

Proffered Papers

Lung cancer II

1076

ORAL

The optimal extent of mediastinal lymphadenectomy in patients with non-small cell lung cancer

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Mediastinal lymphadenectomy is an important part of radical operation performed in patients with NSCLC. The data about effectiveness of systematic mediastinal lymph node dissection (SMLND) are controversial. Systematic sampling (SS), based on the study of sentinel lymph nodes, seems to be more appropriate method in patients with NSCLC since it takes in to account the lobe-specific lymphatic flow towards the mediastinal lymph nodes. The purpose of our study was to reveal the peculiarities of regional lymph node metastases and substantiate the optimal extent of mediastinal lymphadenectomy in patients with NSCLC.

Material and methods: The frequency of lymph node metastases was studied in 300 consecutive patients treated for NSCLC in thoracic surgery department of our clinic. Staging was based on TNM classification (1997).

Results: Lymph node metastases were observed in 61.7% of the entire group, while N2 nodes were positive in 33.3%. The frequency of metastases to mediastinal lymph nodes strongly correlates with the size of the tumor. In T1 cases metastases to N2 nodes were observed in 11.8% of patients, T2-3 in 38.6%, T4 in 50%. We observed skipping metastases in 8.7% (26 from 300) of patients. It is more common for the central, squamous and right-side tumors. The right-lower lobe (RLL) tumors metastasize to subcarinal lymph nodes (7) in 49.1%, while to the upper mediastinal nodes (3, 4) only in 8.1%. The same data were received for the left-lower lobe (LLL) tumors. The subcarinal nodes were positive in 45%, the upper mediastinal in 6.3%. When the subcarinal nodes were intact, metastases to the upper mediastinal nodes were observed in 6.2% for the right-side and 4.8% for the left-side tumors. The frequency of metastases to the upper tracheobronchial (3, 4) nodes for the right-upper lobe (RUL) was 58.2%, while to subcarinal only 5.2%. For the left-upper lobe (LUL) metastases were more common in the sub- and paraaortic (5,6) lymph nodes (41.4%), while subcarinal were affected in 2.9% of cases. It is important that in the upper lobe tumors and absence of metastases in the upper mediastinal nodes, the subcarinal nodes were negative in 100% of cases. The urgent cytologic examination was used to evaluate the lymph node status during surgery. The reliability of this method in comparison with planned histologic examination was 97.8%. False-negative results were observed in 1.4%, false-positive in 0.7% of cases.

Conclusion: We conclude that sentinel lymph nodes for the RUL are 3, 4, for the RLL - 7, for the RML - 3, 4, 7, for the LUL - 5, 6, for the LLL - 7. The urgent intraoperative cytologic examination of the dissected intrathoracic lymph nodes is an objective method of its status evaluation.

Standard mediastinal lymphadenectomy in NSCLC should include, besides N1 nodes, dissection of the upper and lower mediastinal lymph nodes depending on tumor location in the lung. In case of metastases in the sentinel lymph nodes extended mediastinal lymphadenectomy should be done. It supposes dissection of all ipsilateral nodes, including anterior mediastinum, and contralateral lymph nodes.

1077

ORAL

Integrated PET/CT imaging improves staging of non-small-cell lung cancer

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Background: To compare the diagnostic accuracy of integrated positron emission tomography and computed tomography (PET/CT) with that of CT

alone, PET alone, and visual correlation of PET and CT in staging patients with non-small-cell lung cancer.

Material and methods: In this prospective study, integrated PET/CT was performed in 50 patients with proven or suspected non-small-cell lung cancer. CT and PET alone, visually correlated PET and CT, and integrated PET/CT were evaluated separately. For each imaging modality, a TNM stage was assigned. Nodal stations were localized according to the American Thoracic Society mapping system. The standard of reference was histopathologic assessment and/or at least one additional imaging modality for extrathoracic metastases. A paired sign test was applied to compare integrated PET/CT with the other imaging methods.

Results: Due to the precise anatomic localization of lesions with increased uptake of ¹⁸F-fluoro-2-deoxy-D-glucose, integrated PET/CT provided additional information in 41 percent of patients in comparison with conventional visual correlation of PET and CT. Integrated PET/CT had a better diagnostic accuracy than all other imaging methods. Statistically significant improvements were found in T staging (PET/CT vs. CT, P=0.001, PET/CT vs. PET, P<0.001, PET/CT vs. visual correlation of PET+CT, P=0.013, respectively) and N staging (PET/CT vs. PET, P=0.013). In M staging, integrated PET/CT increased the diagnostic certainty in two of eight patients.

Conclusions: Integrated PET/CT improves diagnostic accuracy in staging of patients with non-small-cell lung cancer.

1078

ORAL

A randomized phase III trial of adjuvant chemotherapy with UFT for completely resected pathological Stage I (T1N0M0, T2N0M0) adenocarcinoma of the lung

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Background: The oral antimetabolite UFT (a combination of tegafur and uracil at the ratio of 1:4) has been shown to be effective as postoperative adjuvant chemotherapy for early-stage non-small-cell lung cancer in multicenter trials (JCO 14: 1048, 1996).

Objective: We studied whether postsurgical adjuvant chemotherapy with oral UFT improves survival as compared with surgery alone in patients with pathological stage I adenocarcinoma of the lung.

Patients and Methods: Patients with completely resected pathological stage I (T1N0M0, T2N0M0) adenocarcinoma of the lung were stratified according to pathological T stage, gender, and age were randomly assigned to receive either oral UFT (250 mg/m²/day) for 2 years or no chemotherapy (control).

Results: Between January 1994 and March 1997, a total of 999 patients were enrolled. Twenty patients were ineligible; of the eligible patients, 491 were assigned to chemotherapy with UFT and 488 to control. The main characteristics of the subjects were as follows: men=48.7%, more than 65 years old=43.9%, and pathological T1=73.1%. As for compliance with chemotherapy, 253 (52.6%) of 482 patients with assessable disease completed treatment according to protocol. Overall, 14 patients (2.9%) assigned to UFT had grade 3 toxicity. Currently, at a median follow-up of 70 months, 979 patients are available for survival analysis and 154 have died (65 in the UFT group, 89 in the control group). A statistically significant difference in overall survival was observed between the UFT group and the control group (hazard ratio; 0.71, 95%CI 0.52-0.98, p=0.036). The 5-year survival rate (5YS) was 87.9% in the UFT group, and 85.4% in the control group. On subgroup analysis, there was no difference in survival between the two groups among patients with T1 disease (p=0.867), but patients with T2 disease had significantly better survival in the UFT group (5YS=84.9%) than in the control group (73.5%) (hazard ratio; 0.48, 95%CI 0.29-0.81, p=0.005).