Background and importance The practice of routine monitoring and adjusting serum vancomycin drug concentrations is relevant to lessen the potential for nephrotoxicity and ototoxicity and to achieve therapeutic concentrations. However, therapeutic monitoring in paediatric patients is not widely known.

Aim and objectives To describe the clinical and pharmacokinetic parameters in a cohort of paediatric patients treated with vancomycin and to analyse the achievement of the pharmacokinetic objectives after monitoring of vancomycin serum concentrations (SC) and dosage adjustment performed by the hospital pharmacy department.

Material and methods A retrospective study of paediatric patients treated with intravenous vancomycin from 2019 to 2020 was conducted. Variables collected were: sex, age, weight, diagnosis, bacterial isolation, infusion type, initial dosage and dose after two adjustments. Pharmacokinetic parameters were: volume of distribution (Vd), total clearance (Cl), elimination half-life (t1/2) and 24 hour area under the curve (AUC). Data were expressed as median (range) values.

The goals for vancomycin SC were 15–20 mg/dL trough levels (for intermittent infusion) or 20–25 mg/dL steady state concentrations (for continuous infusion)

Results 32 patients were studied, 62% males, with a median age of 51 months (2 months–16 years) and median weight of 16.5 (5–53) kg. Diagnoses were: catheter related bloodstream infection (n=7), surgical infection (n=7), meningitis (n=3), pneumonia (n=3), osteomyelitis (n=2) and other (n=10). Microorganisms were isolated in 66% of patients: Staphylococcus epidermidis (n=12), Streptococcus spp (n=3), Enterococcus spp (n=2), Staphylococcus aureus (n=1) and other (n=3). 78% of patients were treated initially with intermittent infusion and 22% with continuous infusion. After monitoring, 38% changed from intermittent to continuous infusion.

Median initial dose was 51 (34–80) mg/kg/day, and median doses after the first and second adjustments were 65.5 (40–95) and 68.6 (47–87) mg/kg/day, respectively. Median Vd, Cl, t1/2 and AUC were 0.82 (0.77–0.91) L/kg, 0.15 (0.06–0.85) L/hour/kg, 3.46 (0.63–15.10) hours and 408 (57.57–958.90) mg×hour/L. 90% of patients did not require dosage adjustment. In the remainder (91%): 45% obtained optimal SC after the first monitoring, 28% after the second monitoring, 20% after subsequent monitoring and 7% discontinued due to another isolation.

Conclusion and relevance Vancomycin was used as target therapy in most cases. The wide use of vancomycin continuous infusion as well as the high doses given were remarkable. Most patients needed dosage adjustments to achieve therapeutic SC and it was possible after the first two pharmacokinetic adjustments.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest
SPSS V23 software was used for data analysis with centralisation and frequency measurements for descriptive data and the $\chi^2$ test for inference.

**Results** A total of 192 AT were administrated to a total of 168 patients (52% men), mean age 65 (SD 20) years and 68.5% had a Charlson index $\geq2$. The three main site of infection were respiratory (53%), urinary (19%) and intra-abdominal (12%). 39.6% of the antibiotic prescriptions were assessed as inappropriate. Inappropriateness was classified and distributed as:

- Unnecessary, no signs of infection: 3.3% of AT prescriptions
- Not active for the expected aetiology: 9.8%
- Appropriate, but wrongly dosed: 4%
- Appropriate, but not recommended according to the CIG: 22.8%.

The indication with the highest degree of inappropriateness was urinary infections, with 19 of 31 AT prescriptions being inappropriate. Inappropriate prescription was not found to be a factor related to an increase in hospital stay (OR 1.39; 95% CI 0.87 to 2.28; p=0.269), readmissions (OR 0.75; 95% CI 0.19 to 3.00; p=0.710) or mortality (OR 1.39; 95% CI 0.87 to 2.28; p=0.189).

**Conclusion and relevance** In general, CIG were followed in 75.8% for excess of days. 44.3% of patients had a correct antibiotic prescription. Rationality of antibiotic prescription was: 80.6% indication, 81.1% choice of drug, 76.2% dosage, 99.7% frequency of administration and 55.1% duration of treatment. The worst criterion was duration of treatment in patients with community acquired pneumonia, which was incorrect in 62.5% (75.8% for excess of days).

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

Conflict of interest No conflict of interest

**4CPS-243 HEALTHCARE ASSOCIATED CLOSTRIDIODES DIFFICILE INFECTION IN SURGICAL AND MEDICAL PATIENTS**

**Background and importance** Clostridioides difficile (C difficile) infection (CDI) is one of the most common healthcare associated (HA) infections in contemporary medicine. The risk factors (RFs) for HA CDI in medical and surgical patients are poorly investigated in countries with a limited resource healthcare system.

**Aim and objectives** To investigate differences in patient characteristics and RFs associated with HA CDI in surgical and medical patients.

**Material and methods** A prospective cohort study was conducted including adults patients diagnosed with an initial episode of HA CDI from 2011 to 2017 in a 1200 bed teaching hospital. Patients hospitalised for any non-surgical illness, who developed initial HA CDI, were assigned to the medical group, whereas those who developed initial HA CDI after surgical procedures were in the surgical group. Data on the use of proton pump inhibitors (PPIs), chemotherapy and antibiotic usage were gathered by hospital pharmacists.

**Results** From 553 patients diagnosed with HA CDI, 268 (48.5%) and 285 (51.5%) were surgical and medical patients, respectively. Medical patients were significantly older than surgical patients (68.59±15.46 vs 64.91±14.86 years, p=0.005), and were treated significantly more frequently with PPIs (38.9% vs 19%, p<0.001), fluoroquinolones (28.6% vs 9.9%, 72% were diagnosed with acute bronchitis and the rest had community acquired pneumonia. Antibiotics were prescribed in 41% of bronchitis and 92% of pneumonia cases. 408 antibiotic prescriptions were evaluated, the most being broad spectrum antibiotics (27% azithromycin and 26% amoxicillin).

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

Conflict of interest No conflict of interest