

Pneumonectomy for Non-Small Cell Lung Cancer Impacts Survival : A Comparative Analysis of Skip Metastasis and Visceral Pleural Involvement

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Abstract : Objective : This study retrospectively analyzed the influence of skip mediastinal lymph node metastases and visceral pleural involvement on survival in patients undergoing a pneumonectomy. Methods : From July 1993 to July 2003, 937 consecutive patients with a diagnosis of non-small cell lung cancer underwent surgical resection. Among them, 61 patients (6.5%) underwent a pneumonectomy with lymph node dissection. There were 51 men (83.6%) and 10 women (16.4%) with a mean age of 63.7 ± 9.0 years (range, 39–79 years). Especially, in this study, for the pathological N2 stage patients, some patients were found to have no metastatic involvement of their hilar lymph nodes on histopathological examination, these N2 metastases were called skip metastases. The survival probabilities were calculated by the Kaplan–Meier method, and differences in survival were determined by the log–rank analysis. Results : Squamous cell carcinoma was the most common cell type, and it was present in 33 of 61 patients (54.1%). Other cell types were adenocarcinoma in 15 patients (24.6%) and other types in 13 patients (21.3%). The overall 5–year survival rate of the 61 patients was 18.3%. Survival in the patients without pathologic lymph node metastasis was significantly higher than in the patients with pathologic lymph node metastasis ($P=0.0165$). For pathological N2 stage patients, survival in the patients without pathologic hilar lymph node (#7) metastasis was significantly higher than in the patients with pathologic hilar lymph node (#7) metastasis ($P=0.0026$), and survival in the patients without pathologic visceral pleural involvement was significantly higher than in the patients with pathologic pleural involvement ($P=0.0165$). Conclusion : Our results suggest that preoperative evaluations, such as age, performance status, spirometry, cardiac function, etc, should thus be done in patients with non-small cell lung cancer who need to undergo a pneumonectomy, and that it is necessary to select pneumonectomy patients carefully. In addition, by performing a complete mediastinal lymph node dissection with hilar lymph node (#7) sites, a pneumonectomy can achieve survival results similar to those of other surgical modalities.

Key words : Pneumonectomy, Skip metastasis, Visceral pleural involvement