INTRODUCTION

EGFR mutations were identified in 15% to 30% of patients with advanced NSCLC,1–4 with the most common mutations being EGFR Del19 (wild type, 10%) and L858R (20%). These patients may benefit from EGFR TKIs.5–7 EGFR mutations (Del19/L858R combined) are observed in 10–20% of M+ NSCLC cases.8–10

METHODS

Trial selection for inclusion in NMA and assumptions

• All investigations, randomised controlled trials (RCTs) and observational studies on treatment-naive EGFR M+ NSCLC were included.

• Based on this NMA, afatinib appears to be the best treatment option for NSCLC with common EGFR mutations (Figure 1).

RESULTS

• For PFS, the results of the NMA showed that afatinib had the highest probability of being the best treatment for NSCLC with common EGFR mutations (Table 1).

• For OS, afatinib showed a trend towards superiority in patients with common EGFR mutations (Figure 2).

OBJECTIVES

• To date, no head-to-head trials exist to compare afatinib, gefitinib or erlotinib in EGFR M+ NSCLC.

• Previous studies have shown improved progression-free survival (PFS)9,10 but no benefit in overall survival (OS) versus platinum-based chemotherapy in randomised trials.11–13

• In two pivotal studies, afatinib, an oral, irreversible EGFR family blocker, improved PFS and patient-reported outcomes (PRO) versus standard platinum-based chemotherapy in first-line therapy for NSCLC.14–17

• Based on the NMA, afatinib significantly improved PFS versus gefitinib and erlotinib in patients with common EGFR mutations (Table 2).

• For OS, afatinib showed a trend towards superiority in patients with common EGFR mutations (Figure 3).

• These limitations should be taken into consideration when interpreting the results of the present analysis.

LIMITATIONS

• Based on this NMA, considering the limitations described above, afatinib appears to provide improved clinical benefit compared to the reversible EGFR TKIs erlotinib and gefitinib as first-line treatment for EGFR M+ NSCLC.

• Differences observed in the inclusion criteria and the patient populations studied may increase the uncertainty of the results compared with the NMA.

• A trial designed to evaluate the efficacy of afatinib versus chemotherapy in PFS and OS in EGFR M+ NSCLC was also confirmed.

• For OS, afatinib showed a trend towards superiority in patients with common EGFR mutations, particularly the Del19 mutation; no difference in OS was shown between the TKIs in the L858R subgroup.

• These findings are consistent with recent analyses of the LUX-Lung 3 and 6 trials, which showed the superiority of afatinib over chemotherapy in PFS and OS in EGFR M+ NSCLC.

• These limitations should be taken into consideration when interpreting the results of the present analysis.

CONCLUSIONS

• Since the majority of studies included in the network may have influenced the results, the small number of studies included in this analysis may increase the uncertainty of the results compared with the NMA.

• These limitations should be taken into consideration when interpreting the results of the present analysis.

REFERENCES


2. Brooks–Gelman–Rubin diagnostic in WinBUGS simulations had been discarded

3. National Institute for Health and Care Excellence technology appraisals (NICE) during its appraisal of afatinib (TA310). A Bayesian NMA to estimate relative efficacy and superiority by each mutation subgroup

4. In line with previous findings, this NMA shows superior OS and PFS with afatinib versus gefitinib and erlotinib in patients with common EGFR mutations (Figure 2).