Results Twenty six patients were investigated:

- Previous treatment: 10 patients with natalizumab (4 for over 2 years), 8 with interferon beta (IFNβ) (6 of them for more than 1 year), 3 with glatiramer acetate (GA), 3 with azathioprine with mycophenolate mofetil and 1 with methotrexate.
- FTY treatment periods: 4 patients had started <1 month ago; 18 between 1–6 months; 3 between 6–12 months and one >1 year.
- Vital parameters: mean arterial pressure (MAP): 121.29 mmHg/70.41 mmHg and 113.06 mmHg/68.31 mmHg after 6 h of administration. The mean heart rate (MHR): 71.06 beats/min and 62.53 beats/min after 6 h.
- Disease progression: 1 patient suffered only one flare-up. Nine patients had a mean decrease of 0.72 in the EDSS scale and 4 maintained the values. There was no increase in lesion extension in Nuclear Magnetic Resonance.
- Average monthly costs: FTY €1,872.5; INFβ/GA (1st line) €843.91; natalizumab €1,923.90 (costs related to the route of administration were not counted).

Conclusions There was no worsening of symptoms after introduction of FTY and there was only one recrudescence episode, requiring long-term assessment.

Despite costing more than first-line medicines, FTY was the best option because it is an oral formulation, so is more convenient for patients.

Reference

1. Portuguese Society of Multiple Sclerosis

No conflict of interest.

DGI-011 ANTI-TUMOR NECROSIS FACTOR REAL-WORLD DOSES: FOUR-YEAR RETROSPECTIVE STUDY IN RHEUMATOID ARTHRITIS PATIENTS IN TWO HOSPITALS IN SPAIN

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Background Achieving minimum clinically effective doses offers major advantages in safety and efficiency.

Purpose To evaluate mean dosage in rheumatoid arthritis (RA) patients treated with adalimumab (ADA), etanercept (ETN) and infliximab (IFX). To correlate these dose strategies with the patient's disease activity. To estimate annual costs associated.

Materials and Methods Observational, retrospective study. RA patients who received ADA, ETN or IFX for at least 6 months during 2006–2010 were included. Patients could receive different sequential treatments. Mean drug consumption was analysed based on hospital pharmacy service claims and presented as a percentage of the standard RA dose. Escalated and reduced doses were defined as those higher and lower than standard doses. Demographic data, concomitant treatment, disease activity (DAS28-ESR) and antiTNF dosage were analysed. The therapeutic objective was defined as DAS28 < 3.2. Associated annual costs were estimated based on public ex-factory prices including tax (2011 Euros).

Results 198 patients (mean age 60.5 years [±13.06], 80% female, baseline DAS28 = 4.38 [±1.52]). 215 cases: ADA (66 first line, 7 second line), ETN (71 first line, 9 second line, 1 third line), IFX (61 first line).

Conclusions There were no statistical differences regarding baseline disease activity ($p > 0.05$). Patients in the ADA or IFX groups increased doses above standard doses more frequently than ETN patients ($p < 0.05$).

There were no differences between groups in percentage of patients with DAS28 < 3.2 ($P = 0.927$).

AntiTNF real-world data shows significant differences compared to recommended doses, which directly affect treatment costs and efficiency. Measuring efficiency in clinical practise is key for optimization and rational use of biological medicines.

Abstract DGI-011 Table 1

	ADA N = 73	ETN N = 81	IFX* N = 61
Concomitant DMARDs (%)	80.83%	74.07%	90.16%
Study real doses†	93.02%† (37.21 mg/biw)	81.00%† (40.5 mg/week)	135.73%† (4.07 mg/kg/8 weeks)
Mean reduced doses	32.88%	46.91%	8.2%
Mean increased doses	9.58%	3.7%	75.41%
DAS28 < 3.2 (%)	67.12%	65.43%	62.30%
Patient-year cost (standard doses)	12,859.79€	11,845.93€	7,566.27€
Patient-year cost (clinical practise)‡	11,962.58€‡	9,594.73€	10,094.53€
Patient-year cost differences†	–897.22€†	–2,251.20€†	+2,528.26€†

*IFX: 110.93€/infusion, 0.89% waste optimising vials. Mean weight: 68.04 kg.
†:$p < 0.05$ between groups
‡:$p < 0.05$ ADA vs. ETN, ADA vs. INF

No conflict of interest.

DGI-012 ANTIBIOTICS MONITORING: THE EXPERIENCE OF LIGURIA REGION, ITALY

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Background The Health Department of Regione Liguria has introduced the obligation, for every hospital department to motivate the request to obtain certain kinds of antibiotics, because their use is restricted to serious infections and in consideration of their high cost.

Purpose The aim is to restrict the phenomenon of resistance to antibiotics and reduce the rising consumption of these drugs, guaranteeing a correct prescription.

Materials and Methods The request for the drugs in question must be made using the appropriate form containing the clinical data of the patients, including personal details, diagnosis and the characteristics of the infection.

The pharmacist verifies the administration dosage and the conformity of the diagnosis with the approved health authority indications and with prophylaxis guidelines. The pharmacist will then decide whether to dispense the drug.

Some hospitals make use of written applications, others have created specific software for this purpose, others have included the application in the software for the management of the hospital admissions and patients records. Furthermore, where necessary, it has been possible also to include specialist advice, in the software.

Results In the 2011 the Local Health Board of Genoa (ASL3) received and monitored 2274 specific forms, that is 100% of the requests. The intervention of the pharmacist led to a reduction of 90% in the use of Tigecycline and prevented, in 31 cases, an overdose of Vancomycin hydrochloride on Clostridium Difficile Infection. Administration of oral vancomycin in Clostridium difficile infection was 500 mg qid orally for at least 10 days instead of 125 mg qid orally stated in the international guidelines.

The control of reasoned request by the pharmacist allowed to use the appropriate dosage.

In the Galliera Hospital, 2100 specific forms were filled out (70% of the total requests). Antibiotics non requiring a specific request like ciprofloxacin, ceftriaxone, ceftazidime were used more than in 2009. (2009: 20872units; 2011:25508 units)

The Local Health Board of Chiavari (ASL4) received 1525 applications (59% on-line).

Conclusions This method has led to an increase in appropriate prescriptions and to better collaboration among medical staff.

No conflict of interest.

DGI-013 ANTIRETROVIRAL TREATMENT SWITCHING IN VIROLOGICALLY UNSUPPRESSED HIV-INFECTED PATIENTS

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Background Antiretroviral treatment (ART) has markedly decreased the morbidity and mortality due to HIV; however, in a percentage of patients a change of treatment is needed.

Purpose To determine the rates of treatment switching in HIV virologically unsuppressed patients, the reasons for changing treatment, to estimate adherence levels and to find the profiles of drug-resistant mutations.

Materials and Methods Retrospective study involving patients switching ART with HIV RNA values >20 copies/ml in 2011. Patients under 18 and those who had been on their first-line treatment no longer than 24 weeks, were excluded. Data collected: gender, age, ART and HIV RNA values before and after switching, cause of changing, adherence level (dispensing records for the last three months) and resistance testing. Data source: medical records and pharmacy database.

Results Of 1103 patients receiving ART, a total of 16% (177) of regimens were switched, 102 cases met the inclusion criteria (57.6%), 62% males, average age 44 ± 9.5 years. In patients switching treatment, viral load was <500 copies/ml in 57.8% (59/102) (<200 in 51 of them (84%)). Drug-resistant mutations were assessed in 40.2% (41/102), and mutations were found in 41.5% of them, the more frequent mutations were: M184V (6/17), K103N (6/17), Y181C (5/17) and K65R (3/17). The main reasons for switching treatment were toxicity (52.9%) and treatment failure (29.3%), other reasons were regimen simplification, drug interactions and pregnancy (17.7%). The average adherence level was 70.4%, but only 38.4% of patients had high levels of adherence (>95%). The rate of adherent patients (>95%) was 55.9% in patients with viral load <500 copies/ml versus 14.1% with viral load >500 ($p < 0.05$).

Conclusions Toxicity was the main reason for changing ART. The percentage of 'well-adherent' patients was very low in virologically unsuppressed HIV-infected patients, especially in those patients with high viral loads; therefore adequate adherence to treatment is a key factor in viral suppression.

No conflict of interest.

DGI-014 APPROPRIATENESS OF TREATMENT AND COST ANALYSIS IN THE TREATMENT OF SYSTEMIC FUNGAL INFECTIONS IN A TRANSPLANT CENTRE

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Background Invasive fungal infections (IFIs) increase morbidity and mortality in immunocompromised patients (IPs).Controlling antifungal use is fundamental in avoiding drug resistance and containing costs.

Purpose To identify risk factors associated with IFIs in IPs, and monitor appropriateness and cost of antifungal treatment.

Materials and Methods A retrospective analysis was done at ISMETT, a 78-bed transplant centre in Palermo, Italy, from 1 January to 31 December 2010. One hundred and one IPs received intravenous antifungal treatment with fluconazole (F), liposomal amphotericin-B (A), caspofungin (C), itraconazole (I) for 4 or more days. Patient treatment was divided into three groups: prophylactic, empirical and target. Immunosuppressive treatment (IT), total parenteral nutrition (TPN), dialysis, central line, steroid treatment, stent use, neutropenia, and mechanical ventilation were evaluated. Variables were treatment duration, DDD (defined-daily-dose) consumption and DDD average cost.

Results Main risk factors were central line (65.3%), TPN (56.4%), dialysis (46.5%), IT (42.6%), mechanical ventilation (32.7%), neutropenia (24.8%), steroid treatment (23.8%), and stent use (14.9%). Average duration of prophylactic treatment was 7 days, F (61%), A (26%), C (13%) were used. Average duration of empirical treatment was 8 days, and F (52.9%), A (26.5%), C (8.8%), I (2.9%), and in association A+C, A+F, C+F (8.9%) were used. Average duration of target treatment was 9 days, and F (40.4%), A (23.1%), C (15.4%), I (7.7%), and in association A+C, A+F, C+F (13.4%) were used. DDD consumption and DDD average cost were, respectively, C 50 mg vial: 273 DDD, €381.1; C 70 mg vial: 33.6 DDD, €389.6; F 200 mg vial: 768 DDD, €11.8; F 100 mg vial: 89 DDD, €10.6; I 250 mg vial: 62.5 DDD, €68.8; and A 50 mg vial: 2200 DDD, €93.4.

Conclusions Data showed appropriate use of antifungals. The best treatment alternative (cheaper antifungal) was prescribed for most patients. The high cost of A and C was justified by resolution of the IFI.

No conflict of interest.

DGI-015 ASSESSMENT OF THE TREATMENT WITH A TWO-DRUG ANTIRETROVIRAL REGIMEN

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Background Antiretroviral treatment with a three drug-regimen is the initial treatment recommended for chronic HIV infection. For various reasons, the combination of three drugs can be modified to a two-drug regimen.

Purpose To analyse the change from a three-drug antiretroviral treatment regimen (HAART) to a two-drug regimen in HIV+ patients: reason for change and effectiveness.

Materials and Methods Cross-sectional retrospective study of HIV-infected patients in treatment with two active antiretroviral drugs from January 2010 to April 2012. The data was obtained from the medical history and the Farmatools application for external patients. Effectiveness was evaluated by the viral plasma load (VPL) and the CD4 cell count, measured at 24 weeks. Viral load suppression (VLS) was defined as less than 50 copies/ml.

Results A total of 30 patients were studied, with the following two-drug regimens: 5 patients with boosted Atazanavir (ATZr)/Maraviroc (MRV); 4 patients with boosted Darunavir (DRVr)/Etravirina (ETV); 13 patients with DRVr/MRV; 6 patients with DRVr/Raltegravir (RAL); 1 patient RAL/MRV and 1 patient with boosted Fosamprenavir (FPVr)/RAL. The reasons for the change to a two-drug regimen were the following: 12 changes were determined by drug resistance tests, 6 due to side effects of previous HAART treatment and 12 to simplify their antiretroviral treatment. The answers obtained are shown in table 1. Patients who did not reach viral load suppression at 24 weeks were taking a regimen composed of ATZr/MRV (2 patients) and DRVr/MRV (1 patient).