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Background: Postoperative recurrence at the surgical margins in the pulmonary parenchyma is one of type of local failure in patients undergoing limited surgery for lung cancer. To prevent this type of recurrence, we have introduced a novel technique of intraoperative lavage cytology of the surgical margins during limited surgery (JTCVS 125:101,2003). This study examined the usefulness of this technique in contributing to the control of local recurrence in patients with small lung cancer.

Patients: Between 1973 and July 2005, limited surgery including segmentectomy and wide wedge resection were preoperatively scheduled for a total 280 consecutive peripheral lung cancer lesions (20mm or less) in our institute. Of these, 95 lesions underwent surgery before clinical application of this cytologic technique in October 1997, and 185 lesions were treated after the initiation of this procedure.

Results: In the first 89 lesions, limited surgery was performed except in 6 cases that underwent intraoperative conversion to completion lobectomy due to nodal involvement. In contrast, among the latter cases, this technique detected positive cytological findings at the surgical margin in 7 lesions (3.8%). The surgical mode was immediately converted for 3 lesions (completion lobectomy in 2, additional resection in one). Completion lobectomy was performed due to nodal involvement in 7 lesions and due to technical disadvantage in one. Therefore, limited surgery was finally performed for 175 lesions in the latter group. During a median postoperative follow-up period of 47.7 months, ranging from 10.1 to 180.4 months, local recurrence in the surgical margin of the pulmonary parenchyma was observed in 5 patients (5.6%) in the former group, but in only one (0.6%) of the latter. Interestingly, among the patients in whom cytologically negative margin was confirmed by this intraoperative checking system, there has not been any local failure at the surgical margin to date.

Conclusions: Although this study was based on historical analysis, this intraoperative lavage cytologic technique is a promising tool to control local recurrence at the surgical margin following limited surgery for small lung cancer. In promoting limited surgery for small lung cancer, it is necessary to determine the presence of residual tumor cells using this novel technique for checking the surgical margin status. Cytologically negative results may be a promising indicator to prevent postoperative local failure.

P3-226 **NSCLC: Surgery Posters, Wed, Sept 5 – Thur, Sept 6**

Evaluation of VATS In treatmnet for malignant thoracic effusion of lung cancer

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Background: Thoracic effusion is common in patients with advanced lung cancer which means impossible for curative surgery. Palliative VATS surgery is used in this situation.

Method: We performed VATS pleura biopsy and Pleurodesis in 34 lung cancer patients with malignant thoracic effusion from 2003 to 2006.

Result: There were 23 male and 11 female, age ranged from 45-84, adenocarcinoma 20 and squame carcinoma 4. Before operation we got pathological diagnosis by thoracentesis. In operation we evacuated the thoracic cavity and sprinkled 5g talcum powder all over the pleura surface, then we eject 40mg cisplatin in thoracic cavity. We placed water sealed drainage after surgery for 3 to 14 days depending on amount of discharges from the drainage tube. After surgery all patients received standard chemotherapy and radiothreapy. There was no death associated with operation and no recurrence of thoracic effusion after surgery.

Conclusions: VATS pleura biopsy can get more tissue than thoracentesis to do immunohistochemistry, for example EGFR, ERCC1 and so on, which may provide us significant imformation for futher treatment. Pleurodesis have a good effect on controlling thoracic effusion which can improve life quality for patients.

P3-227 **NSCLC: Surgery Posters, Wed, Sept 5 – Thur, Sept 6**

Determinants of recurrence and survival in patients following surgery for stage IB non-small cell lung cancer

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Background: Early stage non-small cell lung cancer(NSCLC) is potentially curable by surgery, but long-term outcome after surgical resection is limited by disease recurrence locally or at sites distant from the primary disease. We conducted a retrospective study of NSCLC patients who underwent curative-intent surgery with stage IB(T2N0M0) to evaluate outcome variables.

Methods: Forty-seven consecutive patients(35 male, 12 female) received curative-intent resection for stage IB NSCLC from January 1998 to December 2005. Outcome variables analyzed included sex, types of operative procedure, histologic type and grade, tumor size, visceral pleural involvement.

Results: The median age was 64 years(range from 39 to 77) and median follow up duration was 36 months. The operative procedures used were lobectomy in 40 patients and pneumonectomy in 7 patients. Twenty-five patients had histology of squamous cell and 22 patients had nonsquamous cell(including 14 adenocarcinomas). The overall 5-year survival rate was 65.9%. The disease free survival(DFS) and overall survival(OS) rate were significantly poor in patients with larger tumor(diameter >= 4 cm) compared with smaller tumor(diameter < 4 cm) (p=0.01 and p=0.009, respectively). Patients with visceral pleural involvement had poor DFS rate compared with patients without visceral pleural involvement (p=0.03).

Conclusions: Tumor size was related to poor DFS and OS, and visceral pleural involvement was related to poor DFS in patients with stage IB NSCLC. Those patients may need to have adjuvant systemic therapy for improvement of outcome.

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