The total antibiotic use in DDD/100 patient-days has decreased by 10% (from 80.7 to 72.0 DDD/100 patient-days), but mainly because of the increase in patient-days.

Mainly parenteral agents were used and this trend crept up gradually (2010: 56.3%, 2017: 68.0%). Ten antibacterial agents were responsible for the DU90% segment in 2010 and nine in 2017. Metronidazole and cefuroxime (routinely administered for 2 days as surgical antibiotic prophylaxis in the study period) headed the top list in each year and they were responsible for 50% or more of total antibiotic use during the whole study period. Cefazolin use was very low despite the fact that it was the recommended first-line agent in combination with metronidazole for colorectal surgeries. Narrow spectra beta-lactamase-sensitive penicillin use was also marginal (below 1 DDD/100 patients-days).

Conclusion Our study showed a decrease in standardised antibiotic exposure but quality indicators revealed some suboptimal pattern (homogenous antibiotic use, lack of narrow spectra penicillin use, low use of recommended agents (e.g. cefazolin)). Stewardship intervention – aiming to further decrease antibiotic quantity – should first target the surgical antibiotic prophylaxis, while specific intervention should be implemented to optimise the pattern of antibiotic use.

REFERENCES AND/OR ACKNOWLEDGEMENTS

EAHP Position Paper on Antimicrobial Resistance (AMR).

No conflict of interest.

2SPD-005

ECONOMICAL ANALYSIS OF TENOFOVIR ALAFENAMIDE VERSUS TENOFOVIR-DISOPROXIL FUMARATE

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Background Due to the recent commercialisation of the presentations of Tenofovir Alafenamide (TAF) for HIV, there is a need to analyse the costs involved in its introduction into the public health system and its potential impact.

Purpose The objective of the study is to assess the cost of using TAF instead of tenofovir-disoproxil fumarate (TDF) in a public health hospital.

Material and methods A retrospective and descriptive study of all the patients who used TDF in their HIV treatment regimens from January 2018 to October 2018 was done. Data of the different treatment regimens for HIV containing TDF and adherence to treatment were collected. The TDF treatments regimens were replaced by their commercial equivalent with TAF and the hospital acquisition prices were compared. The cost for each patient was calculated according to TDF or TAF presentation and extrapolated to one year of treatment. The sources of information were the outpatient database and management of the hospital pharmacy service.

Results During the study period, 204 patients used TDF in their treatment regimen for HIV: 151 patients used TDF +emtricitabine + elvitegravir, 16 patients used TDF +emtricitabine + darunavir/cobicistat and 37 used TDF +emtricitabine + another third drug. The adherence to the treatment was 95%. The patient cost and its annual potential cost are summarised in the following table 1:

Abstract 2SPD-005 Table 1

	N° patients	Patient cost	Annual cost	Difference
TDF+emtricitabine +elvitegravir	151	€ 560,22	€ 1,015,118.64	
TAF+emtricitabine +elvitegravir	151	€ 726	€ 1,315,512	€ 300,393.36
TDF+emtricitabine +darunavir/cobicistat	16	€ 380,65	€ 73,084.8	
TAF+emtricitabine +darunavir/cobicistat	16	€ 918	€ 1 76 256	€ 103,171.2
TDF+emtricitabine+3° fármaco (not study)	37	€ 31.2	€ 13,852.8	
TAF+emtricitabine+3° fármaco (not study)	37	€ 314.3	€ 139,549.2	€ 125,696.4

Conclusion Almost 75% of patients with TDF used a treatment regimen with emtricitabine +elvitegravir. Adherence to the treatment was excellent. The consideration to switch TDF to TAF must take into account its associated cost due to the high impact that would imply.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

2SPD-006

ECONOMIC IMPACT OF INFLIXIMAB BIOSIMILAR REFERENCING IN THE HOSPITAL

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Background Since biosimilar infliximab's arrival on the market in 2015, health authorities promote their prescription. The question arises of the medico-economic interest of the switch from an originator to its biosimilar in patients already treated. The NOR-Switch study gives us an answer in showing the non-inferiority of biosimilar CT-P13 against the originator in terms of effectiveness and tolerance. Since biosimilar (Inflectra) referencing in our hospital in 2015, all treatment initiations are done with the biosimilar and a switch is proposed to patients already treated with the originator (Remicade).

Purpose To evaluate the economic impact of introducing the biosimilar infliximab in our hospital.

Material and methods We made an evaluation between June 2015 (biosimilar arrival) and 2018 to measure the impact of this referencing. We used a prospective database since 2014 concerning all infliximab injections ((Remicade+Inflectra), patient, indication, number of vial per injection, cost).

Results Patients are treated in rheumatology (83%) and gastrology (17%): rheumatoid arthritis, Ankylosing spondylitis, Crohn's disease and haemorrhagic rectocolitis.

Since 2014, vial consumption (annual and by injection) of infliximab has risen (+8% per year, from 1641 vials to 2117).

The partition between biosimilar and originator has evolved since 2015: the biosimilar proportion has increased from 8% (160 vials) to 55% (1056). In addition to treatment initiation,

we note a 30% switch in patients already treated by Remicade.

Inflectra was introduced with a –36% price in comparison with Remicade. Since 2015, vial cost has decreased (–40% for both biosimilar and originator).

Although the consumption grew, we observed an annual cost reduction of –15%. Since 2014, infliximab expenses diminish from €8 50 000 to €5 00 000 yearly. Due to the introduction of the infliximab biosimilar in our hospital, we estimate a cost savings of €1.1 million in 3 years.

The maintenance rate is respectively 57% and 64% under Inflectra and Remicade.

Conclusion Since 2015, infliximab consumption has increased but a lower price and health authorities' promotion for biosimilars contribute to a cost reduction in both Remicade, Inflectra and, consequently, annual cost. This cost saving is helped by prescriptors's willingness: systematic treatment of naive patients by biosimilar and switch proposal to patients already treated. Biosimilar referencing and prescription are part of the cost-saving approach: less money is therefore spent on more treated patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

2SPD-007 COST-MINIMISATION ANALYSIS OF LUNG CANCER PD-L1 POSITIVE TREATMENT

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Background A Therapeutic Positioning Report published by the Spanish Agency for Medicines and Healthcare Products concludes that there are no differences in efficacy and safety between nivolumab, pembrolizumab and atezolizumab for patients with lung cancer and PD-L1 expression >1%. The treatment must be chosen according to efficiency criteria.

Purpose To perform a cost-minimisation analysis and a simulation on the real population.

Material and methods For the cost-minimisation analysis, the price of atezolizumab, nivolumab and pembrolizumab were used, taking into account discounts and VAT (€2312.63/vial of 1200 mg, €838.86/vial of 100 mg, €1931.696/vial of 100 mg, respectively). The cost of treatment/day (CTD) was calculated for each alternative: atezolizumab 1200 mg/21 days; nivolumab 3 mg/kg/14 days and fixed doses of 240 mg/14 days for weight >80 kg; and pembrolizumab 2 mg/kg/21 days and pembrolizumab fixed dose of 200 mg/21 days. The costs were calculated for the range of 55–95 kg. A simulation to patients with nivolumab treatment from April 2016 to July 2018 was performed. The CTD and total treatment cost were calculated up to the time of analysis for each patient according to weight and number of cycles received, for the alternatives nivolumab and atezolizumab. The difference in cost per treatment was measured.

Results The CTD was: atezolizumab=€110.13, pembrolizumab 200 mg/21 days=€183.97, pembrolizumab 2 mg/kg=€91.99–€174.77, and nivolumab 3 mg/kg=€89.88–€143.80, remaining fixed for >80 kg. The difference in cost benefits of nivolumab up to 61.3 kg, weight for which the cost was equal. Twenty patients were treated with nivolumab

during the study period. The average weight of the patients was 82 kg (range 52–100 kg). Eighty-nine per cent of the administrations were to patients over 61.3 kg. They received an average of four treatment cycles and a total of 100 administrations. The average CTD was €132.95 for nivolumab with a total cost of €285.191. The use of atezolizumab instead of nivolumab, would have entailed a total cost of €231.263 (€53.298 less or –19%).

Conclusion At current prices, atezolizumab is more efficient than nivolumab when the patient's weight is above 61.3 kg. In our population, with a much higher average weight, the use of atezolizumab instead of nivolumab would have meant a reduction of one-fifth in the costs of treatment.

REFERENCES AND/OR ACKNOWLEDGEMENTS

<https://www.aemps.gob.es/medicamentosUsoHumano/informesPublicos/docs/IPT-atezolizumab-Tecentriq-cancer-pulmon.pdf>

No conflict of interest.

2SPD-008 RISK ANALYSIS ON CYTOTOXIC CIRCUIT IN A CENTRAL PHARMACY

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Background The manipulation of products with health risks is a source of concern for hospital pharmacy (HP) staff, even if good distribution practices require labelling of containers to identify them and secure their handling. This is particularly the case with cytotoxic products. Our HP, which ensures the supply and distribution of health products to 37 hospitals, is highly impacted by this risk even if cytotoxics are stored in specific areas and are subject to specific procedures in accordance with good HP practices. Therefore, we wanted to assess all the risks related to the handling of cytotoxics in our HP.

Purpose The objective is to establish a mapping of the risks associated with the cytotoxic circuit within our HP. The steps identified as most risky will be subject to action plans and corrective measures to secure the health products circuit.

Material and methods The scope of the study includes the reception and the storage of cytotoxics, preparation order, delivery to hospitals and disposal circuits. The Failure Mode, Effects and Criticality Analysis has been used to map risks. Failure modes with a criticality index (CI) greater than the average CI will be subject to a corrective action proposal.

Results The analysis reveals 51 failures with an average CI of 16 (min=2; max=48). Among these failures, 23 have a major criticality (CI higher than the average CI) and are mainly due to the lack of an identification label of the cytotoxic at different steps (n=13). The main steps at risk are the reception of unidentified packages arriving from suppliers or returning from hospitals, and the transport to hospitals. Breaks that can occur any time lead to a significant risk of contamination.

Conclusion The action plan to be set up requires working with suppliers, carriers and our logistics sectors, in such a way that everyone is aware of the risks incurred by each actor. The main focus of improvement concerns the identification of cytotoxics and staff training, especially in cases of product breakage. Finally, the disposal circuit is to be improved. A continuous evaluation process must allow the follow-up of the corrective actions.