Simultaneous chemoradiotherapy compared with radiotherapy alone after induction chemotherapy in inoperable stage IIIA or IIIB non-small-cell lung cancer: study CTRT99/97 by the Bronchial Carcinoma Therapy Group.

PURPOSE: The aim of this study was to examine whether, after preceding induction chemotherapy, simultaneous chemoradiotherapy is superior to radiotherapy alone. PATIENTS AND METHODS: Patients with non-small-cell lung cancer in inoperable stage IIIA or IIIB received induction chemotherapy with two cycles of paclitaxel 200 mg/m² and carboplatin area under the curve 6 every 3 weeks. Patients without progression at restaging after induction chemotherapy were randomly assigned to radiotherapy (60 Gy) or chemoradiotherapy (paclitaxel 60 mg/m² weekly). The primary end point was overall survival; secondary end points were time to progression, response, and toxicity. RESULTS: Three hundred three patients entered the study, and 276 completed induction chemotherapy. Two hundred fourteen patients were randomly assigned (radiotherapy alone: n = 113; simultaneous chemoradiotherapy: n = 101). Median follow-up time of all randomly assigned patients was 13.6 months (interquartile range [IQR], 6.4 to 29.0 months), and median follow-up time of the subgroup of censored patients (n = 52) was 37.4 months (IQR, 5.9 to 57.0 months; maximum, 76.1 months). Toxicities during the induction phase were mild. During
radiotherapy, overall toxicity rates were not significantly different between the two arms. Median survival times in the radiotherapy group and chemoradiotherapy group were 14.1 months (95% CI, 11.8 to 16.3 months) and 18.7 months (95% CI, 14.1 to 23.3 months; difference not statistically significant, \( P = .091 \)). Median time to progression significantly favored simultaneous chemoradiotherapy (11.5 months; 95% CI, 8.3 to 14.7 months) versus radiotherapy alone (6.3 months; 95% CI, 5.0 to 7.6 months; \( P < .001 \), log-rank test). CONCLUSION: Induction chemotherapy followed by chemoradiotherapy with weekly paclitaxel is feasible. Response, time to progression, and survival favor chemoradiotherapy compared with radiotherapy alone.