4CPS-243 INFLUENCE OF VENOVENOUS EXTRACORPOREAL MEMBRANE OXYGENATION ON THE PHARMACOKINETICS OF VANCOMYCIN IN ADULTS: CAN AN OPTIMAL PHARMACODYNAMIC TARGET BE ACHIEVED?

A Arderiu Formentí*, S Luque Pardos, M De Antonio Cuscó, R Muñoz-Bermúdez, M Acer Puig, MP Gracia Arnillas, ME Navarrete Rouco, C Lopez Mula, S Grau Cerrato, O Ferrandez Quirante. *Hospital del Mar, Pharmacy, Barcelona, Spain*

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Background and importance Patients undergoing extracorporeal membrane oxygenation (ECMO) may present significant changes in antibiotics pharmacokinetics (PK).
Aim and objectives To describe the PK of vancomycin in ECMO patients and the achievement of a therapeutic pharmacokinetics/pharmacodynamics (PK/PD) target.
Material and methods Retrospective PK study in adult critically ill patients treated with vancomycin with therapeutic drug monitoring (TDM) and undergoing venovenous ECMO in a university hospital from July 2017 to October 2021.

TDM samples (steady state): before dose and 2 hours after the intravenous infusion (intermittent infusion) or at any time (continuous infusion). PK parameters and area under the curve in plasma (AUC24h) estimated by Bayesian software.

Data collected: demographics, clinical, microbiological and PK/PD parameters: AUC24h, minimum inhibitory concentration (MIC), clearance (Cl), elimination half-life (t1/2), volume of distribution (Vd) and dosage recommendation. Infratherapeutic, therapeutic or supratherapeutic PK/PD target defined: AUC/MIC <400, 400–600 and >600, respectively.
Results Ten episodes of treatment from 7 patients: median (range): 58.5(35–68) years, 6 (85.7%) men. Infection type: respiratory 8 (80%) and bacteraemia 2 (20%); directed treatment in 6 (60%); most frequent pathogens: *Staphylococcus epidermidis* 3 (50.0%) (MIC: 1, 2 and 2 mg/L), methicillin-resistant *S.aureus* (MSSA) 2 (33.3%) (MIC: 0.5 and 0.5 mg/dL) and *S. haemolyticus* 1 (16.7%) (MIC: 1 mg/L).
Conclusion and relevance A high interindividual variability in vancomycin PK and need for dose adjustments was observed in critically ill patients with ECMO, which highlights the need for close therapeutic monitoring.

ECMO and CRRT patients were more likely to have supratherapeutic plasma concentrations requiring dose reductions.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-244 CARDIOVASCULAR, RENAL AND BONE EVALUATION OF A HIV POPULATION OVER 60 YEARS OLD

[1]F Artime Rodríguez-Hermida*, [2]A Dordà Benito, [1]M Coma Punset, [1]M Perpinyà Gombau, [1]M Olmo Martínez, [1]MD Malla Canet, [1]L Mallart Romero, [1]R Sacrest Güell. *[1]Hospital Santa Caterina, Servei de Farmàcia, Salt, Spain*; *[2]Hospital Dr. Josep Trueta de Girona, Servei de Farmàcia, Girona, Spain*

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Background and importance Advances in antiretroviral treatment (ART) have resulted in an increase in life expectancy in HIV patients. For this reason, a rise in comorbidities related to chronic diseases and long-term toxicities of ART have been observed, becoming the main causes of morbidity and mortality among patients with HIV.
Aim and objectives To evaluate the presence of cardiovascular, bone and kidney alterations in a cohort of HIV patients aged ≥60 years.
Material and methods Observational, descriptive and retrospective study (using medical history and prescription records) of patients with HIV aged ≥60 years with ART in February 2021 that were under treatment since a previous cross-sectional study carried out in 2012 were selected.

Demographic (age and sex), clinical (time since HIV diagnosis, diagnosis of hypertension and diabetes mellitus (DM), cardiovascular risk scala REGICOR, cardiovascular and renal events and diagnoses of osteopenia/osteoporosis and CD4 lymphocyte and viral load (VL)) and pharmacological (chronic medication not related to ART, ART change number and reasons for change) were collected in 2012 and 2021.
Results 51 HIV patients with mean±SD age of 66.4±6.2 years were analysed. 60.8% were men with a mean age of 22.3 ±8.1 years since diagnosis.

In 2012 and 2021, patients diagnosed with hypertension were 15.7% and 35.3%, respectively, DM was 11.8% and 25.5%, respectively, and REGICOR was 5% and 7%, respectively.

During the considered period, 17.6% had a cardiovascular event, 13.7% were diagnosed with kidney disease and 49.0% with osteopenia/osteoporosis.7.8% had some bone event.

In 2012 and 2021, mean CD4 lymphocytes were 601.7 (±312.7) and 722.7 (±310.6) cells/mm^3, respectively, and 90.2% had undetectable VL in both years.

In 2012, 15.7% of the patients were receiving lipid-lowering therapy, 5.9% antiplatelet/anticoagulant and 11.8% oral

Abstract 4CPS-243 Table 1 PKPD data

	BW (kg)	eGFR (mL/min)	Dose (mg/kg/day)	Cmin/Cmax or Css (mg/L)	AUC0–24h (mg*h/L)	AUC/MIC	t1/2 (h)	Vd(L/kg)	Cl(L/h)	Dose action
1	83	106	24.1 mg/kg/24h	12.1	291	145.5	7.2	0.7	6.6	Increase
2	60	101	16.6 mg/kg/8h	12.8/25.9	500	500	6.7	0.7	5.6	Maintain
3	50	133	30.0 mg/kg/24h	18.4	441	882	7.2	0.7	4.0	Increase**
4	50	121	20.0 mg/kg/12h	13.9/44.5	640	1280	7.9	0.6	3.0	Reduce
5	80.5	95	43.5 mg/kg/24h	17.8	672	672	6.4	0.6	5.6	Reduce
6	80.5	104	37.3 mg/kg/24h	22.6	542	271	8.5	0.7	4.6	Increase
7	85	132	35.3 mg/kg/24h	25.9	620	620	8.6	0.7	5.3	Reduce
8	83	34*	24.1 mg/kg/24h	29	696	696	21	0.8	2.4	Reduce
9	123	25*	16.3 mg/kg/24h	28.8	691	691	27.5	0.6	2.1	Discontinue
10	123	50*	10.2mg/kg/24h	27.6	660	660	48.2	1.1	2.0	Reduce

*Continuous renal replacement therapy (CRRT).

antidiabetic drugs/insulin. In 2021, the equivalent figures were 47.1%, 15.7% and 25.5%, respectively.

19.6% started treatment with calcium, cholecalciferol and/or bisphosphonate during the period.

In total, 113 treatment changes were made: musculoskeletal disorders (23%), simplification (21.2%), metabolism disorders (11.5%), virological failure (8.8%), resistance and kidney disorders (8.0%), interactions (7.1%) and others (12.6%).

Conclusion and relevance Cardiovascular, kidney and bone alterations are frequent in HIV patients aged ≥60 years. Treatment changes are conditioned by patients' comorbidities and are focused on avoiding long-term toxicities.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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4CPS-246 MEDICATION-RELATED ADMISSION WAS MORE FREQUENT IN ELDERLY PATIENTS HOSPITALISED IN AN ORTHOPEDIC UNIT THAN IN AN EMERGENCY DEPARTMENT IN TWO FRENCH HOSPITALS

[1]H Capelle*, [2]C Baldin, [3]I Pons, [4]C Marble, [1]C Dumazer, [2]G Hache. *[1]Centre Hospitalier Edmond Garcin, Pharmacy, Aubagne, France; [2]Assistance Publique Hôpitaux de Marseille, Pharmacy, Marseille, France; [3]Centre Hospitalier Edmond Garcin, Emergency, Aubagne, France; [4]Centre Hospitalier Edmond Garcin, Surgery, Aubagne, France*

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Background and importance Medication-related admissions (MRAs) are common in the elderly and are preventable in almost half of cases. Pharmaceutical care aims to promote medication safety and reduce potentially inappropriate prescriptions. In our hospitals, clinical pharmacists perform medication reviews in both the emergency department (ED) and orthopedic units. As part of an ongoing process of quality improvement, we conducted a study to identify MRAs in patients over 75 years old hospitalised in these two clinical settings.

Aim and objectives The aim of this study was to compare MRAs prevalence in elderly patients hospitalised in the ED and orthopedic units in order to reassess the management of clinical pharmacists' interventions during hospitalisations.

Material and methods This prospective observational multicentre study was conducted between May 2019 and March 2020, and included patients aged over 75 years admitted to the ED and orthopedic surgery departments of two French hospitals. We used the AT-HARM10 tool to distinguish possibly versus unlikely MRAs in elderly patients.

Results We included 266 patients. 166 patients were included in the ED (mean age 86.0±5.7 years; sex ratio 0.6; mean number of prescribed drugs 7.7±3.8). 100 patients were included in the orthopedic surgery departments (mean age 85.2±6.1 years; sex ratio 0.3; mean number of prescribed drugs 6.4±3.6). We identified 91 (55%) MRAs in ED and 75 (75%) MRAs in orthopedic units ($p<0.05$). Among MRAs, the most represented question of the AT-HARM10 was P5 in both groups (Might side effects of the medications the patient was taking prior to hospitalisation have caused the admission?) and the most involved drugs were those acting on the nervous system (ATC-N).

Conclusion and relevance We found MRAs rates comparable to results reported in previous studies about elderly patients in ED. MRAs were more frequent in elderly patients admitted in orthopedic surgery. These results led us to prioritise more medication reviews by clinical pharmacists for older patients in surgery departments, to guarantee a continuity of patient's care and potentially avoid re-hospitalisations.

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4CPS-247 EVALUATION OF THE CLINICAL IMPACT OF MEDICATION RECONCILIATION ON ADMISSION USING THE CLEO TOOL

[1]H Capelle*, [2]A Bournaillie, [1]M Ivry, [2]V Seux. *[1]Centre Hospitalier La Ciotat, Pharmacy, La Ciotat, France; [2]Centre Hospitalier La Ciotat, Medicine, La Ciotat, France*

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Background and importance Medication reconciliation is a clinical pharmacy process to prevent medication errors at transitions of care. We integrated this activity into the management of elderly patients in our hospital a year ago. CLEO is a comprehensive tool that assesses especially clinical impact of pharmacists' interventions (PIs) developed by experts of the French Society of Clinical Pharmacy (SFPC). We used it to evaluate the potential clinical impact of medication reconciliation on the patient.

Aim and objectives The aim of this study was to assess unintentional medication discrepancies (UD) in admission orders with potential for patient harm (moderate or major clinical impact) with the CLEO tool.

Material and methods We conducted a prospective observational monocentric study between September 2020 and August 2021 on internal medicine patients aged over 65 years in a French hospital. They all benefitted from medication reconciliation upon admission and we used the CLEO tool to rank the clinical impact (Negative/Null/Minor/Moderate/Major/Avoids Fatality) of UD. UD were scored by two experienced clinicians.

Results 318 patients were included (mean age 82.3±8.0 years; sex ratio 0.4; mean number of prescribed drugs 8.0±4.0; mean length of stay 8.2±6.7 days). 176 patients had at least 1 UD (55%) and we found 2.1 UD per patient. 63% of UD were associated with a "moderate" clinical impact ("The PI can prevent harm that requires further monitoring/treatment, but does not lead to or does not extend a hospital stay") and 2% were " major" ("The PI can prevent harm which causes or lengthens a hospital stay OR causes permanent disability or handicap").

Conclusion and relevance The identification of UD with moderate and major clinical impact underline the significance of the sustainability of medication reconciliation in routine clinical practice. Furthermore, according to the Multi-Center Medication Reconciliation Quality Improvement Studies (MARQUIS), the cost of harmful medication error to hospitals in the USA is about $4655. If we expanded to 241 UD with a moderate or major clinical impact, we could easily calculate significant annual savings to hospitals as a result of avoided harmful medication errors, providing useful input to convince hospital boards about medication reconciliation return on investment, in addition to the benefit expected for patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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