unused doses of medication. The data was collected by the Discover program and was analysed with GraphPad Prism.

Results The media of patients in UDDDS per month was 251.1±19.09 and 245±20.90, with a total of 14 870 and 17 779 validated prescriptions in 2017 and 2018 respectively. The percentage of validated prescriptions before 3 pm was 71.79% in 2017 (PCC) in comparison with 86.95% in 2018 (AEP), supposing an increase of about 15.18%. The percentage of the returns of unused medication doses was 20.26±) 0.83 in 2017 versus 20.21±0.48 in 2018, not showing significant differences between the years of comparison.

Conclusion Our results show a significant increase in the percentage of validation in the optimal schedule after the implementation of AEP despite the small increase in activity. Assuming that the remaining 12%–13% of the prescriptions correspond to changes in the treatment and hospital admissions during the afternoon and night, we consider we satisfied the purpose of the study. The parameter of the returns of unused medication doses, however, show the need for continuing the evaluation of the procedures in order to obtain a greater effectiveness.

REFERENCES AND/OR ACKNOWLEDGEMENTS

4CPS-223 | **ANTICOAGULANT THERAPY IN CHRONIC COMPLEX PATIENTS WITH ATRIAL FIBRILLATION**

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Background Non-valvular atrial fibrillation (NVAF) is the most common cardiac arrhythmia in clinical practice. In Spain, the stipulated recommendations to select anticoagulants are: use of direct oral anticoagulants (DOAC) in the case of poor INR control, intolerance to vitamin-K antagonists or adverse events, impediment to INR controls or patients with a stroke disease.

Purpose Our aim was to analyse the treatment in chronic complex patients (PCC) with NVAF admitted to the internal medicine service (MI) and other items related to NVAF in these patients.

Material and methods Transversal study of PCC diagnosed with NVAF admitted to the MI, with two or more chronic diseases according to the Charlson index. The study period was 7 months during the rotation of two hospital pharmacists in the MI. Epidemiological, clinical and pharmacological data were analysed. Data was treated in a codified way to respect confidentiality.

Results Seventy-three PCC were evaluated. The median age was 83 years (66–95), 38 females (52.1%). Thirty-two patients (43.8%) had paroxysmal AF, 28 patients (38.3%)>1 year persistent AF, 12 patients (16.4%)>7 days persistent AF and one patient (1.3%) with origin uncertain AF. The most frequently associated risk factors were: hypertension (90.4%), dyslipidaemia (65.7%), diabetes mellitus (61.6%) and heart failure (60.2%).

Sixty-one patients (83.6%) were treated with oral anticoagulants; of whom 19 were also anti-aggregated. Of the 61 anticoagulated patients, 23 (37.7%) were treated with DOAC (10 apixaban, seven dabigatran, five rivaroxaban, one edoxaban). The remaining 38 (62.3%) were treated with anti-vitamin K. On admission, 12 (31.6%) patients with anti-vitamin K treatments were in the therapeutic range, with a median INR of 2.4 (2.05–3), compared to 13 (34.2%) patients who were under-dosed and 13 (34.2%) supradosified with a median INR of 1.56 (1–1.9) and 3.4 (3.2–12) respectively. One-hundred per cent of the patients had a CHA2DS2-VASc>2 points. The reason for the non-anticoagulation of the 12 patients without treatment was the previous haemorrhages, with HAS-BLEED >3 points.

The main differences between the anticoagulated patients and those without, was the percentage of diabetes mellitus (70.5% vs 41.7%) and heart failure (65.6% vs 33.3%).

Conclusion Our data shows that most of the PCC diagnosed with NVAF were treated with anticoagulants. All patients had CHA2DS2VASc score required for anticoagulant treatment. 37.7% of the patients were being treated with DOAC. Comorbidities observed are in line with other studies conducted in NVAF. The main causes of non-anticoagulation were previous haemorrhages.

REFERENCES AND/OR ACKNOWLEDGEMENTS

4CPS-224 | **EVALUATION OF SYSTEMIC ANTIBIOTICS AND ANTIFUNGAL USE IN AN INTENSIVE PAEDIATRIC CARE UNIT: A FIVE-YEAR STUDY IN A FRENCH UNIVERSITY HOSPITAL**

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Background The overuse of antimicrobials and empirical prescriptions are associated with the higher prevalence of antibiotics' resistance, leading to the longer duration of illness and increased healthcare costs. To preserve their efficacy and prevent the risks of resistance emergence, surveillance of antibiotic consumption is essential. There are limited data published about antibiotics and antifungal consumption in terms of defined daily doses (DDD) in paediatrics.

Purpose To describe and analyse antibiotic and antifungal drug consumption, DDD/1000 bed-days in a paediatric intensive care unit (ICU) over a 5 year period.

Material and methods A retrospective and descriptive study was performed in a university paediatric hospital of 400 beds with 32 ICU beds. According to the French 'ATB-Raisin' national network methodology, systemic antibiotics and antifungal dispensation from 2013 to 2018 to the ICU were measured and analysed by a multidisciplinary approach. DDD/1000 bed-days and/or ratios were calculated for each antibiotic and antifungal, and overall.

Results A 0.9-fold decrease (−9%) in the overall number of antibiotics DDD/1000 bed-days from 2792 in 2013 to 2533 in 2018 was measured. The most important decreases were observed for three classes of antibiotics: penicillin M (ratio=0.05), imipenem (ratio=0.17) and imidazole (ratio=0.28). The most important antibiotics' consumption increases were observed for classes: first- and second-generation cephalosporins (ratio=2.26), levofloxacin (ratio=2.09) and amoxicillin-clavulanique (ratio=1.64). A 0.8-fold (−19%) decrease in the overall number of antifungals DDD/1000 bed-

days from 314 in 2013 to 252 in 2018 was measured. The main decreases were observed for amphotericin B (ratio=0.3), voriconazole (ratio=0.50) and caspofungin (ratio=0.59). The most important increases have been shown for: flucytosine (ratio=10.25), micafungin (ratio=2.73) and fluconazole (ratio=1.22). Fluctuation in consumption is linked to several factors: drug shortages, evolution in recommendations and patient profiles. French drug market supplies break of oxacillin/penicillin M increases first- and second-generation cephalosporin prescriptions. A local guideline for transplant patients recently replaces fluconazole by mycafungin in antifungal prophylaxis.

Conclusion Both the overall numbers of antibiotics and antifungals DDD/1000 beds-days decrease over the 5 year study period. A multidisplinary analysis comprehends the consumption evolution in our paediatric ICU. It should be monitored on a continuous basis by pharmacists in healthcare settings.

4CPS-225	THE ROLE OF CLINICAL PHARMACISTS MONITORING REGARDING THE EFFECTIVENESS AND TOLERANCE OF EXPENSIVE DRUGS PRESCRIBED OFF-LABEL

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Background Since 2015 in our French hospital, prescribers must fill out a justifying form (JF) for each off-label initiation of expensive treatments. The medical and financial follow-up is carried out by clinical pharmacists regarding chronic diseases. Furthermore, the patient must be informed about the off-label use of his treatment, and the JF must be included in the patient's file.

Purpose In this context, a retrospective study was performed over 2 years to ensure the justified maintenance of off-label treatments in terms of effectiveness, tolerance and cost.

Material and methods The off-label JF includes references to publications, clinical argument, criteria of effectiveness and tolerance. For each chronic indication, the tracability of the JF, and the evaluation of effectiveness and tolerance were researched in the computerised patient file (Orbis). The 2016 and 2017 dispensing data and treatment costs were extracted from Phedra software.

Results Seventy-seven patients were involved with 63 JF found (82%). Ninety-three per cent of the files were archived at the pharmacy, but none were found in Orbis. Only 17.5% of the JF were fully completed. The most filled item was the clinical argument (86%) and the least filled item was the date of the multidisciplinary consultation meeting (43%). Sixty-three patients had a chronic condition. The most prescribed treatments were Tocilizumab, Adalimumab, Infliximab and intravenous immunoglobulin, mostly in the internal medicine and rheumatology departments. Horton and Behçet diseases, hypogammaglobulinaemia, sarcoidosis and undifferenciated inflammatory arthritis were the most common indications. Effectiveness data were evaluated for 52 patients: 77% of effectiveness (including four healings), 19% of interruptions for ineffectiveness and 4% for adverse

effects. A subcutaneous relay was observed in seven cases. The hospital cost was estimated at € 7 35 000 (including Canakinumab € 191,000).

Conclusion Off-label initiations are mostly justified. The reformulation of some items of the JF and its computerisation in Orbis are necessary in improving traceability. Clinical effectiveness is found in more than two-thirds of chronic off-label prescriptions. Horton and Behçet's diseases have recently obtained their label, strengthening the validity of these prescriptions. The clinical pharmacist monitoring of treatment effectiveness and safety permits a quick discontinuation in expensive and inefficient treatment.

4CPS-226	ADHERENCE TO TREATMENT IN OLDER ADULTS ADMITTED TO AN ACUTE GERIATRIC UNIT AND ASSOCIATED FACTORS

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Background Treatment adherence is a very important issue in ensuring the correct effectiveness of treatments, and it is often compromised in older patients. To assess and improve patients' treatment adherence is an important role of clinical pharmacists, and knowing which factors are usually associated with a lack of adherence could help to enhance this task.

Purpose To estimate the prevalence of a lack of treatment adherence in older adults admitted to an acute geriatric unit, and to assess associated factors.

Material and methods Cross-sectional observational study of over 75 years' old patients consecutively admitted to an acute geriatric unit in a third-level hospital. A clinical pharmacist performed a semi-structured clinical interview with the patients and their families, including the 4-items Morisky–Green test. Socio-demographic and clinical characteristics of included participants were registered from medical records and patient interview. Multivariate logistic regression was used to identify predictors of a lack of adherence. The following factors were included in the analysis: age, sex, polypharmacy (≥ 5 chronic medications), comorbidities (age-adjusted Charlson Comorbidity Index), functional and cognitive impairment (Barthel Index and degree of impairment: none, mild, moderate, severe), dependence for taking medications, use of weekly pillbox, multi-compartment compliance aid (MCA), visual and hearing deficiency, and changes in treatment in the past 3 months.

Results Two-hundred and fifty patients were included, 150 were females (60.0%) and mean age was 87.6 years (SD 4.6). An important lack of adherence was detected in 55 patients (22.0%, 95% CI: 16.83 to 27.17). Forty-eight patients (19.2%) used a weekly pillbox to organise their medications and 32 (12.8%) used a MCA; 52 (20.8%) changed their medications recently; 168 (67.2%) were dependent for taking their medications; 39 (15.6%) had visual deficiency; and 71 (28.4%) hearing deficiency. Only two