Study variables were: age, sex, need for invasive and non-invasive ventilation, intubation days and oxygen therapy. Days in inpatient care, admission to intensive care units (ICU) and time spent there, adverse reactions and deaths were also obtained. Data were recollected from the electronic clinical records.

Results Data from 59 COVID-19 patients were collected in this study between March and May 2020. Median age (max-min) was 62.4 (48–74) years and 76.3% of patients were men. Comorbidities were: hypertension in 37.3%, dyslipidaemia in 20.3% and diabetes in 15.2%. Six patients had asthma and 5 had cardiopathy.

72 hours after TCZ administration, 54.2% of patients had respiratory improvement with a reduced need for oxygen therapy, 32.2% had stabilisation of their condition and 13.6% had worsening of their condition, requiring orotracheal intubation. Seven days after TCZ administration, 44 had clinical improvement with a reduced need for oxygen therapy, 6 remained stable with VNI and 9 had worsening of their condition (6 passed out, 3 were admitted to the ICU). TCZ was well tolerated with no adverse effects detected. 28 days after TCZ administration, mortality was 15.2%, 69.6% were discharged and 15.2% remained in hospital at the end of the study.

Conclusion and relevance The results of the study showed that TCZ was effective and safe in patients with COVID-19 pneumonia. Patient outcomes were favourable in most cases. During admission, patients showed clinical improvement with a reduced need for invasive ventilation and oxygen therapy. Due to the potential bias (patients received different treatments before and after TCZ) and the small sample size, it is necessary to confirm these results in controlled clinical trials.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-333 TREATING MULTIPLE SCLEROSIS PATIENTS WITH INFUSION OF DISEASE MODIFYING TREATMENTS DURING THE COVID-19 PANDEMIC

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Background and importance Multiple sclerosis (MS) secondline disease modifying treatments (DMT) cause lymphocyte or B cell depletion, such as therapy with natalizumab, ocrelizumab, alemtuzumab or rituximab. They can present a varying degree of immunodeficiency that can translate into an increased risk of infections. The decision making process should balance the risks of stopping an active treatment and the risk of COVID-19 infection.

Aim and objectives To evaluate the management of MS patients with secondline DMT via infusion with natalizumab, ocrelizumab, rituximab and alemtuzumab during the COVID-19 pandemic.

Material and methods An observational retrospective study was conducted between January 2020 and October 2020 of MS patients on active treatment with natalizumab, ocrelizumab, rituximab or alemtuzumab who were expected to receive new dosages in this period. For data collection, the electronic clinic history system (Selene) and the programme Farmatools were

used. Variables collected were: sex, age, expanded disability status scale (EDSS), COVID-19 diagnosis and type of MS. Treatment changes/delays due to COVID-19 were reviewed. In case of delay, the number of days was quantified.

Results 40 patients (65% women) treated with different infusion therapies were evaluated with a median age of 47.3 (SD 13.3). The average EDSS was 3.8 (SD 2.1). 29 patients had relapsing–remitting MS (72.5%), 7 had primary progressive MS (17.5%) and 4 had secondary progressive MS (10%). Five (12.5%) COVID-19 cases were diagnosed. No delays were registered in 13 infusions of natalizumab; 2 patients, due to a suboptimal response, were changed to ocrelizumab, reducing hospital visits, and one was transferred to another hospital.

Three patients were expected to receive alemtuzumab. No one received alemtuzumab and two were changed to ocrelizumab due to the European Medicines Agency (EMA) alert that recommended restricting the use of alemtuzumab during the COVID-19 pandemic. Two patients received rituximab in time; one was changed to natalizumab due to infusion reactions and in one case the dosing interval was extended to 36 days. Eight patients began ocrelizumab treatment, eight received their dose without delay, one died and in five cases the dosing interval was extended to 39 days (SD 23.8).

Conclusion and relevance According to the recommendations, a case-by-case analysis should be performed, but it seems that the COVID-19 pandemic has conditioned MS treatments as changes/delays were registered. Five (12.5%) COVID-19 cases were diagnosed, similar to the outcomes obtained in the seroprevalence study in the same region.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-334 INFLUENCE OF ANTHROPOMETRIC, DEMOGRAPHIC AND THERAPEUTIC FACTORS ON SERUM CONCENTRATIONS OF ANTI-TNF DRUGS

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Background and importance Therapeutic drug monitoring is known to optimise clinical results in inflammatory bowel disease (IBD) patients receiving anti-tumour necrosis factor (TNF) drugs. The influence of several patient factors on these drug levels is not well established.

Aim and objectives To identify anthropometric, demographic and therapeutic variables that influence serum concentrations of anti-TNF drugs.

Material and methods A retrospective, observational, descriptive study was conducted at a tertiary hospital (2016–2019). IBD patients with infliximab (IFX) and adalimumab (ADA) trough steady state serum concentration (Cs) were included. Drug and anti-drug antibody concentrations were quantified using the ELISA assay (Promonitor). Explanatory variables were: anthropometric (body mass index (BMI)), demographic (age, sex), clinical (albumin, haemoglobin, leucocytes, C reactive protein (CRP) <5 mg/L or >5 mg/L) and therapeutic variables (dose intensity: intensified (>5 mg/kg/8 weeks for IFX or >40 mg biweekly for ADA) or non-intensified; anti-drug antibodies; immunomodulatory treatment; and treatment line (first vs second and beyond). Outcome variables were anti-

TNF Cs, therapeutic ADA Cs ≥ 8 $\mu\text{g/mL}$ and IFX Cs ≥ 3.5 $\mu\text{g/L}$.

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

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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 bari-citinib 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

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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