Conclusions Most patients with staphylococcal infections can be treated with vancomycin, which also contributes to cost reduction. A Bayesian approach shows better pharmacodynamic results than conventional dosing, with a 90% of patients successfully treated in a real setting.

No conflict of interest.

BLOOD LEVELS OF IMMUNOSUPPRESSANT DRUGS IN PATIENTS WITH CYSTIC FIBROSIS AFTER LUNG TRANSPLANTATION

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Background Patients with Cystic Fibrosis (CF) can absorb oral drugs differently, which could be translated into reduced blood levels of immunosuppressant drugs in transplant patients.

Purpose To evaluate the blood levels of immunosuppressant drugs in patients with CF after lung transplantation during the first months of oral treatment and their effect on the development of acute rejection (AR) and renal failure (RF).

Materials and Methods Retrospective observational study (study period: April 2008 to October 2012). Tacrolimus and mycophenolic acid blood levels of lung transplant patients were collected during the first three months of oral treatment. Blood levels were corrected by dose and body weight [(Concentration/(dose/weight)) (Concentration = ng/mL for tacrolimus and mcg/mL for mycophenolic acid; dose = mg/kg/24 h; weight = kg)]. The primary outcome was to compare immunosuppressant levels between patients with CF and other transplant patients (control group). The incidence of AR and RF (Chi-square test) and overall survival (Kaplan-Meier method) were calculated in both groups.

Results Sample size 49 patients (69.0% male, mean age = 45.2 (SD = 16.2) years), of which 27.0% were CF patients. Immunosuppressant blood levels were lower in the CF group compared with the control group [mean(SD)): Tacrolimus: month 1: 67.6(34.9) vs. 105.6(58.2)*; month 2: 64.9(36.5) vs. 140.2(106.3)*, month 3: 97.0(76.6) vs. 129.8(128.2); Mycophenolic acid: month 1: 0.05(0.03) vs. 0.09(0.14)*, month 2: 0.09(0.08) vs. 0.09(0.04) month 3: 0.20(0.17) vs. 0.16(0.14) (* $p < 0.05$, Wilcoxon-T test)]. The incidence of AR was higher in the CF group (53.8% vs. 47.2%, $p = 0.84$), while the incidence of RF was higher in the control group (27.8% vs. 23.0%, $p = 0.74$). Overall survival after transplantation was higher in the CF group (51.1 vs. 39.1 months, $p = 0.08$).

Conclusions Patients with CF have lower immunosuppressant levels than the control group. However, there were no significant differences in the incidence of AR, the development of RF or in overall survival after transplantation between the two groups.

No conflict of interest.

CONCOMICANT DRUGS AS A RISK FACTOR FOR THE APPEARANCE OF ADVERSE EVENTS

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Background The best polytherapy is associated with a major risk of adverse events (ADEs) and with an increase of both mortality and morbidity.

Purpose To evaluate the frequency of the appearance of ADEs in those patients undergoing polytherapy compared to the frequency of ADEs tied to monotherapy.

Materials and Methods Patients entering A.O 'Gaetano Rummo' of Benevento were monitored by a dedicated hospital pharmacist, over a period of twenty-four months, by collecting data concerning recorded ADEs and total value analysis (mono/polytherapy), the seriousness and the number of medications considered suspicious.

Results Out of 253 reports made, 140 (55.3%) involved patients undergoing polytherapy compared to 113 attributable to monotherapy. More precisely, 108 ADEs were considered 'serious' and 55.5% of these (60 cases) were due to the polytherapy. Out of 48 serious cases imputable to the use of one drug, just 1 has ended with the death of the patient (anaphylactic shock by ceftriaxone), 1 endangered the patient's life and for 16 of them it was remedied by prolonging hospitalisation. Out of 145 cases which were considered by the detector as 'not serious', 80 proved to have been associated with polytherapy while 60 were relative to 1 medicine.

Conclusions The multi-drug approach represents a significant factor which can cause the appearance of ADEs. To improve health care it is desirable that competent professional figures, such as the pharmacist, would more often employed in a departmental activity of pharmacovigilance in order to develop a prior information network on the risk of medicine interactions and the proper use of the medication.

No conflict of interest.

DEPLOYMENT OF BAR CODE MEDICINES ADMINISTRATION TO CONTROL THE ADMINISTRATION OF MEDICINES IN GERIATRIC UNITS

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Background Of the errors occurring in drug treatment, about 24% take place during the step of administration (Mission nationale d'expertise et d'audit hospitaliers (MeaH) 2008). Poon *et al*, showed in 2010 that the Bar Code Medicines Administration (BCMA) reduced drug administration errors by 41.4% and serious potential adverse drug events by 54.1%.

Drug prescribing, dispensing and administration have been computerised in the 13 geriatric units at the University Hospital (CHU) of Toulouse. Since January 2012, an additional device has been deployed in 8 wards: barcode readers have been installed to read barcodes on the drug packaging to make administration safer.

Purpose A quality indicator was developed in order to analyse the use of barcode readers in care units in real time, to directly reduce drug administration errors. This indicator is a management tool to ensure that the BCMA system does not deviate over time.

Materials and Methods The indicator was designed with the help of a computer specialist. The request is based on an Access file that extracts administration data from the Disporao prescription software. Two parameters are determined: the number of doses administered by BCMA and the number of administered doses that could be scanned; the ratio of these two elements reflects the use of barcode readers by nurses.

Results The training of 89 nurses was completed in June 2012. The indicator showed that nurses scan an average of 70% of unit doses. The objective is to scan more than 95% of unit doses. Investigations are underway to understand the reasons for incompleteness (temporary nursing staff not trained, incorrect prescriptions, faulty hardware, for example) and make corrective actions.