THREE DIFFERENT CHEMOTHERAPY COMBINATIONS WITH CONCURRENT THORACIC RADIATION FOR PATIENTS WITH STAGE III NON-SMALL CELL LUNG CANCER


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Aim: Stage III non-small cell lung cancer (NSCLC) is one of the most controversial areas in managing lung cancer and gives a chance to clinicians to practice the art of medicine. The aim of the current study was to compare three chemotherapy regimens commonly used concurrently with radiotherapy in terms of efficacy and safety.

Methods: Histologically or cytologically proven patients with NSCLC were included in this study. Clinical data including gender, age, performance status, histological subtype, chemotherapy regimen were recorded. During the concurrent chemoradiation phase, patients were administered the following: cisplatin-etoposide (PE) arm: cisplatin (50mg/m²) on days 1, 8, 29, 36, and etoposide (50mg/m²) on days 1 to 5 and 29 to 33; cisplatin-docetaxel (PD) arm: docetaxel (20mg/m²) and cisplatin (20 mg/m²) on day 1 every week; carboplatin-paclitaxel (PC) arm: carboplatin (AUC2) and paclitaxel (45 mg/m²) on day 1 every week. The primary tumor and involved nodes received 60 Gy in 2-Gy fractions over 5 to 7 weeks.

Results: Between January 2003 and February 2014, a total of 227 patients were evaluated in the study. Median follow-up time was 13 months (2-101). There were 27 females (11.9%) and 200 males (88.1%) patients with a median age of 61 (38-82) years. 57 patients (25.1%) were not able to receive the whole preplanned dose of chemotherapy, due either to dose reduction (n = 33) or chemotherapy cessation (n = 24). Dose reductions were applied to 11 patients (12.6%) in the PC group, 6 patients (12%) in the PE group and 16 patients (17.8%) in the PD group as a result of toxicities (p = 0.530). The PD group had higher rates of esophagitis, mucositis and anemia (p < 0.05 for all). The PC group had higher rates of neuropathy (p = 0.000). The sum of complete and partial response rates were 63.2%, 78%, 70%, among groups PC, PE, PD respectively (p = 0.140). The PFS time was 10 months for patients on PC group, 15 months for patients on PD group and 21 months for PE group (p = 0.010). Patients in PC group had a median overall survival time of 23 months, those in the PD group 27 months, and those in the PE group had a median survival time of 36 months (p = 0.098).

Conclusions: Concurrent chest radiotherapy with PC, PD or PE is well-tolerated and effective in patients with locally advanced NSCLC. These therapeutic approaches have different toxicity profiles and survival outcomes. But the survival difference was not statistically significant.

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