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LETTER TO THE EDITOR

Drug delivery and toxicity of adjuvant chemotherapy for non-small cell lung cancer (NSCLC): Washington University experience

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To the Editor

Several randomized trials utilizing platinum based doublet regimens have shown a survival benefit for adjuvant chemotherapy for non-small cell lung cancer (NSCLC) [1–5]. Adjuvant chemotherapy is increasingly used in the USA following the publications of the above mentioned studies. To our knowledge, there have been no reports on delivery and toxicity of adjuvant chemotherapy for NSCLC outside the clinical trial setting. We performed an audit of all patients with NSCLC who underwent surgical resection and received adjuvant chemotherapy at Washington University School of Medicine between January 2003 and December 2005. A total of 40 patients were identified to have received adjuvant chemotherapy for NSCLC. The median age in this group was 57 years (range 40–73). The majority of patients (68%) were Caucasian with African Americans representing 27% of the population. Men and women were represented in equal proportions. Over 90% of the patients had a favorable (0–1) Adult comorbidity evaluation score-27 (ACE-27) at the time of surgery. The median time from surgery to the start of cycle 1 of chemotherapy was 49 (range 16–118) days. Cisplatin with docetaxel was the most frequently used (43%) adjuvant chemotherapy regimen during the study period followed by carboplatin and paclitaxel (17%), carboplatin and docetaxel (17%), and carboplatin and gemcitabine (15%).

Of the 40 patients, 16 (40%) had received the intended dose (all the scheduled cycles without any dose modifications or delays). Seven patients (18%) did not receive the planned cycles of chemotherapy while 21 (53%) patients had dose reductions and 3 (8%) had dose delays (Table I). Adjuvant therapy was discontinued without completion of the scheduled number of cycles due to toxicities in 6 (15%). Seventeen patients (42%) reported grade 3/4 toxicities, most commonly neutropenia and fatigue. Neutropenic fever occurred in two patients. There were no deaths resulting from adjuvant chemotherapy.

Most of the current data regarding delivery and tolerability of adjuvant chemotherapy for NSCLC are obtained from prospective studies [4,6–9] cisplatin and docetaxel, 11 (65%) received full doses of chemotherapy without dose reduction, delays or omission. Grade 3/4 neutropenia in our study occurred in 25% of the patients as opposed to 36% in the CALGB 9633 trial, 17.5% (grade 4 alone) in the IALT trial and 85% in the ANITA trial [2,4,7]. This report provides the first "real life" experience regarding the chemotherapy delivery and toxicity in patients with resected non-small cell lung cancer outside the context of clinical trials.

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Table I. Dose delivery of adjuvant chemotherapy

Chemotherapy regimen	Total # patients	Standard dose[¥]	Dose delay	Dose reduction	Incomplete course[*]
Cisplatin/Docetaxel	17	11 (65%)	0	4 (24%)	3 (18%)
Carboplatin/Paclitaxel	7	2 (29%)	0	5 (71%)	1 (14%)
Carboplatin/Docetaxel	7	0	1 (14%)	6 (86%)	1 (14%)
Carboplatin/Gemcitabine	6	1 (16.5%)	1 (16.5%)	5 (83.3%)	2 (3.3%)
Cisplatin/Vinorelbine	2	1 (50%)	1 (50%)	1 (50%)	0
Cisplatin/Gemcitabine	1	1 (100%)	0	0	0
All Regimens	40	16 (40%)	3 (8%)	21 (53%)	7 (18%)

[*]Less than the planned number of cycles.
[¥]Received all the scheduled number of cycles of chemotherapy with no dose modification (dose delays and/or dose reductions).

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