Aim and Objectives Assessing possible under-exposure to vancomycin in critically ill neonatal patients after dosing, as recommended by standard guidelines.
Material and Methods A retrospective observational study in a tertiary hospital was conducted from March 2021 to June 2023. Critically ill patients who received vancomycin with <1 month of life at baseline were included. The following data were collected from medical records: demographics, diagnosis, microbiological culture results, renal function, vancomycin dosing regimen, plasma concentration (PC), antimicrobial treatment duration and occurrence of nephrotoxicity (determined as 50% increase in creatinine value versus baseline). PC is considered therapeutic for vancomycin at 10–20mg/dL and the first pharmacokinetic determination was performed before dose 4.
Results During the study period, 79 pharmacokinetic determinations were performed in 34 patients, corresponding to 45 treatments with a median duration of 6 days (4, 14), of which 31 (68.9%) were empirical. Pathogens were isolated in 28 (62.2%) of the microbiological cultures, the main ones being: *S.epidermidis* 11 (28.2%), *E.faecalis* 4 (10.3%) and *K. pneumoniae* 4 (10.3%). Most frequent diagnoses were: catheter infection 17 (37.8%), sepsis 8 (17.8%) and necrotising enterocolitis 8 (17.8%). 48 (60.8%) PC were sub-therapeutic, 29 (36.7%) within range and 2 (2.5%) supratherapeutic. 13 (26%) of the out-of-range PC achieved the desired targets thanks to the pharmacokinetic recommendations. Finally, nephrotoxicity was observed in 9 (13.3%) patients.
Conclusion and Relevance 48 (60.8%) critically ill neonates were under-treated and 9 (13.3%) had nephrotoxicity with the dosing regimens recommended by standard guidelines. It is therefore necessary to review the recommended dosing regimens in this group of patients to achieve therapeutic PC of vancomycin from the start of treatment guided by pharmacokinetic monitoring.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

4CPS-162 'TO ERR IS HUMAN' – PRESENTING CASES OF MEDICATION ERRORS FROM REAL CLINICAL PRACTICE

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Background and Importance Medication errors (ME) are preventable mistakes or incidents that can occur at any stage of the medication use process, which can cause patient harm and significant morbidity and mortality.
Aim and Objectives Identification of the nature, incidence, and potential preventative measures of DRPs. To evaluate the role of the pharmacist in ME risk reduction process and to identify critical points and outline strategies to reduce iatrogenic ME.
Material and Methods The current prospective direct clinical observation was carried out in the period June- December 2022 by analysing the electronic records of 1625 patients in a specialised gynaecological hospital with national coverage. Participants were also interviewed by a clinical pharmacist to verify the information extracted from the electronic records.
Results The average number of medications per person was five, and the median age of the cohort was 36 years. In 1/3 of the cases, the therapy consisted of both drugs and supplements. The desired therapeutic outcome was achieved in 320 of the records, while treatment was discontinued in 569. The highest number of ME was observed in the age group >40 years, followed by 31–40 years. Parenteral products accounted for 68% of the errors. Categories of ME identified were: administration, prescribing, dispensing, drug interactions, patient error, and other. Inadequate recording of prescription details in the electronic hospital system accounted for most of the identified errors. Misuse, followed by inappropriate choice of drug/dose or duration of treatment, and inappropriate route of administration are among the most common DRPs identified. In only 12% of cases was the error identified and the associated harm prevented as a result of a physician-initiated consultation with the hospital pharmacist. The physician's acceptance of the pharmacist's suggestions was >80%.
Conclusion and Relevance Although hospital e-prescribing systems are seen as a tool to reduce prescribing errors, the above cases demonstrate that these systems alone are not sufficient to significantly reduce the risk of inappropriate prescribing. Hospital pharmacists can be considered as a valid checkpoint to effectively reduce DRP.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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Conflict of Interest No conflict of interest.

4CPS-163 EFFECTIVENESS OF SODIUM ZIRCONIUM CYCLOSILICATE IN HOSPITALISED PATIENTS WITH HYPERKALAEMIA

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Background and Importance Sodium zirconium cyclosilicate (SZC) is used to correct hyperkalaemia (K>5.1 mEq/L). SZC should be administered to patients who have not responded well or have become intolerant to alternative treatments, such as resins, using an initial dose of 10mg/8h followed by a maintenance dose of either 5 mg or 10mg every 24h. Real clinical data of use might be required to optimise this treatment.
Aim and Objectives To describe effectiveness and use of SZC for the treatment of hyperkalaemia in hospitalised patients with an initial or maintenance starting dose.
Material and Methods Retrospective descriptive study was designed in hospitalised patients who started treatment with SZC between July 2021 and July 2023. Outcomes were collected from medical records and electronic prescription software: gender, age, initial dose and/or maintenance dose, serum potassium concentrations (at 0, 48 and 72 hours after starting SZC treatment) and previous use of exchange resins like calcium polystyrene sulfonate (CPS). The effectiveness endpoint was described as: percentage of patients who achieved a normal serum potassium level (3.5–5 mEq/L) at 48 and 72 h, with either initial or maintenance starting dose.

Results There were 35 patients (62.2% male and 37.8% female) that presented a mean age of 69 (34–96) years. Initial dose of 10 mg/8h were used in 29.7% of patients. Maintenance dose of 5 mg/24h were used as starting dose in 64.9% of patients and 10 mg/24h in 35.1%. Starting serum potassium concentration mean was 6.3 mEq/L (5.2–9.8). In terms of use, CPS were previously used in 43.2% of patients. About effectiveness results at 48h, 60% of patients reached normal potassium concentrations, 72.7% received the initial starting dose while 54.2% did not received the initial starting dose. At 72h, 80% of patients reached normal potassium concentrations, 90.9% received the initial starting dose while 75% did not receive the initial starting dose.

Conclusion and Relevance SZC therapy displayed that more than 50% of patients achieved normal potassium levels at 48 and 72h with both regimens. Starting SZC therapy with the initial starting dose showed better and faster effectiveness. More than half of the patients had not previously tried CPS, the most cost-effectiveness option.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

4CPS-164 ANALYSIS OF USTEKINUMAB INTENSIFICATION IN INFLAMMATORY BOWEL DISEASE ACCORDING TO LINE OF TREATMENT

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Background and Importance Ustekinumab has been shown to be effective and safe in the long term in inflammatory bowel disease. However, its use in advanced treatment stages is associated with a loss of effectiveness, leading to intensified usage and an associated additional cost.

Aim and Objectives The objective is to analyse the posological intensification of ustekinumab in ulcerative colitis (UC) and Crohn's disease (CD) in real clinical practice according to the line of treatment used.

Material and Methods Retrospective observational study in which all patients treated with ustekinumab in a tertiary hospital were included during the period January 2017, to September 15, 2023.

The analysed variables included age, sex, previous anti-TNF therapy, intensified patients, months from the start of Ustekinumab until needing intensification to 6 weeks and 4 weeks, causes of Ustekinumab use in first line treatment. The sources used to obtain data were the electronic prescription application Prisma® and the computerised medical record system Diraya®.

Results A total of 177 patients were included (48.1% women), with a mean age of 48 years (range 19–85). Among them, 37.3% (n=66) had been previously treated with two anti-tnf, either exclusively with Adalimumab (n=71. 40.1%), exclusively with Infliximab (n=20. 11.3%) or had no prior anti-tnf treatment (n=20, 11.3%).

Intensification of the regimen with ustekinumab was necessary in 54.5% of those previously treated with two anti-tnf, 49.3% only adalimumab, 50% only infliximab, 45% no previous anti-TNF.

The initial posology of ustekinumab was 8 weeks. The median number of months for the intensification of ustekinumab to 6 weeks and 4 weeks was 10.5 months and 19.9 months (two anti-TNF), 11.4 months and 20.6 months (adalimumab), 12.3 months and 20.6 months (infliximab) and 19.7 months and 26.5 months (non anti-TNF).

In our hospital, patients who had not previously undergone any anti-TNF treatment did so due to neoplasia (46.6%), infections (20%), HLA-DQA1*05 (13.3%) or multiple sclerosis (13.3%).

Conclusion and Relevance The percentage of patients intensified with ustekinumab is higher in those treated with anti-TNF than in those not treated.

In addition, patients treated with one anti-TNF or no anti-TNF required more time to intensify than patients treated with two anti-TNFs.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

4CPS-165 DETERMINATION OF PREDICTIVE FACTORS FOR IMMUNE-RELATED TOXICITY IN LUNG CANCER PATIENTS TREATED WITH IMMUNOTHERAPY

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Background and Importance Immunotherapy has provided better responses and tolerance in the treatment of lung cancer than intravenous chemotherapy. However, it can also induce autoimmune adverse effects that could lead to hospital admission or death of the patient.

Aim and Objectives To analyse possible factors associated with the incidence of immune-related adverse events (iRAEs) in lung cancer (LC) patients treated with immune checkpoint inhibitors (ICI).

Material and Methods Retrospective analysis of patients with LC treated with ICI between 2015 and 2023 in a tertiary hospital. The variables collected from the clinical history were: age, sex, performance status, history of allergy/autoimmune disease, treatment with corticosteroids or antibiotics prior to the ICI, occurrence of iRAEs, type of toxicity and severity, laboratory variables (haemoglobin, neutrophil count, platelet count, LDH), date of progression and death. The association was determined using Chi-square tests and Fisher's exact test. Progression-free survival (PFS) and overall survival (OS) were calculated using the Kaplan-Meier method

Results A total of 67 patients (74.6% men; mean age 68.6 ±9.4 years) treated with ICI were analysed. Of these, 49 developed at least one iRAE (73.1%), 37.3% from grade≥3. Statistically significant associations were found between appearance of skin toxicity and altered LDH levels (p=0.048), and musculoskeletal toxicity and ECOG≥2 (p=0.037). History of allergy/autoimmune disease and treatment with corticosteroids or antibiotics in the 3 months prior to the start of immunotherapy were associated with the appearance of liver toxicity (p=0.015 in all cases), asthenia (p=0.027; p=0.021; p=0.032) and musculoskeletal toxicity (p=0.006; p=0.006); p=0.005). Patients with iRAEs had longer PFS (14.8 vs. 3.3 months) and longer OS (19.2 vs. 2.9 months).