STUDY OF THE USE OF RESTRICTED ANTIBIOTICS DURING COVID-19 PANDEMIC: CEFTAROLINE, CEFTAZIDIME/AVIBACTAM AND CEFTOLOZANE/TAZOBACTAM

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BACKGROUND

During COVID-19 pandemic in many hospitals there was a cessation of antimicrobial stewardship team (AST) activity but the Pharmacy Service was one of the services to continue with these functions

AIM AND OBJETIVES

To evaluate the use of restricted antibiotics (RA) ceftaroline, ceftazidime/avibactam and ceftolozane/tazobactam during the temporary cessation of our hospital's AST.

MATERIALS AND METHODS

A descriptive retrospective study was conducted (April 2020 - April 2022) including patients with RA prescription. Farmatools® application and electronic medical history were used to record:

sex, age, prescribing service, number of antibiotic prior to the use of AR, duration treatment, previous microbiological cultures and antibiogram, RA adequacy to restricted indications, concomitant antibiotherapy, cure rate and deceased patients

RESULTS

- **61 patients** (**80% male**, median age of 61 years) were included: 15 (25%) treated with ceftaroline, 37(60%) with ceftazidime/avibactam and 9(15%) with ceftolozane/tazobactam.
- Mainly prescriptions were made by **INTENSIVE CARE** (75%), HEMATOLOGY (8%) and INTERNAL MEDICINE (7%).
- Median **number of antibiotic lines previous to use RA was 3** (0-7).
- Prior to RA prescriptions, 81% (50/61) of patients underwent microbiological culture and in 63% (38/61) an **antibiogram** was taken.
- Median **duration of treatment** was 6, 8 and 13 days for ceftaroline, ceftazidime/avibactam and ceftolozane/tazobactam respectively. Median number of **antibiotics concomitant** to AR was 2 (0-6).
- In **26%** (16/61) with RA did **not fit the restricted indications**: 5, 10 and 1 with ceftaroline, ceftazidime/avibactam and ceftolozane/tazobactam respectively.
- The **cure rate** was 40%, 48% and 33% for ceftaroline, ceftazidime/avibactam and ceftolozane/tazobactam.
- **33%** (20/61) of patients **died despite the use of RA**: 65% (13/20) received them up to the day of exitus (1 patient ceftaroline, 8 ceftazidime/avibactam and 4 ceftolozane/tazobactam).

CONCLUSIONS AND RELEVANCE

The **use of RA** in our study in restricted indications during AST cessation **was low** but, the percentage of patients who received RA until the day of their death in spite of a significant clinical deterioration observed in previous days was significant, which is not a recommended practice. Surveillance of RA use is of vital importance to **avoid non-recommended practices** that promote increased toxicity to the patient without benefit as well as an increased likelihood of antimicrobial resistance.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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Case studies - with patient consent