TNF Cs, therapeutic ADA Cs ≥8 µg/mL and IFX Cs ≥3.5 µg/l.

For statistical analysis, continuous variables were expressed as mean (95% CI) or median (IQR), depending on the distribution; categorical variables were expressed as number and frequency. A univariate analysis was performed to identify variables that may affect drug concentrations, using independent samples t tests (continuous variables) or the χ^2 test (categorical variables). Logistic regression was performed to quantify the influence of explanatory variables on Cs.

Results 640 Cs determinations were included (372 ADA, 247 IFX) corresponding to 185 patients (47 ulcerative colitis, 138 Crohn's disease): mean age was 41 (12) years, 50% were women and median BMI was 24 (5) kg/m^2. IFX Cs were significantly associated with CRP (OR 4.68 (95% CI 2.49 to 8.81); p<0.001). ADA Cs were significantly associated with CRP (OR 4.58 (95% CI 2.45 to 8.56); p<0.001), albumin (OR 2.175 (95% CI 1.06 to 4.46); p=0.034), dose intensity (OR 3.11 (95% CI 1.58 to 6.12); p=0.001) and BMI (OR 0.88 (95% CI 0.82 to 0.95); p=0.001).

Conclusion and relevance Achieving therapeutic drug concentrations increase the probability of obtaining disease control (low CRP inflammatory marker) both for ADA and IFX. High levels of albumin and intensified ADA dose increased the probability of achieving ADA therapeutic levels, while high BMI decreased the probability of achieving ADA therapeutic levels. Stablished ADA fixed dosing may be reconsidered for tailored dosing.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-335 EXPERIENCE IN THE USE OF TOCILIZUMAB IN PATIENTS WITH COVID-19. HAS IT REALLY BEEN EFFECTIVE?

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Background and importance Tocilizumab is being used to treat severe SARS-CoV-2 pneumonia.

Aim and objectives To analyse the efficacy of tocilizumab in patients with severe SARS-CoV-2 pneumonia during the inflammatory phase of the disease.

Material and methods An observational retrospective study was conducted between 16 March and 22 April 2020, which included 75 patients (57 men, mean age 67.7 years) treated with tocilizumab. Criteria for severe pneumonia were: failure of at least one organ, oxygen saturation with ambient air <90% or respiratory rate ≥30 breaths per minute. Prognosis at admission was evaluated with the CURB-65 score. An analysis was performed with SPSS V.23.0. To evaluate efficacy, the variation in C reactive protein (CRP) and lymphocyte count (LC) was measured from the time before tocilizumab treatment until 5 days later, in all patients and separately in those who remained alive and those who died.

Results 75% of patients had a CURB-65 score ≤2 on admission. Mean time from onset of symptoms to treatment with tocilizumab was 11.6 days. 17 patients were admitted to the intensive care unit. Mean hospital stay was 19.7 days. During admission, all patients previously received lopinavir–ritonavir and hydroxychloroquine, 67 high dose corticosteroids, 6 baricitinib and 15 interferon-beta-1b. 19 patients (25%) died.

Mean CRP before tocilizumab treatment was 154.1 mg/L (95% CI 129.0 to 179.0) versus a mean of 15.2 mg/L (95% CI 8.6 to 21.4) 5 days later. In patients who remained alive, the mean CRP decreased from 163.4 mg/L (95% CI 134.5 to 192.3) to 13.1 mg/L (95% CI 8.9 to 17.3), and in those who died, it decreased from 117.6 mg/L (95% CI 69.9 to 165.2) to 23.2 mg/L (95% CI 0.0 to 52.0). Mean LC before tocilizumab treatment was 1080/µL (95% CI 360 to 1790) versus a mean LC of 1690/µL (95% CI 530 to 2860) 5 days later. In patients who remained alive, the mean LC increased from 1180/µL (95% CI 280 to 2080) to 1810/µL (95% CI 350 to 3270), and in those who died it increased from 680/µL (95% CI 550 to 810) to 1220/µL (95% CI 740 to 1700).

Conclusion and relevance In patients with severe SARS-CoV-2 pneumonia, we found a significant decrease in CRP and an increase in LC associated with treatment with tocilizumab in the inflammatory phase of the disease. Both variations were greater in patients who remained alive. LC prior to treatment with tocilizumab was lower in those who died than in living patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-336 IMPACT OF CHECK OF MEDICATION APPROPRIATENESS (CMA) IN OPTIMISING ANALGESIC PRESCRIBING

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Background and importance Pain therapy in inpatients is regularly suboptimal and might be improved by clinical pharmacy services with the aim of optimising pain control and reducing iatrogenic harm related to adverse drug events and overuse. In our hospital, we have implemented a software supported check of medication appropriateness (CMA), which is a centralised pharmacist led service consisting of a clinical rule based screening for potentially inappropriate prescriptions (PIPs) and a subsequent medication review by pharmacists.

Aim and objectives We aimed to investigate the impact of the CMA on pain related prescribing.

Material and methods A quasi-experimental study was performed in a 1995 bed tertiary hospital, using an interrupted time series design. Pre-implementation, patients were exposed to standard of care. Afterwards, a pain focused CMA comprising 12 clinical rules pertaining to analgesic prescribing were implemented in the post-implementation period. A regression model was used to assess the impact of the intervention on the number of pain related residual PIPs. For the pre-implementation period, data collection was performed

retrospectively (January 2016 to December 2018). Post-implementation (January 2019 to July 2020), an initial PIP was identified prospectively in the CMA. The total number of recommendations and acceptance rate were recorded for the post-implementation period.

Results At baseline, the median proportion of residual PIPs was 69.0% (range 50.0–83.3%) with a median number of 13.1 (range 9.5–15.8) residual PIPs per day. After the CMA intervention, the median proportion and median number decreased to 11.8% (range 0–50%) and 2.2 (range 0–9.5), respectively. Clinical rules showed an immediate relative reduction of 66% ($p<0.0001$) in pain related residual PIPs. A significant decreasing time trend was observed during the post-implementation period. Over 1 year in the post-implementation period, the clinical pharmacists provided 1683 recommendations for 1427 individual patients during 1478 hospital admissions. The treating physicians accepted 74.3% of the recommendations.

Conclusion and relevance We proved that the CMA approach improved analgesic prescribing, as the number of pain related residual PIPs was reduced in a highly significant and sustained manner. The downward trend in the post-implementation period might indicate a learning effect on physicians, resulting in a higher acceptance rate of recommendations over time. More pharmacist involvement and the use of clinical rules during hospital stay should be further promoted to optimise appropriate prescribing of analgesics.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-337 PERSISTENCE OF BIOSIMILAR TREATMENT FOR IMMUNE MEDIATED INFLAMMATORY DISEASES IN CLINICAL PRACTICE

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Background and importance Maintaining persistence is a key element in pharmacotherapy follow-up. Adverse effects of biosimilars may be one of the main causes for discontinuing treatment.

Aim and objectives To analyse persistence as an effectiveness and safety indicator for different biosimilars in immune mediated inflammatory diseases (IMID) in clinical practice.

Material and methods A retrospective study was conducted in a regional hospital with a reference area of 110 000 inhabitants and 230 biological treatments (BT). All patients with an IMID who had received a biosimilar of infliximab, etanercept or adalimumab from the first biosimilar's entry in the pharmacotherapeutics guide until February 2020 were included. Variables studied were demographic data (gender, age), medical speciality, previous treatments and time receiving the biosimilar. Reasons for discontinuation and activity of the disease were registered. Data collection was done with SAVAC, an electronic prescription system. Statistical analysis was performed using SPSS Statistics V.22. Categorical variables are shown as percentages and quantitative variables as mean (SD).

Results 64 patients (27.8% BT) were included: 28 (43.8%) were men and mean age was 43.7 (SD 16.3) years. 26 (40.6%) patients had received previous BT, most of them with an anti-TNF (53.8%). Only 11 (17.2%) patients switched from the original to the biosimilar drug. Distribution by drug was: 27 (42.2%) infliximab, 21 (32.8%) etanercept and 16 (25.0%) adalimumab. Distribution by medical speciality was: 34 (53.1%) digestology, 26 (40.6%) rheumatology and 4 (6.3%) dermatology.

31 (48.4%) patients stopped or changed treatment: 13 (41.9%) infliximab, 12 (38.7%) etanercept and 6 (19.4%) adalimumab. Reasons were: 14 (45.2%) adverse effects, 14 (45.2%) inefficacy and 3 (9.6%) other reasons, mainly loss to follow-up. Persistence of treatment was 26 (SD 31.2) weeks. Adverse effects causing discontinuation of the biosimilar were: 3 (16.6%) cases of pain, 2 (11.1%) infections, 2 (11.1%) hypersensitivity reactions, 2 (11.1%) headache, 1 (5.6%) dyspnoea, 1 (5.6%) swelling, 1 (5.6%) asthenia, 1 (5.6%) dizziness, 1 (5.6%) diarrhoea, 1 (5.6%) arthralgia, 1 (5.6%) skin lesions, 1 (5.6%) pruritus and 1 (5.6%) lupus drug induced.

33 (51.6%) treatments remained active: 15 (45.4%) infliximab, 9 (27.3%) adalimumab and 9 (27.3%) etanercept. Persistence of treatment was 55 (SD 39.6) weeks. 27 (81.8%) patients were in remission, 3 (9.1%) presented low activity and 3 (9.1%) moderate activity.

Conclusion and relevance Patients that changed or stopped taking a biosimilar had an average treatment of 6 months. The most common reasons were adverse effects and inefficacy. Regarding adverse effects, 50% were subjective symptoms. A possible nocebo effect could not be discarded. Patients who continued with a biosimilar had a persistence of more than 1 year.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-338 USE AND EFFICACY OF TOCILIZUMAB IN PATIENTS WITH SEVERE COVID-19 PNEUMONIA

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Background and importance Tocilizumab is an anti-human IL-6 receptor monoclonal antibody used in the treatment of cytokine release syndrome in patients with pneumonia associated with coronavirus disease. Despite the data from the COVACTA study, tocilizumab continues to be the gold standard for patients in our centre.

Aim and objectives To describe the use of tocilizumab in the first peak versus the second peak of the SARS-CoV-2 pandemic, and to describe the results of the use of tocilizumab in both situations.

Material and methods All patients treated with tocilizumab were included in the study periods: first peak (March to June 2020) and second peak (August to the present 2020). Demographic and clinical variables were collected. Data were obtained from the electronic medical records and prescription applications.

Results 65 patients were included, 36 patients (55.38%) in the first peak versus 29 patients (44.62%) in the second peak.

Conclusion and relevance In the first peak, tocilizumab was prescribed to more serious patients: those admitted to the ICU, with a higher FINE score and needing aggressive support