#EPH19

Long-term epidemiological impact of adjuvant atezolizumab in preventing the recurrence of early PDL1 high non-small cell lung cancer in Europe

Napalkov P[1], Tomar A[2], Dubey A[2], Jovanoski N[3], Schwarz K[3], Heaton E[1], Arnold M[3]

[1] Genentech Inc., South San Francisco, CA, USA, [2]ZS Associates International Inc., London, UK, [3]F. Hoffmann-La Roche Ltd, Basel, Switzerland

BACKGROUND

- Recurrences of non-small cell lung cancer (NSCLC) post-resection are common, with 45% of patients experiencing a recurrence within 5 years [1]
- NSCLC recurrences are associated with significant morbidity and mortality. The 5-year survival of patients with recurrence post resection and adjuvant chemotherapy is only 35.6% [1]
- NSCLC recurrences are also associated with a substantial economic burden, resulting in significant health care resource use [1]
- Tecentriq® (atezolizumab [ATZ]) was EMA approved in June 2022 for use as adjuvant treatment following resection and platinum-based chemotherapy for adult patients with stage II to IIIA NSCLC whose tumors have PD-L1 expression on ≥50% of tumor cells
- ATZ demonstrated significant reduction compared to best supportive care (BSC) in the rate of recurrence and death among patients enrolled in the phase 3 clinical trial IMPower010 (NCT02486718) [2]

OBJECTIVE

- To estimate the **population-level impact of adjuvant ATZ** following surgical resection and adjuvant chemotherapy in **preventing loco-regional (LR) or distant metastatic (DM) recurrence** in patients with early NSCLC (eNSCLC) from 5 European countries

METHODS

- Age-specific lung cancer incidence rates were obtained from local, population-based cancer registries in France, the United Kingdom, Germany, Italy and Spain
- Incidence extrapolations were carried out using UN population estimates to determine lung cancer incidence estimates over time and up to 2032
- Data on staging distribution, biomarker status, tumor histology and adjuvant treatment rates were obtained from cancer registries and published literature
- Patients with operable stage II-IIIA NSCLC and PDL1 ≥50%, without EFGR mutant or ALK positive (PDL1 high eNSCLC), were included
- Relapsed patients included patients with either LR or DM relapsing after direct adjuvant treatment
- Adjuvant treatment rates, disease-free survival (DFS) and overall survival (OS) of patients on adjuvant ATZ were obtained from the IMPower010 (NCT02486718) clinical trial and were applied to quantify the projected decline in the number of eNSCLC patients relapsing over a 10-year period post-ATZ launch relative to best supportive care (BSC)
- Sensitivity analyses were conducted to assess the expected uptake of ATZ after launch and address the uncertainty related to the extrapolation of progression curves

RESULTS

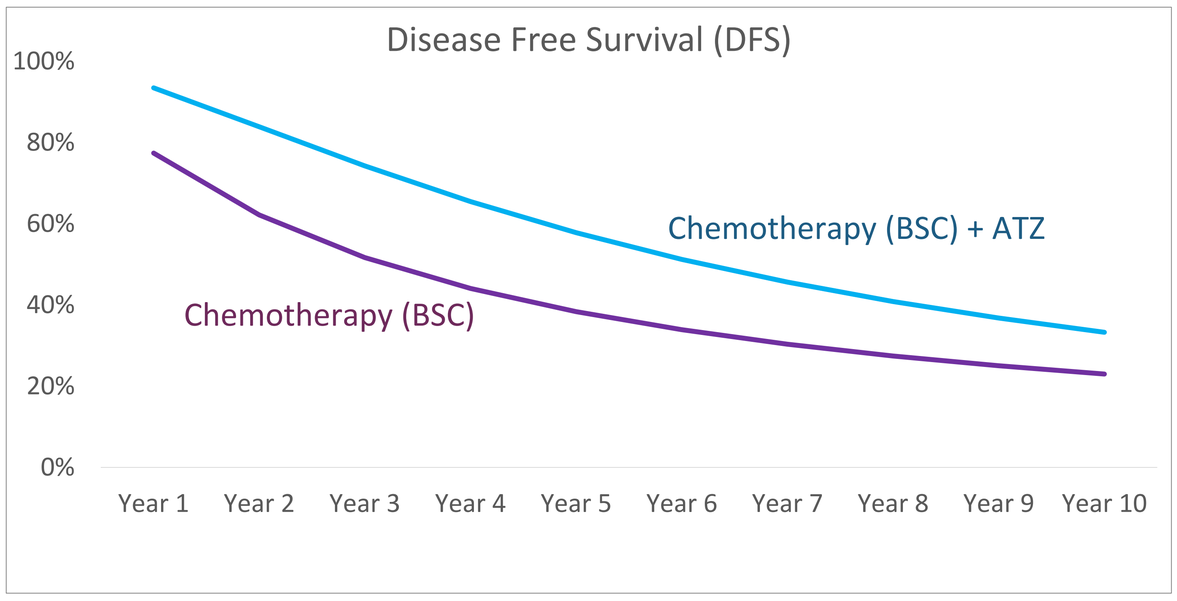

FIGURE 1: Overall DSF of eNSCLC patients by treatment

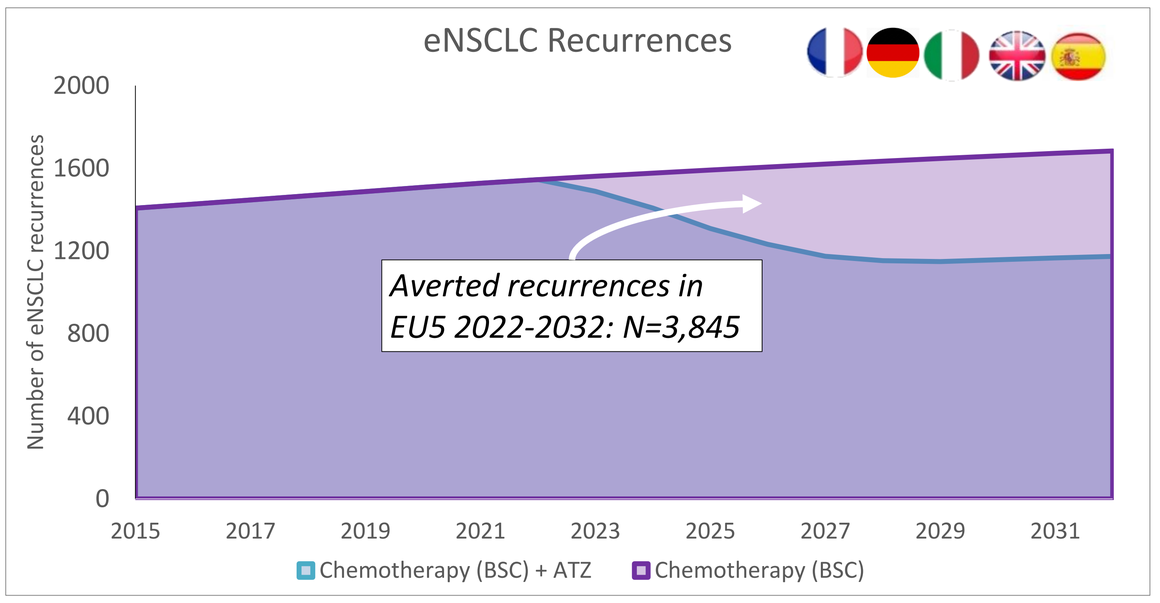

FIGURE 2: Estimated number of eNSCLC patients prevented from developing recurrences in EU5 (UK, Spain, Italy, France and Spain) by treatment

- We projected that between 2022 and 2032, 16,255 patients treated only with BSC will experience recurrence (LR, or DM, or both) of PDL1 high eNSCLC in the EU5
- The number of eNSCLC patients estimated to avert disease recurrence over 10 years (2022-2032) ranged from 569 in Spain to 894 in Germany
- Assuming peak ATZ uptake of 75% (range 50% -100%), the model estimates that a total of **3,845 (2,563-5,127) recurrences would be prevented among PDL1-high eNSCLC patients in the EU5 over 10 years**, a 23.7% (15.8%-31.5%) decrease in recurrence relative to BSC

DISCUSSION

- Results are dependent on NSCLC incidence assumptions, DFS curves from clinical trials, and expected treatment utilization assumptions. Sensitivity analyses were performed to address uncertainty surrounding the uptake of ATZ post launch and the extrapolation of progression curves
- Real-world recurrence rates may be different from those observed in clinical trials given potential differences in the real-world setting
- Validation of this model using observational data sources is needed

CONCLUSION

- Recurrence of NSCLC incurs a substantial clinical burden in EU5
- The introduction of ATZ in the high PDL1 eNSCLC treatment setting can lead to an estimated decrease of 23.7% in the number of patients experiencing disease recurrence, and thus **considerable health benefits**
- Averted recurrences and deaths could have a **direct impact on costs**. For example, in the US where adjuvant ATZ treatment was estimated to be associated with over $800 million savings in cumulative direct costs over a 5-year horizon [3]
- Further research is needed to assess the impact of this clinical improvement on economic and societal burden associated with the recurrent NSCLC
- Treatment impact models remain key for future disease management and cancer control measures, especially in view of the changing landscape of NSCLC and ongoing advances in targeted therapies for patients with key driver-mutations

REFERENCES

1. Cai, B et al. *ThoracCancer.* 2021; 12(14):2055-2064.
2. Felip, E et al. *Lancet.* 2021; 398(10308):1344-135
3. Elsisi, Z et al. *Value in Health*. 2022; 25(7): Supp. S393

For further information, please contact: Melina Arnold, PhD (melina.arnold@roche.com)