Background: Bevacizumab (Bev) combined with platinum-based chemotherapy is a standard treatment for advanced non-squamous non-small-cell lung cancer (non-Sq NSCLC). Cisplatin + pemetrexed (CisPem) is suggested as the most promising chemotherapy regimen combined with Bev. However, no study has been conducted to evaluate the efficacy and safety of CisPemBev compared with carboplatin + paclitaxel + bevacizumab (CarPacBev) for advanced non-Sq NSCLC.

Methods: Treatment-naive patients with advanced or recurrent EGFR/ALK-negative non-Sq NSCLC from 55 sites across Japan were randomly assigned in a 2:1 ratio to either CisPemBev (4 cycles of Cis [75 mg/m²] + Bev [15 mg/kg] q3wk until progression) or CarPacBev (4 cycles of Car [AUC 6] + Pac [200 mg/m²] + Bev q3wk until progression). The primary endpoint was progression-free survival (PFS) by central review. The secondary endpoints were overall survival (OS), response rate (ORR) and safety profile. The target numbers of patients and events were determined to be 210 and 170, respectively, to observe a point estimate of HR for PFS < 0.83 with a high probability (80%) when the true HR was 0.72. The data were cutoff in July, 2017. OS data were updated for this presentation in April, 2018.

Results: Between May 2014 and May 2016, 199 patients were randomly assigned to receive CisPemBev (N = 132) or CarPacBev (N = 67). In the primary analysis, PFS events occurred in 171 patients. The HR for PFS by central review (CisPemBev vs CarPacBev) was 0.825 (95% CI 0.600-1.134, median PFS 7.6 vs 7.0 months), and the ORR was 57% for CisPemBev and 55% for CarPacBev. OS events occurred in 119 patients. The median survival follow-up duration was 28.3 months. The median OS was 23.4 months for CisPemBev and 21.6 months for CarPacBev (HR 0.845, 95% CI 0.583-1.242).

Conclusions: PFS was prolonged with CisPemBev compared with CarPacBev. However, there was no difference in OS between two arms. CisPem is the most effective chemotherapy regimen combined with Bev for advanced non-Sq NSCLC.

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