(n=2: osimertinib and pembrolizumab based regimen) and grade 2 (n=3: anlotinib, dulanermin based scheme and atezolizumab based regimen). PFS was the primary outcome in 10/14 (71.4%) RCT and the co-primary outcome with OS in 3 of these trials. OS was the primary outcome in 4/14 (28.6%) RCT and QoL was assessed in 5/14 (35.7%) trials, with just one trial reporting a significant improvement. Conclusions were positive in 9/14 (64.3%) RCT.

**Conclusion and relevance** QoL, which has been found to be a strong predictor of survival and toxicity outcomes, was evaluated in only 35.7% of the selected trials. It was also disturbing that only 50% of the trials considered OS as the primary/co-primary efficacy outcome. However, the results seemed to be positive in 64.3% of trials.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

University of Granada

No conflict of interest.

## 4CPS-096 EVALUATION OF CLINICAL PHARMACY SERVICES IN A HAEMATOLOGY OUTPATIENT SETTING

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**Background and importance** Drug management of haematological patients is complex because it integrates numerous agents (antineoplastics, supportive care and medications for comorbidities). In the ambulatory setting, the clinical pharmacist can contribute to patient care through collaboration with a multidisciplinary team.

**Aim and objectives** The aim of the study was to document and evaluate the interventions in haematology of clinical pharmacists in patients treated with oral antineoplastics in an outpatient setting.

**Material and methods** This was a prospective, descriptive, observational study carried out from March 2018 to September 2019. Patients were scheduled for a pharmacist consultation where an interview was conducted. Comprehensive medication (chemotherapy, supportive care and ambulatory treatment) and electronic health record (EHR) reviews were performed before the interview. The pharmacist identified drug related problems (DRP) and negative outcomes associated with the medications (NOAMs), defined according to the Third Consensus of Granada. Subsequently, the pharmacists made a report with the proposed pharmaceutical interventions (IP) which were included in the patient's EHR The intervention acceptance rate by haematologists was evaluated, as well as whether the DRP had been solved.

**Results** All patients interviewed were included in the analysis (n=78), and the majority of patients were diagnosed with multiple myeloma, chronic lymphocytic leukaemia and chronic myeloid leukaemia. The drugs involved most often in medication problems were lenalidomide and ibrutinib (as antineoplastic therapy) and statins (as concomitant drugs). From 78 patients analysed, 65 (83.3%) presented some type of NOAMs. The most frequent were related to safety (61.5%, mostly quantitative safety), followed by necessity (34.5%) and effectiveness (4.1%). Regarding DRP, 148 were identified; the three most prevalent types were interaction (31%), insufficiently treated diagnosis/symptom (16%) and likelihood of adverse effects (16%). There were 163 IPs performed within this outpatient setting: dose/regimen adjustment was the main intervention. Most (70%) interventions were accepted and implemented by the haematologists and the DRP resolved.

**Conclusion and relevance** The outpatient pharmaceutical intervention can resolve in a significant way both DRPs and NOAMs in haematological patients, and thus help to improve the quality of their pharmacological therapy. A pharmacist report integrated into the EHR could contribute to facilitate access to the intervention.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

No conflict of interest.

## 4CPS-097 SECONDLINE TREATMENT OF METASTATIC NON-SMALL CELL LUNG CANCER WITH IMMUNE CHECKPOINT INHIBITORS

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**Background and importance** The therapeutic option in patients with metastatic non-small cell lung cancer (mNSCLC) after chemotherapy is based on the immune checkpoint inhibitors (ICI).

**Aim and objectives** The aim of this study was to analyse the effectiveness, safety and degree of compliance with criteria established in our hospital for patients with mNSCLC undergoing secondline treatment with immunotherapy.

**Material and methods** A retrospective descriptive study including patients with mNSCLC, receiving treatment with atezolizumab, nivolumab or pembrolizumab, from 1 December 2013 to 2 October 2019 was conducted. The electronic prescription programme in oncology and medical records were consulted. Data collected for each patient were sex, age, smoking status, performance status (PS), histology, actives brain metastases, EGFR/ALK/ROS-1 mutations, PDL-1 expression, therapeutic scheme and number of cycles received. Effectiveness was assessed in terms of progression free survival (PFS) and overall survival (OS), calculated by the Kaplan–Meier method. Adverse reactions (AR) of grade $\geq$3 were collected for analysis of safety. The conditions of use established were: PS=0–1 and patients without active brain metastases or EGFR/ALK/ROS-1 mutations.

**Results** Forty patients, 85% men, were included, with an average age of 70 (42–83) years, of whom 14 were current smokers and 23 were former smokers. A total of 37 patients presented at the beginning of treatment with PS $\leq$1. There were 18 lung adenocarcinomas and 22 with a non-squamous histology. No patient had active brain metastases at baseline or EGFR/ALK/ROS-1 mutations. PDL-1 expression was $\geq$1 in 17 patients. The schemes, average numbers and range of cycles were: atezolizumab 1200 mg every 3 weeks, 5 (1–14) cycles; nivolumab 3 mg/kg every 2 weeks, 12 (1–44) cycles; and pembrolizumab 2 mg/kg every 3 weeks, 6 (4–17) cycles. Median PFS and OS were 5 months (95% CI 2.9–7.1) and 14 months (95% CI 8.3–19.7), respectively. AR grade $\geq$3 reports were: asthenia (29%), pneumonitis (29%), renal disorder (14%), hyperglycaemia (14%) and gastrointestinal symptoms (14%). A total of 7.5% of patients did not comply with the conditions of use established at the start of treatment (PS $\geq$2).

**Conclusion and relevance** ICI demonstrated a clinical benefit in terms of PFS and OS. The most frequent grade ≥3 AR were asthenia and pneumonitis. Our study suggested a high percentage of compliance with the criteria established.


## REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.


## 4CPS-098 INDIRECT TREATMENT COMPARISONS OF IBRUTINIB–OBINOTUZUMAB VERSUS VENETOCLAX–OBINOTUZUMAB IN NAIVE CHRONIC LYMPHOCYTIC LEUKAEMIA

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**Background and importance** Venetoclax and ibrutinib are relatively new drugs and are currently elective treatments according to the guidelines for patients diagnosed with high risk chronic lymphocytic leukaemia (CLL).

**Aim and objectives** To conduct an indirect comparison of the efficacy of venetoclax (12 cycles)+obinotuzumab (6 cycles) compared with ibrutinib (until progression)+obinotuzumab (6 cycles) and its costs.

**Material and methods** The clinical trials CLL14 and ILUMINATE were reviewed, and the main outcome and similarity of the population (median age, percentage of high risk patients according to the Binet or Rai classification and percentage of patients with high risk cytogenetics) were evaluated.

An indirect comparison of median progression free survival (PFS), PFS at 24 months, minimal residual disease (MRD) in peripheral blood, overall survival (OS) and complete response was conducted.

Lastly, the cost of both 12 and 24 months of treatment were compared.

### Results

| | CLL14 | ILUMINATE |
|---|---|---|
| | **Venetoclax+obinotuzumab vs clorambucil+obinotuzumab** | **Ibrutinib+obinotuzumab vs clorambucilo+obinotuzumab** |
| No of **patients** | 432 1:1 | 229 1:1 |
| Age (years) **(median)** | 72 | 70 |
| High risk (Binet/Rai) (%) | 43 | 52 |
| Patient with del p17 (%) | 8 | 14 |
| Patients with **tp53** (%) | 9.5 | 15.5 |
| Unmutated IGHV (%) | 60 | 757 |
| Indirect comparison | | |
| PFS | HR 0.66 (95% CI 0.36 to 1.22, p=0.18) ibrutinib favoured | |
| PFS at 24 months | RR 0.64 (95% CI 0.32 to 1.08, p=0.09) ibrutinib favoured | |
| MRD peripheral blood | RR 1.41 (95% CI 0.85 to 2.32, p=0.18) venetoclax favoured | |
| CR | RR 0.85 (95% CI 0.39 to 1.86, p=0.69) venetoclax favoured | |
| Cost | | |
| | Venetoclax+obinotuzumab | Ibrutinib+obinotuzumab |
| 12 months (€) | 76 374 | 76 786 |
| 24 months (€) | 76 374 | 127 891 |

**Conclusion and relevance**

- Although in advance, populations could be comparable, limitations such as time of treatment with chlorambucil exist (6 months vs 12 months).
- No statistically significant differences were found between:
- o Median PFS and 24 month PFS: Beauchemin et al[1] concluded that correlations between PFS and OS exist in patients previously treated, but not in naïve patients.
- o MDR and CR: Langerat et al[2] concluded that "MRD status is associated with PFS and OS in CLL patients, and has the potential to act as a surrogate marker".
- Ibrutinib cost was superior after the first year of treatment.
- To conclude, it is necessary to obtain OS data to conduct an indirect comparison of greater quality.


## REFERENCES AND/OR ACKNOWLEDGEMENTS

1. DOI: 10.1182/blood-2018-03-839688
2. DOI: 10.3747/co.22.2119.

No conflict of interest.


## 4CPS-099 REAL WORLD EVIDENCE OF PEMBROLIZUMAB AS MONOTHERAPY IN NON-SMALL CELL LUNG CANCER: EFFECTIVENESS AND SAFETY STUDY

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**Background and importance** In naive treated populations with advanced non-small cell lung cancer (NSCLC), pembrolizumab monotherapy is the recommended option for patients whose tumours express PD-L1 with a tumour proportion score (TPS) ≥50%. In a population previously treated with platinum based chemotherapy double, pembrolizumab (PD-L1 1%) is a valid option in those who have not been treated with firstline immunotherapy.

**Aim and objectives** To analyse the effectiveness and safety of patients with NSCLC treated with pembrolizumab in clinical practice.

**Material and methods** This was a multicentre, observational, retrospective study carried out between January 2017 and June 2019. All patients with NSCLC undergoing treatment with pembrolizumab as monotherapy were included. Patient data were taken from the clinical records. Variables included were age, sex, stage, line of treatment, dose administered and functional status (PS) according to the ECOG scale. Efficacy endpoints was progression free survival (PFS) assessed by RECIST 1.1 criteria. Adverse events (AEs) were also assessed. Analysis of PFS was performed using the Kaplan–Meier curve.

**Results** Thirty-eight patients were included with NSCLC: 81.58% were men, mean age was 62.34±11.68 years, 97.36% (n=37) had ECOG PS 0–1 and 100% had NSCLC stage IV.

The percentage of patients who started pembrolizumab as firstline therapy was 50% and their tumours expressed PD-L1 ≥50% TPS, 42.10% had pembrolizumab as secondline therapy and 7.90% as thirdline therapy. The median administered dose was 160 mg (108–200); 8 patients (21.05%) are still receiving treatment. Causes of treatment suspension in the remaining patients were disease progression (60.53%) or death (18.42%).