MATCHING-ADJUSTED INDIRECT COMPARISON (MAC) OF CRIZOTINIB WITH STANDARD OF CARE IN PROGRESSED NSCLC ALK+ PATIENTS BASED ON REAL-WORLD EVIDENCE (RWE) AND CLINICAL TRIAL DATA IN THE CZECH REPUBLIC

OBJECTIVES

Non-small-cell lung cancer (NSCLC) marks a shorter and deteriorating 8% of patients. The aim of the analysis was to compare the clinical effectiveness of crizotinib progression NSCLC ALK+ patients in Czech standard of care MAC in clinical trial data and adjusting for selected characteristics differences.

METHODS

Patient characteristics and outcomes data were taken from RWE NSCLC Registry TULING [1] and Registry of Highly Innovatively Drugs [2] (the Czech Drug Agency). Patients were treated with crizotinib from the RWE NSCLC Registry TULING. Patient characteristics available were the following.

From the tables it is evident that the populations are significantly different before matching and the estimation of outcomes on these adjusted populations would give more reliable results.

RESULTS

There were 51 crizotinib patients in the Czech RWE arm recruiting 6th and 7th line of crizotinib. There was a follow-up of crizotinib treatment patients was 12 months. The PFS and OS outcomes were estimated using Kaplan-Meier (SMC) survival analysis. From the tables it is evident that the populations are significantly different before matching and the estimation of outcomes on these adjusted populations would give more reliable results.

Adjustment method

The matching was performed on at least two variables which were available for crizotinib arms in the RWE Registry: the aim of the analysis was to analyze the effect of the covariate on the outcomes of interest. The outcome was calculated using a propensity score analysis.

Matched patients’ characteristics

After matching the patients’ characteristics were comparable. This has brought more realistic outcomes for assessment of relative effectiveness. The characteristics after matching are captured in Figure 3 (crizotinib vs. pemetrexed TULING) and Figure 3 (crizotinib vs. pemetrexed PROFILE 1007).

CONCLUSIONS AND DISCUSSION

Treatment of progressed ALK+ NSCLC with crizotinib is associated with major prolongation of PFS and OS compared to pemetrexed in the Czech real-world setting after adjusting for the patients’ characteristics differences. The final results from PROFILES1007 study showed median PFS on crizotinib 7.7 months (±2) and median OS 22.7 months (±6) which are consistent with 20th results of this analysis in which PFS and OS of crizotinib was estimated at 6.4 and 22.7 months.

The limitations of MAC is that the adjustment can be done only on differences which are mentioned and captured in the respective data sources. Also, the patients on crizotinib in TULING Registry were treated in 2nd or later lines whereas pemetrexed patients were treated in 2nd line only. This is rather a conservative approach when assessing crizotinib effectiveness. Last, but not least, the fact that covariates are influenced by the following treatments which is not adjusted for in this analysis.

During the PROFILES study, 89% patients in the chemotherapy arm received capecitabine instead of crizotinib before progression on the chemotherapy treatment. This influenced the OS outcomes of pemetrexed arm significantly [3]. As this MAC analysis did not consider the re-calculated estimator for OS of pemetrexed arm adjusting for crossover, the gains of overall survival of capecitabine compared to pemetrexed data from PROFILES study would be overestimated.

Figure 1: Patients’ characteristics before MAC (crizotinib vs. pemetrexed)