P2.16-41
Intraoperative Computed Tomography After Tumor Marking with Metal Clips for Non-Palpable Lung Tumors

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Background: Locating small, non-palpable lung tumors during video-assisted thoracoscopic surgery (VATS) is difficult. We report a simple method to identify such tumors during VATS, using intraoperative computed tomography (IO-CT). **Method:** From 2015 to 2017, we performed IO-CT scans for patients who preoperatively seemed to have non-palpable lung tumors. We initially tried to locate these tumors by finger palpation through the thoracoscopic ports. IO-CT scans were performed after marking tumors with metal clips. For difficult-to-palpate tumors, tumor marking was based on the anatomical position as follows. First, we estimated the intercostal muscle that could best be used as a marker from preoperative CT. A needle was inserted along the caudal side of the intercostal muscle to make a slight "pin-point" depression in the parietal pleura. Next, under bilateral lung ventilation, the surface of the visceral pleura touching the parietal pleural needle depression was marked by a modern electrosurgical unit in SOFT COAG mode. Under unilateral lung ventilation again, metal clips were used to indicate the SOFT COAG marking. Intraoperative CT scans under bilateral lung ventilation and 3D-CT imaging allowed us to locate the tumor by reference to the clips. We performed wedge resections during VATS, based on the marking clips, using surgical staplers. **Result:** We employed this procedure for a total of 20 tumors in 17 patients, whose mean age was 63.5 years (range: 34—78 years). Of the 20 tumors, 11 were in the right lung and 9 in the left lung; 8 were non-palpable and 12 were palpable; in preoperative CT, 7 were seen as pure ground-glass nodule (GGN) type, 2 were part-solid type, and 11 were pure solid type; pathologically, 10 were primary lung cancers, 7 were metastatic lung cancers and 3 were benign tumors. Mean tumor size was 7.1 mm and mean distance from the pleura was 7.2 mm. All tumors were identified intraoperatively by using IO-CT scans. All tumors were completely resected during VATS, with no intra-postoperative complications. **Conclusion:** IO-CT scans after tumor marking with metal clips during VATS can accurately locate non-palpable small sized lung tumors. **Keywords:** Intraoperative CT, Metal clip marking, Non-palpable lung tumors

P2.16-42
Standard Mediastinoscopy Versus Video-Assisted Mediastinoscopic Lymphadectomy in Clinical N1 Non-Small Cell Lung Cancer

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Background: A considerable number of patients with clinical N1 (cN1) non-small cell lung cancer (NSCLC) based on positron emission tomography—computed tomography (PET-CT) imaging have occult mediastinal nodal involvement (N2 disease). We aimed to compare the role of video-assisted mediastinoscopy lymphadenectomy(VAMLA) and standard mediastinoscopy in pre-resectional mediastinal staging in patients with cN1 disease. **Method:** A total of 821 patients with potentially resectable NSCLC seen between January 2004 and November 2016 were included in the study. The preoperative mediastinal staging was accomplished by standard cervical mediastinoscopy or VAMLA in all patients except those with peripheral cT1N0 tumors. Resection via thoracotomy or video-assisted thoracoscopic surgery was performed in patients with no mediastinal lymph node metastasis. A systematic lymph node sampling or systematic lymph node dissection was performed during resectional surgery. Surgical-pathological results were compared with the pathological findings. Primary aim was to compare the sensitivities and accuracies to detect N2 by two methods. **Result:** Out of 85 patients with cN1 on PET-CT, a mediastinal metastasis was disclosed in 29 patients (34.1%). Of 56 patients who underwent VAMLA 24(42.9%) were found to have N2/3 disease, whereas standard mediastinoscopy revealed N2/N3 disease in 7 patients(24.1%)($p=0.029$) VAMLA and standard mediastinoscopy had both sensitivities of 85.7% to detect N2 disease($p=1$). The NPVs were 87.5% and 85.7% by VAMLA and standard mediastinoscopy respectively($p=0.821$). **Conclusion:** VAMLA is more accurate to detect mediastinal nodal disease in operable cN1 lung cancer, and could be used in patients with cN1 NSCLC patients since it discloses N2 disease in an important fraction of patients. **Keywords:** Non-small cell lung cancer, resection, N1, VAMLA, mediastinoscopy

P2.16-43
Diabetes is a Negative Prognostic Factor in Non-Small Cell Lung Cancer Patients Undergoing Resectional Surgery

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Background: During the last decades, lung cancer has been a major health problem as it is one of the leading causes of cancer death among both genders all over the world other than subsaharan Africa. Diabetes mellitus(DM) can also be a possible prognostic factor because it effects similar age groups with non small cell lung cancer(NSCLC). **Method:** A total of 634 patients with resected NSCLC seen between January 2004 and June 2017 were included in the study. The preoperative mediastinal staging was performed by video-assisted cervical mediastinoscopy or video-assisted mediastinoscopic lymphadenectomy in all patients except those with peripheral cT1N0 non-adenocarcinoma tumors. Possible prognostic factors such as presence of diabetes mellitus(DM), gender, age, smoking history, clinical stage, histology and laboratory parameters were recorded. **Result:** A total of 84 patients (13.2%) were found to have DM. The median survival time of patients with or without DM were 33.0 months(95% confidence interval: 26.5-39.5 months) and 127.0 months respectively($p<0.001$). T and N factors were found to be prognostic parameters ($p<0.001$, $p=0.01$ respectively). When we analyzed only male patients($n=544$), DM was found to be highly significantly associated with worse survival ($p<0.001$). Multivariate Cox analysis showed that absence of DM($p<0.001$), absence of nodal metastasis($p=0.007$), and lower T factor ($p=0.04$) were independently good prognostic elements in resected patients. **Conclusion:** We concluded that, presence DM was independently associated with worse survival in lung cancer patients who underwent resectional surgery. **Keywords:** Non-small cell lung cancer, resection, older patient, prognosis, diabetes mellitus

P2.16-44
Long-Term Outcome of Pulmonary Segmentectomy for c-IA Non-Small Cell Lung Cancer

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