was >90% for both infusions at 0.5 and 3 hours. For tazobactam, the PTA fT >70% MIC for a ClCr=70 mL/min for the doses 0.5 g/8 hours and 0.5 g/6 hours were 56% and 89%, increasing in the extended infusion of 3 hours (87% and 98%). For a ClCr >120 mL/min, this probability was significantly reduced, being <50% for the dose 0.5 g/8 hours in a 0.5 hour infusion.

**Conclusion and relevance** The pharmacokinetic/pharmacodynamic objective of fT >100% MIC for piperacillin/tazobactam required a dose of 4/0.5 g/6 hours or extended infusion, especially in patients with high renal clearance and in strains with high levels of expression of beta-lactamases.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**
No conflict of interest.

**4CP-053 ANTIMICROBIAL STEWARDSHIP PROGRAMME IN AN INTENSIVE CARE UNIT**

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**Background and importance** The antimicrobial stewardship programmes are essential to achieve proper use of antibiotics, especially in units of special complexity, such as the intensive care unit (ICU).

**Aim and objectives** To show the antibiotic pressure in the ICU and the groups of antibiotics with greatest deviation in their consumption (2017); to describe the activities carried out by the ICU antimicrobial stewardship team (ICU-AST) from 2018 to June 2019; and to show the results obtained in 2018 and the first and second quarters of 2019.

**Material and methods**
- This was a prospective intervention study from January 2018 (when 2017 ICU antibiotic pressure data were obtained) to June 2019.
  - The ICU-AST comprised an intensive care doctor, microbiologist and hospital pharmacist, all with experience in AST.
  - The activities and interventions of the ICU-AST were agreed in the commission of infections after analysis of the data obtained. To measure antibiotic pressure, the rate DDD/1000 bed days was used. All antibiotic pressure data were obtained by the hospital pharmacist who analysed consumption in the ICU from electronic prescriptions data.
  - All actions carried out by the group were recorded in a database (Excel) where all variables were coded (date, training activity, information feedback and modification in prescriptions).

**Results** Data were adjusted so that changes in DDD (2019) did not generate interference. Antibiotic pressure in the ICU (2017): 2295.85 DDD/1000 bed days. Groups of antibiotics with greatest deviation: carbapenems 333.03 DDD/1000 bed days and antifungals 210.95 DDD/1000 bed days.

Activities carried out by ICU-AST: in 2018, the interventions (n=943) performed to reduce antibiotic pressure and carbapenem and antifungal consumption were adequacy of prescriptions to the internal guidelines (33.54%), de-escalation of treatments (27.32%), proposition of short course treatments (19.36%), broad spectrum restriction (10.57%) and other (9.21%). Four training sessions on antibiotic prescriptions were conducted (2018) and antibiotic pressure data were shown quarterly (2018–June 2019). All antibiotic treatments were reviewed 48–72 hours after initial administration by the ICU-AST.

No additional economic resources were needed as the ICU-AST was formed by professionals who already worked in the centre.

**The results obtained were**
- **Antibiotic pressure:**
  - 2018: 2078.88 DDD/1000 bed days
  - 1st quarter 2019: 1760.55 DDD/1000 bed days
  - 2nd quarter 2019: 1830.95 DDD/1000 bed days
- **Carbapenems:**
  - 2018: 329.43 DDD/1000 bed days
  - 1st quarter 2019: 211.34 DDD/1000 bed days
  - 2nd quarter 2019: 232.29 DDD/1000 bed days
- **Antifungals:**
  - 2018: 132.26 DDD/1000 bed days
  - 1st quarter 2019: 120.22 DDD/1000 bed days
  - 2nd quarter 2019: 108.67 DDD/1000 bed days

**Conclusion and relevance** In 2017, antibiotic pressure in the ICU was high. Two groups of antibiotics had excessive consumption: carbapenems and antifungals.

The ICU-AST carried out training sessions, feedback of antibiotic pressure data and intervened directly, modifying the antibiotics treatment.

This intervention achieved a decrease in global antibiotic pressure in the ICU. In addition, the ICU-AST achieved a reduction in antibiotic pressure in the groups with greater deviation: carbapenems and antifungals.

A limitation of the study was that mortality was not measured, although no significant change is expected as the mortality commission did not report any significant change during the study period.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**
No conflict of interest.

**4CP-054 A MULTIDISCIPLINARY AND EDUCATIONAL APPROACH TO ANTIMICROBIAL STEWARDSHIP PROGRAMMES IN THE EMERGENCY DEPARTMENT**

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**Background and importance** Inappropriate prescription of antimicrobials has been shown to be a cause of microbial resistance. Antibiotics are some of the most prescribed drugs in the emergency department (ED). An educational intervention by a multidisciplinary group could be effective to improve the use of these drugs.

**Aim and objectives** To describe the current appropriateness of antibiotic prescription in the observation unit of the ED, and the first results of a multidisciplinary antimicrobial stewardship programme (ASP).

**Material and methods** A pilot interventional study over 1 month was designed. An ASP was organised, comprising an infectious diseases physician, clinical pharmacist and microbiologist. The goal was to attend the ED daily and to assess antimicrobial treatments, interacting directly with physicians and providing oral and written education according to the protocols approved by the centre.
The data collected included patient demographics, diagnosis and antimicrobial prescribed (dose, route, duration), appropriateness of the prescription, recommendations made and its rate of acceptance.

**Results** Sixty-four patients were included: 65.6% men, mean age 70.2 (SD 17.4) years, 4.6% allergic to beta-lactams and 17.2% from a nursing home. The most common diagnoses were community acquired pneumonia (17.2%), respiratory tract infections (15.6%) and urinary tract infections (15.6%); 84.4% of patients were hospitalised. The empirical antifungals most prescribed were meropenem (28.1%), levofloxacin (17.2%) and amoxicillin–clavulanic (15.6%).

In 84.4%, patients were asked for cultures before starting antibiotic therapy. Inappropriate prescriptions according to the protocol accounted for 48.4%. Of these, 45% were excessive (either on spectrum or dose), 32% were insufficient and 22% were given to patients that had no infection.

We made 80 recommendations: 41.0% to continue treatment, 18.6% to discontinue treatment, 18.6% to decrease the spectrum, 13.8% to increase the spectrum, 5.0% to change to another antibiotic and 2.5% to decrease the dose. The acceptance rate was 93.8%.

**Conclusion and relevance** Even though a high ratio of prescriptions were considered inappropriate, a large percentage of the recommendations were accepted, which shows that our intervention was well received by the clinical staff. This could be explained by the involvement of a multidisciplinary group and direct interaction with physicians. Such an educational approach might be highly effective in improving future antibiotic prescriptions in the ED.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

No conflict of interest.

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**4CPS-056 PROPER USE OF ANTIFUNGALS: IMPLEMENTATION OF OPERATIONAL MULTIDISCIPLINARY TEAMS DEDICATED TO ANTIFUNGALS**

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**Background and importance** Isavuconazole (ISA) is an authorised antifungal for the treatment of invasive fungal infection (IFI) by Aspergillus in adult patients in which amphotericin B is not appropriate.

**Aim and objectives** To assess the conditions of use and effectiveness of ISA versus voriconazole (VORI) compared with the SECURE pivotal study in a third level hospital, and describe adverse events in the IS group.

**Material and methods** An observational, retrospective study was conducted between September 2018 and September 2019. Variables collected were sex, age, type of infection, causative fungus, duration of treatment and immunosuppressive treatment. Clinical response (CR), considered as resolution of symptoms and no need for subsequent antifungals, was used to evaluate the effectiveness of ISA and VORI. For safety, adverse events (AEs) were recorded. Data compilation was carried out through assisted electronic prescription and electronic medical history. Comparison of proportions was made using the $\chi^2$ test (R-commander).

**Results** During the study period, 32 patients were analysed (10 ISA vs 22 VORI). Median age was 54.5 versus 66.5 years (IR 46.25–60; 58–77.5) and the percentage of men was 90% versus 68%.

IFI tested by cultures occurred in 60% versus 54% of patients. Fungal species detected were (number): Aspergillus fumigatus (2 vs 8), A flavus (2 vs 0), A niger (1 vs 0), A terreus (0 vs 2), A sydowii (0 vs 1), Candida lusitaniae (1 vs 0) and Lichtheimia (1 vs 0). The rest were diagnosed as probable IFI (positive galactomannan ag test or CT image).

Median duration of treatment was 49 versus 15 days (IR: 14.25–73.5;11–44.5). CR was achieved in 3 patients (30%) with ISA versus 10 (45%) with VORI (p=0.4093). The AEs registered for ISA were liver disorders (n=3), phlebitis (n=1), diarrhoea (n=1) and grade 2 cytopenias (n=1). Dose adjustment was required in three patients due to interaction with immunosuppressants.

**Conclusion and relevance** Among our population, ISA was a relatively effective and safe alternative, without relevant differences compared with VORI in terms of effectiveness, according to the SECURE pivotal study. A larger sample size would be necessary to verify these data.

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No conflict of interest.

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**4CPS-057 EVALUATION OF USE, EFFECTIVENESS AND SAFETY OF ISAVUCONAZOL**

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**Material and methods** An observational, retrospective study, relating to 383 patients. On average, residents analysed 17.2% from a nursing home. The most common diagnoses were community acquired pneumonia (17.2%), respiratory infections (15.6%); 84.4% of patients were hospitalised. The empirical antifungals most prescribed were meropenem (28.1%), levofloxacin (17.2%) and amoxicillin–clavulanic (15.6%).

In 84.4%, patients were asked for cultures before starting antibiotic therapy. Inappropriate prescriptions according to the protocol accounted for 48.4%. Of these, 45% were excessive (either on spectrum or dose), 32% were insufficient and 22% were given to patients that had no infection.

We made 80 recommendations: 41.0% to continue treatment, 18.6% to discontinue treatment, 18.6% to decrease the spectrum, 13.8% to increase the spectrum, 5.0% to change to another antibiotic and 2.5% to decrease the dose. The acceptance rate was 93.8%.

**Conclusion and relevance** Even though a high ratio of prescriptions were considered inappropriate, a large percentage of the recommendations were accepted, which shows that our intervention was well received by the clinical staff. This could be explained by the involvement of a multidisciplinary group and direct interaction with physicians. Such an educational approach might be highly effective in improving future antibiotic prescriptions in the ED.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

No conflict of interest.