

days prior to hospitalisation. Crude in-hospital mortality and composite cure rate (significant resolution or complete resolution of all signs and symptoms of the infection), defined as both clinical cure and microbiological eradication were evaluated. Statistical analysis was performed using SPSS statistics v24.0.

Results A total of 155 infections in 87 patients were included. Mean age was 67 (IQR 50–75) years. Median CCI was 3 (IQR 1–5). 43.9% of patients had previous hospitalisation and in 42.4% of patients antibiotics were administered previously. Thirty-three per cent of patients were transferred from another hospital or a social-sanitary centre. Death occurred in 19.4% of infections. The main infections were urologic (42.6%). 5.8% were PDR strains, 17.4% were colistin-resistant and 40.0% meropenem-resistant strains. The main systemic antibiotics used were: colistin 22.7% and meropenem 20.7%. Intratracheal and inhaled antibiotics were used in 4.0% and 1.0% of episodes respectively: 27.1% were combined treatments. Microbiological resolution was achieved in 54.2% of infections, while clinical resolution was observed in 75.5%. Non-statistically significant results were obtained when comparing the effectiveness of combination therapy versus monotherapy in achieving clinical resolution (OR:0.539; 95% CI: 0.246 to 1.181).

Conclusion In our hospital these kinds of infections were produced in the older population with a moderate CCI and previous exposure to antibiotics. A high percentage of meropenem-resistant strains were found. Combination therapy was not more effective than monotherapy in achieving clinical resolution.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-044

IMPACT OF CLINICAL PHARMACIST-VANCOMYCIN MONITORING ON PATIENT SAFETY OUTCOME

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Background Vancomycin is frequently used to treat gram-positive infections, especially methicillin-resistant staphylococcus aureus (MRSA). The level of vancomycin in blood should be kept in a specific range to give the optimal antimicrobial killing and avoid the development of resistant and nephrotoxicity with low or high serum levels, respectively. This is known as therapeutic drug monitoring (TDM). Vancomycin TDM in our hospital is performed by either clinical pharmacists or physicians.

Purpose In order to unify the practice and serve our patients with the best care, this study aimed to evaluate the safety consequences including nephrotoxicity of clinical pharmacist-based vancomycin TDM versus physician-based vancomycin TDM.

Material and methods This was a retrospective cohort study conducted at a single tertiary hospital. It included two groups of vancomycin TDM, one for physicians and one for clinical pharmacists. The patients included were all adults more than 18 years' old started on vancomycin intravenously for more than 24 hours for suspected or proven infection. The primary outcome was the development of nephrotoxicity. The

secondary outcomes included appropriate vancomycin initial dosing, sampling time and interpretation of vancomycin level.

Results A total of 100 patients were enrolled in the study, with 53 patients in the physician group. There were no significant differences in the baseline characteristics between the two groups. Nephrotoxicity was reported as 3.8% (n=2) in the physician group and 12.8% (n=6) in the clinical pharmacist group, with a P-value of 0.143. Moreover, there were significant differences in the defined secondary endpoints that included appropriate vancomycin initial dosing, sampling time and interpretation of vancomycin level. The results were reported as 84.9% (n=45), 37.7% (n=20) and 11.3% (n=6) in the physician group and 87.5% (n=28), 62.5% (n=20) and 48.9% (n=23) in the clinical pharmacist group, respectively, with the same P-value of less than 0.001.

Conclusion Although there was a non-statistically significant higher rate of nephrotoxicity in patients who received vancomycin TDM by clinical pharmacists compared to those monitored by physicians, the difference in appropriate vancomycin initial dosing, sampling time and interpretation of vancomycin level was statistically significant, favouring the clinical pharmacists group.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.

4CPS-045

VALUE OF THE CLINICAL PHARMACIST IN THE PHARMACOKINETIC MONITORING OF ANTIMICROBIALS: HEALTH OUTCOMES

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Background There has been a marked rise in the prescription of vancomycin and aminoglycosides over recent years due to the increase in infections caused by multi-resistant microorganisms. The measurement of their plasma concentrations (Pcs) is necessary to correctly adjust the dosage and minimise the risk of nephrotoxicity.

Purpose To investigate pharmaceutical interventions (PIs) during the pharmacokinetic monitoring of hospitalised patients receiving vancomycin or gentamicin, and to analyse the health outcomes of monitored patients.

Material and methods We conducted a prospective observational study (May–September 2018) of PIs by the Clinical Pharmacokinetics Unit of the Pharmacy Department in a 350-bed general hospital. Inclusion criteria were age ≥ 18 years and treatment with vancomycin or gentamicin. Exclusion criteria were hospitalisation in the ICU and pre-surgical antibiotic prophylaxis. We gathered data on: sex, age and clinical (serum creatinine (Cr), diagnosis), pharmacological (drug, dosage, suspension motive) and pharmacokinetic variables and on PIs (Bayesian estimation of individual pharmacokinetic parameters: PI-1, maintain schedule; PI-2, modify dose and/or interval; and PI-3, temporary suspension to favour renal drug elimination). Treatment effectiveness was defined by the disappearance of initial symptoms/signs ('clinical recovery') or of the initial microorganism in control culture ('microbiological recovery'). 'Nephrotoxicity' was defined by Cr ≥ 1.4 mg/mL or $\geq 50\%$ above baseline value.