Background: There is little evidence to guide the management of early limited-stage small cell lung cancer (LS-SCLC). We examined outcome of early LS-SCLC patients treated within a contemporary trial.

Methods: This is an exploratory analysis of early (TNM stage I-II) LS-SCLC patients included in the CONVERT trial. This is a randomized phase III trial that compared twice-daily (45 Gray (Gy) in 30 twice-daily fractions over 3 weeks) and once-daily (66 Gy in 33 daily fractions over 6.5 weeks) radiotherapy starting on day 22 of chemotherapy cycle 1 in good performance score (PS) patients. Chemotherapy consisted of 4-6 cycles of cisplatin and etoposide. Prophylactic cranial irradiation (PCI) was offered if indicated. Radiotherapy was delivered using three-dimensional conformal or intensity modulated technique.

Results: Between 2008 and 2013, 547 patients were recruited to this trial. Five hundred and thirteen patients were eligible for this analysis and 87 (17%) had early disease. Staging fluorodeoxyglucose positron emission tomography (FDG-PET) use (68% versus 55.4%, p = 0.05) and baseline PS (PS0 57.5% versus 43.2%, p = 0.04) were different between early and non-early LS-SCLC patients, respectively. Early patients achieved longer overall survival (median 50 versus 25 months, p = 0.001) and time to local (median 40 versus 17 months, p = 0.0017) and metastatic progression (median 49 versus 16 months, p = 0.0004) compared to non-early patients, irrespective of treatment arm. In early patients, there was no significant overall survival difference between treatment arms, p = 0.31. Radiotherapy compliance was significantly higher in early patients (p = 0.004) and these patients were less likely to experience grade ≥3 acute oesophagitis, compared to non-early patients (11% versus 21%, p < 0.005).

Conclusions: Early LS-SCLC patients achieve good long-term survival with minimal acute side-effects following chemo-radiotherapy and PCI. This study guides practice and provides a benchmark for future studies comparing a surgical to a non-surgical approach in this patient cohort.

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