in the patient's medical record in order to inform the physician about patient knowledge and judgement.

Results A total of 64 IBD patients (46 Crohn's disease, 18 ulcerative colitis) were included in the study: 48% of males, mean age was 44±16 years. The mean duration of RP therapy was 6.5±11 years. The majority of patients (n=59, 92%) did not know anything about biosimilars. After the interview, 38% of patients (n=24) declared their acceptance of switching to a biosimilar, 23% (n=15) refused the switch and 39% (n=25) were indecisive. The main causes of refusal were the fear of a loss of efficacity in one patient, the fear of tolerance problems in three patients and both in two patients. Regarding indecisive patients, 44% (n=11) were open to considering the switch to a biosimilar after discussion with their referring physician.

Conclusion In our study we showed a significant lack of knowledge of IBD patients treated with RP concerning biosimilars. Nonetheless, after an interview with a clinical pharmacist, most of the patients had a positive perception of biosimilars and accepted the switch from original infliximab to a biosimilar. This study highlighted the need for patient education about biosimilars in order to authorise the switch of biologics and the major role of clinical pharmacists in providing this education.

REFERENCES AND/OR ACKNOWLEDGEMENTS

http://www.worldgastroenterology.org/UserFiles/file/guidelines/inflammatory-bowel-disease-english-2015-update.pdf

No conflict of interest.

4CPS-144 ESTABLISHMENT OF A PHARMACEUTICAL STANDARDISED INTERVIEW CONCERNING BIOSIMILARS OF INFLIXIMAB IN THE DAYCARE CLINIC OF A GASTROENTEROLOGY DEPARTMENT FOR PATIENTS AFFECTED BY INFLAMMATORY BOWEL DISEASE

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10.1136/ejhpharm-2019-eahpconf.293

Background Anti-TNF monoclonal antibodies such as infliximab effectively treat inflammatory bowel disease (IBD). Currently they are recommended after failure or contraindication of corticosteroid/immunosuppressive therapy. The use of infliximab's biosimilars is an important question due to health costs and with the objective of improving healthcare.

Purpose Our goals were to evaluate the knowledge about biosimilars of patients treated with the reference product (RP), assess the number of patients who would accept switching to a biosimilar and to produce an economic analysis.

Material and methods From May to September 2018 we conducted a prospective observational study in the daycare clinic of the Gastroenterology Department. A standardised pharmaceutical interview for patients affected by IBD treated with RP was carried out. An evaluation of the knowledge of biosimilars was performed, before a point of information. Thereafter, the patient's opinion on the possibility of taking biosimilars was collected and the reasons for refusal as well. The pharmaceutical interview was saved in the patient's record which the prescribers could consult. An analysis of the savings in case of a transition to a biosimilar was realised.

Results Sixty-four patients participated in our study (46 Crohn's disease, 18 ulcerative colitis) all treated by RP for over a year. Mean age was 44. Ninety-two per cent of patients (n=59) had never received any information about biosimilars. After the interview, 38% (n=24) of patients were favourable to switching to biosimilars, 39% (n=25) were indecisive, 23% (n=15) were unfavourable. The unfavourable patients were concerned about tolerance (15% n=6) or efficiency loss (18% n=7) or both (35% n=14). Others preferred to discuss it with their doctor (30% n=12). In total, six patients moved onto biosimilars, which represented an economy of € 1,855/year. It would have been € 8125 if all favourable patients had changed and € 21 750 if all participants had accepted.

Conclusion Very few patients knew about biosimilars but after the pharmaceutical interview many were in favour of switching. Few willing patients actually changed to biosimilars, but one of the explanations was the lack of information. Therefore, our study showed that delocalising a pharmacist in the daycare department permits the evaluation of the patient's knowledge concerning their treatment and to provide specific information.

REFERENCES AND/OR ACKNOWLEDGEMENTS

http://www.worldgastroenterology.org/UserFiles/file/guidelines/inflammatory-bowel-disease-english-2015-update.pdf

No conflict of interest.

4CPS-145 PHARMACOGENETICS AS A TOOL IN DOSE ADJUSTMENT OF IMMUNOSUPPRESSIVE DRUGS: A CASE REPORT

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10.1136/ejhpharm-2019-eahpconf.294

Background Tacrolimus is an immunosuppressant used after transplantation. Therapeutic drug monitoring is strongly recommended for this drug, because of its narrow therapeutic margin, interpatient variability, drug interactions and toxicity depending on concentration.

Purpose We report the case of a transplant patient who did not achieve the target residual concentration (Cres) of tacrolimus.

Material and methods The 64-year-old patient (130 kg–187 cm), had a liver transplant as treatment for alcohol-induced cirrhosis complicated by ascites, hepatic encephalopathy and esophageal varices with severe portal hypertension.

A triple immunosuppression with mycophenolate mofetil, prednisolone and tacrolimus (Cres target=10–15 ng/mL) was initiated. Identification of *Candida albicans* in peri-operative collection and *Enterobacter cloacae* in blood culture required treatment by caspofungin and meropenem. Despite tacrolimus dose adjustment, Cres was not reached. Several hypotheses have thereby been explored: noncompliance, inappropriate sampling times, drug interactions and pharmacogenetics. A literature review was conducted, including the following keywords: tacrolimus, caspofungin, meropenem, interactions, pharmacogenetics.

Results Despite the gradual increase in tacrolimus dosage up to 15 mg per day (0.12 mg/kg/day), Cres obtained was below the

therapeutic concentration target, reaching a maximum of 7.5 ng/mL in 8 days, and then decreasing to 3.7 ng/mL in 4 days.

After investigation, noncompliance and sampling problems were excluded.

Concerning drug interactions, the literature reported an increase in tacrolimus Cres when ertapenem (antibiotic from the same class as meropenem) was co-administrated: consequently meropenem was excluded from the hypotheses. With caspofungin, a decrease in tacrolimus Cres was described during a 10 day co-administration. However, this hypothesis seemed insufficient to explain the very important decrease in Cres.

Concerning pharmacogenetics, the research found a need for higher doses of tacrolimus in patients carrying the *CYP3A5*3* allele (from 0.15–0.25 mg/kg/day depending on genotype). This patient was found to be a heterozygous carrier of the g.6986A>G mutation, characteristic of the non-functional allele *CYP3A5*3*.

Due to the persistence of Cres low values, tacrolimus was finally replaced by cyclosporine.

Conclusion Pharmacogenetics may explain some resistance-to-treatment occurence, so it is important to raise awareness in the healthcare teams. Characterisation of the cytochrome 3A5 genotype can be a predictive means of tacrolimus dose optimisation, permitting the achievement of effective Cres while avoiding toxic effects.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-146 SUBLINGUAL AND ENTERIC TACROLIMUS WHOLE BLOOD LEVELS IN AN INTENSIVE CARE UNIT

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10.1136/ejhpharm-2019-eahpconf.295

Background Tacrolimus is an immunosuppressive agent with a narrow therapeutic range (5–15 ng/ml for solid organ transplants). Achieving and maintaining appropriate tacrolimus exposure are critical for preventing rejection and minimising toxicity.

Although tacrolimus can be delivered either orally or intravenously, oral tacrolimus is associated with fewer adverse effects. It has been suggested that the sublingual route may be used as an alternative to oral in critical care patients when the enteric route is not available.

Purpose The aim of this study was to compare tacrolimus drug exposure after sublingual or enteric administration in solid organ transplanted critical care patients.

Material and methods A retrospective observational study was carried out of the adults in an intensive care unit of a tertiary hospital from June to December 2017.

All oral immediate release tacrolimus prescriptions were reviewed during this period. Patient records were reviewed and the following data was collected: patient number, administered drug, total daily dose, route, start day and last day of the administration.

Prescription data was linked to tacrolimus levels laboratory results for each patient and of treatment. Tacrolimus levels corresponding to each route were analysed, and mean and standard deviation was performed. Tacrolimus blood concentration levels considered toxic (>20 ng/ml) were identified.

Results Seventy-eight patients were treated with oral immediate release tacrolimus during the period of study: 1201 tacrolimus drug concentration level analysis were performed (mean of all drug blood concentrations: 11.12 ng/ml, standard deviation (SD):±5,59 ng/ml).

Oral (by mouth) administration drug concentrations levels (n=209) mean was 9.68 ng/ml (SD=±4.39 ng/ml). Two drug results (0.96%) were reported to be >20 ng/ml.

Nasogastric tube administration drug concentration levels (n=572) mean was 11.11 ng/ml. (SD) ±6.29 ng/ml. 45 (7.87%) drug results were reported to be >20 ng/ml.

Sublingual administration drug concentration levels (n=420) mean was 11.85 ng/ml (SD=4.93 ng/ml). 30 (7.1%) drug results were reported to be >20 ng/ml.

Conclusion Tacrolimus drug exposure after sublingual administration is similar to enteric administration in this study. Sublingual administration of tacrolimus is as effective and safe as nasogastric tube administration when oral administration is not feasible, although the lack of an appropriate drug formulation.

REFERENCE AND/OR ACKNOWLEDGEMENTS

Aliment Pharmacol Ther 2017;**45**:1225–31.

No conflict of interest.

4CPS-147 CLINICAL EXPERIENCE OF OPTIMISING CO-ADMINISTRATION THERAPY OF LOW-DOSE ALLOPURINOL WITH LOW-DOSE THIOPURINES IN INFLAMMATORY BOWEL DISEASE PATIENTS ATTENDING A VIRTUAL PHARMACIST CLINIC

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10.1136/ejhpharm-2019-eahpconf.296

Background Thiopurines play an important role in maintaining remission in inflammatory bowel disease (IBD). Optimising therapeutic strategies is of paramount importance in preventing treatment failure. Co-administration of Allopurinol, a Xanthine Oxidase inhibitor, with thiopurines has become established practice in achieving target thioguanine concentrations. The recommended dose of Allopurinol is 100 mg combined with modified thiopurine dosing (<25% of standard dose).

Purpose The aim of the study was to explore whether Allopurinol 50 mg could achieve the correct thioguanine nucleotide to methylmercaptopurine (TGN:MeMP) ratio while observing the side effects and safety profile of combined therapy.

Material and methods Combined Allopurinol and thiopurines therapy were started in a virtual pharmacist clinic in a cohort of patients who had failed thiopurines monotherapy. Patients were contacted by telephone, text or e-mail according to patients' preference. Thioguanine results were requested from our laboratory and obtained from Guy's NHS Hospital, which recommended the addition of Allopurinol if the ratio TGN:MeMP >11.

The total number of patients recruited was 44, of which 20 were female, 17 had Crohn's disease, 27 had ulcerative colitis. The average weight was 86 kg. Two patients were TPMT carriers ((10–25) pmol/h/mgHb), the rest were normal (26–51). The Azathioprine dosing range was (0.12–0.64) mg/kg (23 patients): the 6-Mercaptopurine dosing range was (0.11–0.54) mg/kg (21 patients).

Results Of the 44 patients entered into the study, 14 patients discontinued treatment during the first week, 11 patients due