excellent if ≤5%. From 2016 to 2019 an audit was carried out annually, selecting a random sample of 30 patients and establishing an annual improvement plan according to the results (Table 1).

The improvement proposals established for each year were: 2016, include a week rotation in the reconciliation area for the first-year resident; 2017, extend MR rotation of the third-year resident from 2 to 5 months; 2018, establish a supervision/review circuit by the reference pharmacist of the RRs performed.

Results

Abstract 4CPS-103 Table 1 Results

Item	2016	2017	2018	2019
I	10%	10%	7%	0%
II	26%	9%	10%	4%
III	0%	0%	0%	0%
IV	0%	4%	0%	0%
V	10%	0%	0%	0%

Conclusion and relevance After each improvement proposal introduced, especially the review of the RRs, an improvement in the quality of the RRs was observed over the years. After the last audit, all the indicators were at excellent levels of achievement.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-104 PERSISTENCE WITH DISEASE-MODIFYING THERAPY IN MULTIPLE SCLEROSIS PATIENTS

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Background and importance Pharmacists are well positioned to improve clinical outcomes for patients by assisting with individualised patient in the outpatient setting. Given the difficulty of measuring the health outcome of disease-modifying therapies (DMTs) in patients with relapsing–remitting multiple sclerosis (RRMS), persistence to DMTs could be a good indirect measure.

Aim and objectives Our purpose was to analyse persistence and time to discontinuation (TD) of DMTs in patients with RRMS in a tertiary hospital.

Material and methods Retrospective, observational study in patients with RRMS who started DMTs with interferon-β (INF-β), glatiramer-acetate (GA), teriflunomide, dimethylfumarate (DF), fingolimod, natalizumab and alemtuzumab between 2016 and 2019. Persistence was calculated until April 2020 and defined as the length of time on the drug. Variables analysed: sex, age, Expanded Disability Status Scale (EDSS) at baseline, previous DMTs, TD, global persistence, persistence to DMT and causes of discontinuation.

Results 492 subjects were followed for a median time of 19.6 months, 69.3% women and median age 40 years. Median EDSS was 1 (0–6) in naïve patients and 2 (0–7) in pretreated patients. 250 patients were naïve (50.8%) and 242 pretreated (49.2%). 31.1% of patients had used one DMT before. DMTs prescribed were 113 DF, 108 teriflunomide, 87 IFN-β, 76 GA, 49 fingolimod, 34 natalizumab and 25 alemtuzumab. Median TD (months (range)) of DMTs was 14.1 (1–43) being longer in pretreated patients (16.8 (1–41)) than in naïve patients (13.9 (1–43)). Median TD per drug was natalizumab 27 (1–40), fingolimod 17 (3–32), IFN-β 16 (1–43), teriflunomide 15 (1–41), DF 11 (1–38) GA 10 (1–27) and alemtuzumab 9 (8–10). Global persistence was 66.2% and per drug: 92.0% alemtuzumab, 73.5% DF, 73.5% natalizumab, 68.4% AG, 67.3% fingolimod, 61.1% teriflunomide and 50.6% IFN-β. Main reasons for discontinuation were 'intolerance' 46.9% and inefficacy 39.8%. Discontinuation due to intolerance was INF-β 58.1%, GA 54.2%, DF 50%, teriflunomide 42.9% and fingolimod 37.5% and due to inefficacy fingolimod 50%, teriflunomide 50%, DF 43.3%, INF-β 34.9% and GA 29.2%. 88.9% atalizumab discontinuations were due to risk of progressive multifocal leukoencephalopathy (PML). The only reason for alemtuzumab discontinuation was inefficacy.

Conclusion and relevance Our cohort showed a high persistence rate. The main cause of discontinuation was 'intolerance'. Patients with alemtuzumab, DF and natalizumab remained under treatment for longer. INF showed the lowest persistence. Low persistence may be related to intolerance.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-106 SAFETY OF ADJUVANT TRASTUZUMAB EMTANSINA FOR RESIDUAL INVASIVE HER2-POSITIVE EARLY BREAST CANCER

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Background and importance Trastuzumab-emtansine (T-DM1) is a treatment approved by the European Medicines Agency (EMA) in 2020 as a single agent for the adjuvant treatment of adult patients with HER2-positive early breast cancer (EBC) who have residual invasive disease, in the breast and/or lymph nodes, after neoadjuvant taxane-based and HER2-targeted therapy, in which it demostrated a significant improvement in invasive disease-free survival compared with trastuzumab.[1]

Aim and objectives Aim: to describe our experience with T-DM1 adjuvant for EBC treatment in real-world conditions (RWC). We analysed the T-DM1 safety profile and compared it with a pivotal trial (PT).[1]

Material and methods Retrospective study in a tertiary hospital. 100% patients with EBC treated with adjuvant T-DM1 between 2019 and 2021.

Demographic data, basal Eastern Cooperative Oncology Group (ECOG), neoadjuvant therapy schedule, T-DM1 cycles received, adverse events (AEs), pegfilgastrim use, intentional dose delays, treatment interruptions and dose reductions were collected.

Results 29 patients received T-DM1. 100% women, average age 52 (range 27–75) years. 2/29 basal ECOG ≥1.

20/29 received neoadjuvant treatment based on doxorubicin (lyposomal or conventional) and cyclophosphamide followed

by taxanes (19/20 paclitaxel, 1/20 docetaxel) with trastuzumab and pertuzumab. 24/29 presented toxicities to neoadjuvant treatment (15/29 thrombocytopenia).

T-DM1 starting dose: 3.6 mg/kg/21 days in 28/29 patients. In 1/29, 3 mg/kg due to persistent thrombocytopenia. 10/29 receiving therapy at the time of the study. 8/19 received <14 cycles, 5/8 discontinued due to toxicities.

19/29 experienced ≥1 AE. Grade ≥3 thrombocytopenia was the most common (12/29), followed by increase in liver enzymes (ILE) (6/29), grade ≥2 neuropathy and grade ≥2 asthenia (5/29).

2/29 received pegfilgrastim.

3/29 patients had dose reduction (2/29 one, 1/29 two dose-level reductions). 7/29 experienced dose delays due to toxicities.

Comparison RWC vs PT: any grade AE 65.5% vs 98.8%; grade ≥3 thrombocytopenia 41.4% vs 5.7%; grade ≥2 neuropathy 34.5% vs 1.5%; ILE 20.7% vs 5.6%; discontinuation due to toxicities 17.2% vs 18.0%; dose reductions 10.3% vs 10.4%. Dose delays and reduced initial dose were not considered in the PT.

Conclusion and relevance Safety profile of T-DM1 in RWC is consistent with the PT results. Overall AEs in RCW were lower than in the PT. Grade ≥2 AEs were higher in RWC but not related to increased discontinuations or dose reductions. Our results should be interpreted with caution due to the sample size.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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Conflict of interest No conflict of interest

4CPS-107 IMMUNOTHERAPY IN SEVERE UNCONTROLLED ASTHMA: EFFECTIVENESS AND SAFETY IN CLINICAL PRACTICE

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Background and importance Immunotherapy is used in those patients with severe uncontrolled asthma (SUA) despite treatment with inhaled glucocorticoids (IGC) and beta2 adrenergic agonists (LABA) at high doses, and/or oral glucocorticoids (OGC), but it seems that its effectiveness is lost over time.

Aim and objectives The aim of this study was to measure the effectiveness and safety of immunotherapy in SUA in clinical practice.

Material and methods A multicentre and retrospective study was performed in SUA patients from two Spanish centres who received treatment with immunotherapy (omalizumab, mepolizumab or benralizumab) since March 2017 to October 2021. We registered: sex, age, patients that maintained response after 2 years of treatment, loss of response, median follow-up (mFU). Effectiveness was evaluated as a reduction in OGC, exacerbations and/or urgency visits. Safety in terms of side effects (SE) and patient-reported outcomes with *Asthma* Control Test (ACT) score (<19 points = poor control) was also assessed. A dispensation program and the Diraya clinical station were used as sources of information.

Results 56 patients were included, 46 females, with a median age of 60 (7–86) years. The mFU was 60. 21 and 15 months with omalizumab, mepolizumab and benralizumab, respectively. The treatment was effective in 82% of all patients. 21%, 15% and 15% of patients were non-responders with omalizumab, mepolizumab and benralizumab, respectively.

65%, 50% and 23% of patients maintained the response after 2 years with omalizumab, mepolizumab and benralizumab, respectively. 30%, 15% and 7.6% of the patients experienced loss of response with omalizumab, mepolizumab and benralizumab, respectively, after a median of 60, 18 and 14 months.

ACT score was collected in 17 patients in our pharmacist consultation. Patients with ACT score <19 (n=5) were recommended to advance their medical appointment to evaluate whether to continue with treatment. Regarding safety, 9 patients suffered SE, the most frequent being recurrent respiratory infections.

Conclusion and relevance Immunotherapy was effective in most cases with an acceptable safety profile. Due to loss of response over time, we must take advantage of the monthly or bimonthly visits of these patients to the pharmaceutical consultation to carry out a more exhaustive follow-up and thus collaborate with pulmonologists and allergists in the management of these patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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4CPS-108 BIOMARKERS EVOLUTION IN PATIENTS WITH SARS-COV-2 PNEUMONIA TREATED WITH BARICITINIB

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Background and importance A randomised clinical trial has demonstrated that baricitinib reduces the mortality of patients with SARS-CoV-2 that require hospitalisation. However, the evolution of biomarkers that predict the patients' outcome is not well described.

Aim and objectives To analyse the evolution of biomarkers in hospitalised adults with SARS-CoV-2 pneumonia treated with baricitinib.

Material and methods We conducted a retrospective observational study in a tertiary university hospital (760 beds). We included 31 patients positive for SARS-CoV-2 between January and February 2021. All received baricitinib 4 mg daily for ≥5 days (2 mg daily if glomerular filtration <60 mL/min).

We evaluated five biomarkers: lymphocytes, C-reactive protein (CRP), ferritin, lactate dehydrogenase (LDH) and D-dimer. The results were obtained on the day of admission (D+0) and on days 2 (D+2), 5 (D+5), 7 (D+7) and 10 (D+10) after starting baricitinib.

A pharmacist was involved in the multidisciplinary team taking part in COVID-19 protocol drafting, validation of treatments, dose adjustments, interactions, and monitoring of adverse effects.