Chemoimmunotherapy for stage IV non-small-cell lung cancer

Howard West and colleagues[1] reported the result of the IMPower130 study, which evaluated the role of chemotherapy in patients with treatment naive, stage IV adenocarcinoma of the lung. Patients were randomly assigned, in a 2:1 ratio, to receive either platinum doublet (carboplatin and nab-paclitaxel) plus atezolizumab or standard platinum doublet. After four or six cycles of induction therapy, patients were then given chemotherapy and atezolizumab or chemotherapy with best supportive care or pemetrexed. The study showed clinically meaningful survival benefit for patients receiving chemotherapy plus atezolizumab compared with those receiving chemotherapy alone (median overall survival of 18·6 months *vs* 13·9 months; stratified hazard ratio 0·79 [95% CI 0·64–0·98]).

Notably, despite having a statistically significant improvement in overall survival, median progression-free survival benefit was much shorter in patients receiving chemotherapy plus atezolizumab than in those receiving chemotherapy alone (7·0 months *vs* 5·5 months). This shorter outcome is likely to be related to the use of the Response Evaluation Criteria in Solid Tumors (RECIST), which might not be reliable when fully characterising a patient's response to immunotherapy. The median progression-free survival for the group receiving chemotherapy plus atezolizumab might be falsely low because of concern of pseudo progression in early stage of immunotherapy; as a result, immune-related RECIST might be more reliable when estimating the response pattern.

West and colleagues[1] also showed that patients with liver metastasis in the chemotherapy plus atezolizumab group did not have an improvement in overall survival compared with the chemotherapy alone group, which is a noteworthy and novel observation. Trials using combination chemoimmunotherapy, namely KEYNOTE-407[2] and KEYNOTE-189,[3] did not stratify patients on the basis of the presence of liver metastases. The IMPower150 study[4] showed longer progression-free survival in the atezolizumab plus carboplatin plus paclitaxel plus bevacizumab group than in the carboplatin plus paclitaxel plus bevacizumab group, but overall survival data are not available. Further analyses of the mutational profile in this subset of patients might be worthwhile because data, reported in 2019, suggest little benefit from the addition of immunotherapy to platinum doublet in patients with *STK11/LKB1* genomic alterations.[5]

I declare no competing interests.

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3 Paz-Ares L, Luft A, Vincente D, et al. Pembrolizumab plus chemotherapy for squamous non-small-cell lung cancer. *N Engl J Med* 2018; **379:** 2040–51.

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5 Skoulidis E, Arbour KC, Hellmann MD, et al. Association of STK11/LKB1 genomic alterations with lack of benefit from the addition of pembrolizumab to platinum doublet chemotherapy in non-squamous non-small cell lung cancer. ASCO Annual Meeting; Chicago, IL, USA; June 1, 2019 (abstr 102).