and monopotassium phosphate 1 mEq/mL. Regarding PS, eight types were available: glucose 5%+10 mEq K, glucose 5%+15 mEq K, glucose 5%+20 mEq K, glucosaline+10 mEq K, glucosaline+15 mEq K, physiological+10 mEq K, physiological+15 mEq K and physiological+20 mEq K. Potassium consumption was 501 650 mEq in CS and 125 620 mEq in PS. Therefore, the ratio of potassium consumed using CS was four times higher than that consumed in PS.

Conclusion and relevance After 5 years from the end of the programme implemented to reduce the consumption of potassium CS in our hospital, there has been a loss of adherence to the protocol that has led to a considerable increase in CS consumption, multiplying its use by four versus the recommended SP. Therefore, it is necessary to circulate the protocol for the use of intravenous potassium chloride, which must be maintained over time through annual audits and continuous dissemination sessions.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

5PSQ-132 FAILURE MODE AND EFFECT ANALYSIS APPLIED TO THE PARENTERAL NUTRITION PREPARATION PROCESS IN A MATERNITY AND NEONATAL HOSPITAL

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Background and importance Parenteral nutrition (PN) is an intravenous nutrition technique commonly used in intensive healthcare units. Considering the lack of marketed mixtures for the neonatal population, the preparation of PN is an essential, but complex and high risk hospital activity.

Aim and objectives To analyse the risks related to the process of preparing parenteral nutrition bags in the pharmacy department of a university maternity and neonatology hospital.

Material and methods This FMEA was performed in the sterile preparation unit from January to April 2020. A multidisciplinary team was recruited to firstly perform a process mapping followed by related failure mode mapping through brainstorming sessions. Then, the criticality score for each failure mode was determined by collectively voting on a scale from 1 to 10 for each index (severity, occurrence and no detection). The failure modes were prioritised according to the risk priority number (RPN), which is the product of the three indices. Finally, an action plan to control the highest RPN failure modes was developed.

Results We identified a total of 90 failure modes. The RPN ranged from 3 to 630. The rounded mean±SD was 108±60. The failure modes were considered 'critical' (n=31) for RPN ≥108, 'to control' (n=11) for 60<RPN<108 or 'acceptable' for RPN ≤60. The absence of pharmaceutical validation and the absence of agitation after the addition of each component had an RPN of 630. The steps with the highest cumulative criticality and the number of failure modes were production and quality control. The most critical substep was the aseptic filling in a closed system. A list of possible and achievable actions (n=46) was developed for the 'critical' and 'to control' failure modes with an appointed pilot for each action.

Conclusion and relevance Pharmaceutical validation was one of the most critical steps in our study. The optimal solution would be to invest in integrated commercial software. Production requires most of the improvements. The acquisition of an automated compounding device would minimise the risk. A second FMEA is needed to assess the impact of the changes undertaken. It will allow us to detect residual risks.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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5PSQ-133 EVALUATION OF A QUALITY MONITORING PROGRAMME FOR INTRAVENOUS FLUID MANAGEMENT

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Background and importance Intravenous fluid stewardship can support caregivers to optimise the patient's outcome, avoid fluid overload or electrolyte disorders, and control costs. Implementing a stewardship initiative requires monitoring to guarantee guideline adherence.

Aim and objectives To evaluate the impact of an internal audit on intravenous fluid use and identify opportunities to improve quality monitoring.

Material and methods To evaluate fluid guideline adherence in a Belgian university hospital, an internal audit was organised comprising five QIs, developed by the fluid stewardship programme. The QIs were calculated every 2 weeks over a 6 month period (August 2019 to January 2020), focusing on prescription and labelling, documentation of indication and monitoring of body weight and electrolytes. Every ward steward (22 physicians, 16 nurses) received the results of the first 3 months (T1) in an electronic report. The report's impact on the QIs between T1 and the following 3 months (T2) was assessed using a χ^2 test and interrupted time series (ITS) analysis. Afterwards, stewards were surveyed on how to further optimise fluid management monitoring.

Results In total, 729 patients (T1: 361; T2: 368) receiving 758 intravenous fluid bags (T1: 381; T2: 377) were screened. QIs on prescription and labelling were close to the target value. The QI 'documented indication' was low (21%). 'Availability of electrolyte values' increased significantly between T1 and T2 (90.3% vs 96.2%, p<0.05). ITS analysis could not definitely attribute this effect to our intervention. Internal medicine wards had significantly better results for the 'availability of electrolyte values' QI compared with surgical wards

(T1: 95.3% vs 77.8%, p<0.05; T2: 98.4% vs 91.3%, p<0.05). The QI 'documented body weight' showed similar findings (T1: 82.1% vs 62.5%, p<0.05; T2: 80.2% vs 66.3%, p<0.05). The survey (32% response rate) showed that the feedback report had an appropriate format and length (median scores 3/5), although only 33% of the stewards had disseminated the results to colleagues.

Conclusion and relevance Awareness of electrolyte disorders increased among physicians, but the direct impact of our feedback remains unclear. Other QIs showed little room for improvement and need re-evaluation. Overall results suggested a persistent need for training on intravenous fluids, especially on surgery wards, and feedback should include tailored communication with staff.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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5PSQ-134 ANALYSIS OF FACTORS RELATED TO THE CLINICAL COURSE OF COVID-19 INFECTION IN PATIENTS WITH HYPERTENSION

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Background and importance Identification of the angiotensin converting enzyme (ACE2) as a target of the SARS-CoV-2 virus raises questions about a possible change in the clinical course of this infection associated with inhibitors of the renin–angiotensin–aldosterone system (RAAS). Furthermore, high blood pressure is considered a risk factor for COVID-19.

Aim and objectives To characterise the clinical course in hypertensive patients admitted for COVID-19 and to determine if treatment with RAAS inhibitors, age and additional comorbidities may be related to mortality and development of acute respiratory distress syndrome (ARDS).

Material and methods A single centre, observational, retrospective study was conducted. Inclusion criteria were: diagnosis of hypertension, hospital admission for COVID-19 between 1 March and 24 March 2020. Demographic, clinical and analytical variables were recorded. Clinical course was evaluated by: development of bilateral pneumonia, ARDS, length of stay and mortality. End of follow-up was 10 October 2020. To evaluate the possible influence of factors on evolution, binary logistic regression was performed using the STATA-IC14 programme. Quantitative dependent variables were transformed into dichotomous variables. Statistical significance was defined as p<0.05.

Results 571 patients were analysed, with a median age of 76 years (IQR 66–83) and 59.2% were men. Of these, 69.7% were receiving treatment with RAAS inhibitors, 7.2% smoked and 80.0% had additional comorbidities. At hospital admission, 27.3% presented with hypoxaemia ($SatO_2$<90%), 64.3% lymphopenia (<1000/mm^3), 18.8% C reactive protein >20 mg/dL and 11.7% D-dimer >1200 ng/mL. During the hospital stay, 91.9% of patients required oxygen therapy, 76.4% developed bilateral pneumonia, 91.9% required oxygen therapy, 47.5% developed ARDS and 33.6% died. Median hospital stay was 15 days (IQR 9–24). Use of RAAS inhibitors was not linked to changes in mortality or development of ARDS (p>0.05).

Risk factors associated with mortality were: additional cardiovascular diseases (OR=2.10; p=0.000) and older age (OR=1.05; p=0.000). Regarding ARDS, we found an association with obesity (OR=1.77; p=0.013), diabetes mellitus (OR=1.84; p=0.001) and age (OR=1.02; p=0.010). Hospital stay >14 days was significantly longer in advanced age (OR=1.02; p=0.022) and if chronic kidney disease was present (OR=1.73, p=0.043).

Conclusion and relevance Antihypertensive treatment with RAAS inhibitors did not seem to be linked to the risk of worse evolution of COVID-19. Advanced age and additional cardiovascular disease appeared to be associated with higher mortality in hypertensive patients.

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5PSQ-135 ADEQUACY OF HYPOLIPEMIANT TREATMENT IN PRIMARY HEALTHCARE

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Background and importance Based on the criteria lipid lowering efficacy, safety, experience of use and cost, the statins simvastatin, pravastatin and ≥40 mg atorvastatin, and gemfibrozil fibrate, are prioritised in our territory.

Aim and objectives To optimise lipid lowering treatment in primary healthcare (PH) patients.

Material and methods A prospective study (June to July 2020) was carried out in a PH centre, with data obtained from the ECAP computerised medical record. Patients on lipid lowering treatment not considered firstline were included. Data were collected for demographic variables (age and sex), patient adherence and therapeutic effectiveness, drugs involved and interventions (proposal, acceptance and implementation). The prescription was validated by the pharmacist and the interventions were proposed to the physician.

Results 300 patients were included, aged 68 (11.4) years (157 (52.3%) men), assigned to eight physicians. 44 (14.7%) patients were not adherent, and the therapeutic objective was not reached in 62 (20.7%) patients. 296 (86.5%) interventions were suggested on 342 active principles: change in therapeutic equivalent, 29.4%; intensify the dosage, 27.3%; interrupt the drug, 24.7%; reassess the indication, 9.8%; change the active principle, 7.1%; and reduce the dosage, 1.7%. Interventions involved: atorvastatin, 38.7%; rosuvastatin, 17.7%; fenofibrate, 16.3%; ezetimibe, 15.9%; pitavastatin, 9.2%; lovastatin, 1.1%; and fluvastatin, 1.1%. The final drugs were: atorvastatin, 54.3%; simvastatin, 34.7%; gemfibrozil, 7.5%; and pravastatin, 3.5%. Physicians accepted 289 (97.6%) interventions. At the 2–3 month follow-up, the implementation carried out lowered the percentage of drugs not considered firstline from 27.49% to 22.07% (19.71% reduction).

Conclusion and relevance The prescription of hypolipemiant drugs was not in accordance with the recommended standards, possibly due to ignorance of institutional