**Concurrent Chemoradiation § Atezolizumab (atezo) in Limited-Stage Small Cell Lung Cancer (LS-SCLC): Results of NRG Oncology/Alliance LU005**

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**Purpose/Objective(s):** Concurrent chemoradiation (cCRT) followed by prophylactic cranial irradiation (PCI) has been the standard of care for LSSCLC for decades. NRG-LU005 (NCT03811002) tested the addition of atezo to cCRT in this open label, randomized phase III international trial. Here, results of the 2nd planned interim analysis are reported as recommended by the Data Monitoring Committee.

**Materials/Methods**: Patients (pts) with LS-SCLC, stage Tx-4, N0-3, M0 with ECOG performance status (PS) 0-2 were eligible. Pts received one cycle of chemotherapy (platinum/etoposide) prior to study registration and were randomized 1:1 to cCRT versus cCRT plus atezo, 1200 mg IV, every 3 weeks until investigator-assessed progression or intolerable side effects, for a maximum of 17 cycles. Pts were stratified by choice of chemotherapy (cisplatin vs. carboplatin), radiation fractionation schedule (66 Gy once daily vs. 45 Gy twice daily), sex, and PS (0/1 vs. 2). The primary endpoint was overall survival (OS). Secondary endpoints included investigator assessed progression-free survival (PFS), objective response rate (ORR), local control and distant-metastasis free survival (DMFS). PCI was recommended for pts achieving a complete or near-complete response. It was designed to detect an OS improvement with a hazard ratio (HR) of 0.71, at 1-sided alpha of 0.025 and 85% power.

**Results:** 544 pts were randomized from May 2019 and December 2023. Baseline pt characteristics were well balanced. 47.2% of pts received twice daily radiation (BID). Median follow up was 21.0 months (mos) for all pts. The 1, 2 and 3-year OS rates were 82.6% (95% CI 77.2 - 86.9), 62.9% (95% CI 56.2 - 69.0) and 50.3% (95% CI 42.3 - 57.8) for cCRT, and 80.2% (95% CI 74.7 - 84.6), 58.6% (95% CI 52.1- 64.6) and 44.7% (95% CI 36.6 - 52.4) for atezo+cCRT. Median OS was 39.5 mos (95% CI 27.5 - Not reached) and 33.1 mos (95% CI 27.8 - 43.9) for cCRT and atezo+cCRT, respectively (HR= 1.11, 95% CI: 0.85-1.45). Median PFS was 11.5 mos (95% CI: 10.713.4) and 12.0 mos (95% CI: 10.8-15.1) for cCRT and atezo+cCRT, respectively (HR=1.00, 95% CI: 0.80-1.25). Median DMFS was 13.2 mos (95% CI: 11.3-18.2) and 16.8 mos (95% CI: 12.0-23.5) for cCRT and atezo+cCRT, respectively (HR=0.95, 95% CI:0.75-1.21). Cumulative incidence of local failure at 24 mos was 14.4% (95% CI: 10.1 -19.5) and 13.1% (95% CI: 9.0 -

18.1) for cCRT and atezo+cCRT, respectively (HR=0.84, 95% CI: 0.501.40). Complete or partial response was achieved in 58.5% and 59.1% on cCRT and atezo+cCRT. Grade 3+ pneumonitis was 3.1% and 5.6% on cCRT and atezo+cCRT. There were no concerning safety signals for atezo +cCRT. Regardless of the receipt of atezo, pts treated with BID had higher survival (median OS 35.4 mos, 95% CI: 32.3 - not reached) than daily RT (median OS 28.3 mos 95% CI: 21.7 - 40.6; HR=1.44, 95% CI: 1.10-1.89).
**Conclusion**: Chemoradiation with concurrent and consolidation atezo did not improve survival in LS-SCLC.