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Efficacy of adjuvant or neoadjuvant chemotherapy with surgical resection of stage lB-llB Non-small-cell lung cancer

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Background: The therapeutic efficacy of adjuvant or neoadjuvant chemotherapy with surgical resection of stage lB-llB non-small-cell lung cancer (NSCLC) has been less clear. We performed a retrospective study of adjuvant or neoadjuvant chemotherapy with vinorelbine plus cisplatin or etoposide plus cisplatin to validate the efficacy on the patients with early stage NSCLC. Response, survival data and the feasibility of chemotherapy were analyzed.

Methods: 48 patients diagnosed as stage IB - IIB NSCLC from January 1994 to February 2006, were enrolled for analysis. All patients received either 30 mg/m^2 vinorelbine plus 100 mg/m^2 cisplatin (n=17) or 100 mg/m^2 etoposide plus 100 mg/m^2 cisplatin (n=31) every 3 weeks, before operation or after operation. In neoadjuvant setting, after 3 cycles of chemotherapy, restaging was done with chest CT, followed by surgery. Postoperative radiotherapy was at the investigator's discretion.

Results: 10 patients (20.8%) had stage lB disease and 38 patients (79.2%) had stage llB disease. The adjuvant chemotherapy group was 22(45.8%) patients and neoadjuvant chemotherapy group was 26 (54.2%) patients. The median duration of follow-up was 45.5 (6-187) months. The median survival was 46 (6-187) months and disease-free survival was 31 (5-187)months. The overall survival of patients who adjuvant chemotherapy was similar compared with the patients who neoadjuvant chemotherapy (46 vs 46 months, p=0.125). The overall survival of patients of stage lB patients was more prolonged than that of stage llB patients (51 vs 46 months, p=0.048). The Grade 3/4 hematologic toxicities of chemotherapy were neutropenia (n=9), anemia (n=1), and thrombocytopenia (n=1).

Conclusion: The adjuvant or neoadjuvant choemotherapy of vinorelbine plus cisplatin or etoposide plus cisplatin has an acceptable level of toxicity and may prolong overall survival among patients with completely resected stage lB-llB NSCLC.

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Weekly Low-dose Docetaxel for Pretreated Elderly or Less Fit Patients with Non-small Cell Lung Cancer

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Background: Second-line single-agent docetaxel showed superiority in overall survival compared with best supportive care alone in previously treated patients with non-small cell lung cancer (NSCLC). However, for elderly or less fit patients, chemotherapy is associated with greater toxicity and less benefit, and the efficacy of salvage docetaxel chemotherapy for these patients is still controversial. Therefore, we evaluated the efficacy and toxicity profiles of weekly low-dose docetaxel regimen administered in daily clinical practice for elderly or less fit NSCLC patients previously exposed to chemotherapy.

Methods: Between May 2004 and January 2007, forty unselected, consecutive and prospectively enrolled patients with stage IIIB or IV NSCLC, previously treated with one or more chemotherapy regimens, received docetaxel as single-agent salvage chemotherapy at Seoul National University Bundang Hospital. All patients were aged ≥ 65 years, or had an ECOG performance status of ≥ grade 2 in the cases of ages < 65 years. Docetaxel was administered at a dose of 25 mg/m^2 weekly on days 1, 8, and 15 of a 28-day cycle in an outpatient setting.

Results: Median age was 66 years (range 38 to 80). Twenty-nine patients (73%) received docetaxel as second-line chemotherapy and eleven (28%) as third- or fourth-line treatments. Platinum, gemcitabine, paclitaxel, epidermal growth factor (EGFR) inhibitors were previously employed in 39 (98%), 37 (93%), 9 (23%) and 9 patients (23%), respectively. A median of 2 cycles (range 1 to 6) were administered and, of 40 patients enrolled, nine patients (23%) showed partial responses. Nine patients (23%) showed stable disease and 17 (43%) progressive disease. Five patients (13%) were not evaluable. Grade 3/4 toxicities were rare: asthenia in 8% of patients, anorexia in 8%, mucositis in 5%, diarrhea in 3%, neutropenia in 3%, nail change in 3%, and peripheral neuropathy in 3%. Drug toxicity was the reason for the treatment discontinuation in 5 patients (13%). At median follow-up of 18 weeks, 22 patients are alive. Median progression-free survival and overall survival were 9.9 weeks (95% confidence interval [CI]: 7.1~12.7 weeks) and 37.7 weeks (95% CI: 21.0~54.3 weeks), respectively.

Conclusions: Weekly low-dose docetaxel appears to be well tolerated as salvage chemotherapy for previously treated elderly or less fit patients with NSCLC. The efficacy of this low-dose regimen seems to be comparable to the standard 3-week or higher-dose weekly docetaxel regimens. This approach provides a reasonable alternative for pretreated elderly or less fit patients with NSCLC.

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Studies on relationship of objective response by chemotherapy and senescence induced *in vitro* for non small cells lung cancer

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Background: Lung cancer is the most common cause of cancer death throughout the world. Chemotherapy is a main treatment modality but resistance to treat is a major problem in non-small cell lung cancer (NSCLC). Neoplastic transformation involves events that inhibit the program of senescence, and tumor cells were believed until recently to have lost the ability to senesce. As chemotherapeutic drugs can induce tumor cells to senesce, the aim of the present study was to investigate correlation between the clinical response of taxanes plus cisplatin combination chemotherapy and combination of docetaxel and cisplatin (DC) induced senescence in vitro, the contribution of m-P53 protein releasing in tumor cells, and whether DC induced senescence assay could have clinical implications as a chemsensitivity indicator *in vivo*.

Methods: Sixty-seven specimen obtained from NSCLC patients from Jan 1, 2003 to Jun 30, 2006. The patients consisted of 48 males and 19 females, ranging in age from 54 to 82 years (mean, 67.5 years), 41 cases were diagnosed as pathological stage IIIb, 26 cases were diagnosed as stage IV. Thirty-nine tumors were confirmed to be adenocarcinomas, 28 were confirmed to be squamous cell carcinomas. All patients accept 2-6 cycles combination chemotherapy of Taxanes (docetaxel