

Rodríguez-Reyes M¹, López-Suñé E¹, Calvo-Cidoncha E¹, Tuset-Creus M¹, Codina-Jané C¹, Soriano-Viladomiu A²

¹ Pharmacy Department (Hospital Clinic of Barcelona). ² Infectious Diseases Department (Hospital Clinic of Barcelona).

morodriguez@clinic.cat

Background

- **Ceftolozane/tazobactam (C/T)** is a novel antibiotic commonly used in infections by gram-negative bacteria resistant to conventional antibiotics.
- **Drug dosing errors** are common in patients with **renal impairment** and can cause adverse effects or poor outcomes.

Objective

- To determine the adequacy of C/T dose adjustment according to renal function in hospitalized patients.

Methods

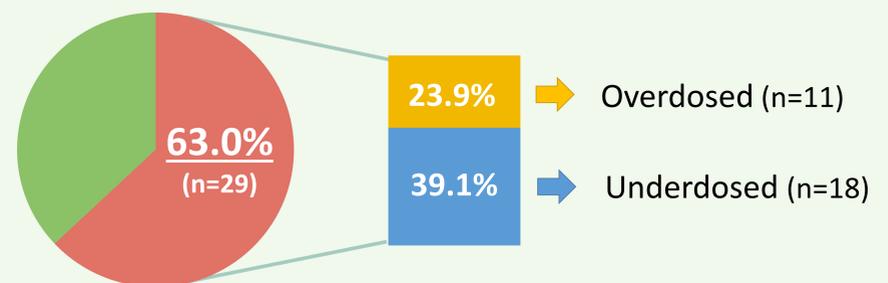
- Observational retrospective study. • Set in a tertiary-level hospital.
- Patients treated with ceftolozane/tazobactam from January to August 2018 were included.
- Collected variables:

| Demographic data: | Clinical variables: | Type of therapy (targeted or empiric) |
|-----------------------------|-------------------------|---|
| Age and gender | Type of infection | Treatment duration |
| Creatinine clearance (CrCl) | Microorganisms isolated | Dosage adequacy |
| Medical/critical care unit | Posology | Effectiveness of treatment (microbiological and/or clinical cure) |

Results

| Demographic and clinical data (N=46) | |
|--|-------------|
| Mean age (years ± SD) | 65.4 ± 16.2 |
| Men | 30 (65.2%) |
| Creatinine clearance | |
| < 60 mL/min | 19 (41.3%) |
| > 60 mL/min | 27 (58.7%) |
| Mean CrCl (mL/min ± SD) | 61.8 ± 30.6 |
| Admitted to the Intensive Care Unit | 16 (34.8%) |
| Main infection sites | |
| Respiratory | 20 (43.5%) |
| Urinary | 14 (30.4%) |
| Intraabdominal | 7 (15.2%) |
| Most common isolated pathogen | |
| Multidrug-resistant <i>P. aeruginosa</i> | 42 (90.9%) |
| Type of therapy | |
| Targeted | 34 (73.9%) |
| Empiric | 12 (26.1%) |
| Average treatment duration | 8.4 days |

Inappropriate dosage at first day of therapy



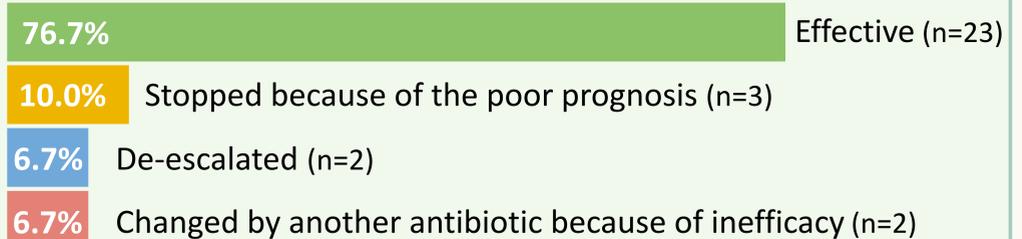
During treatment, 16 patients experienced a change in CrCl

• Dose was not adjusted accordingly in the majority of these cases

62.5% (n = 10)

Posology not adapted to the new situation

Effectiveness of targeted treatment



Conclusions

- A considerable proportion of patients treated with ceftolozane/tazobactam were inappropriately dosed.
- Furthermore, dosage was not adapted to the changes in renal function throughout the treatment.
- These data highlights the importance of an adequate review of medication.

