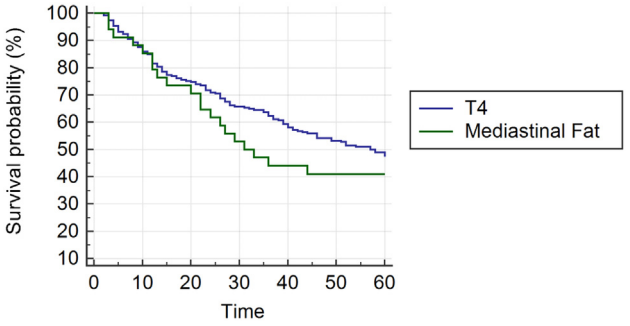

By multivariate analysis, three factors significantly and independently influenced survival: nodal status (N0/1 vs N2; p=0.0001, HR=2.162), complete resection (R0 vs R1; p<0.0001, HR=2.948), and age (<65 vs ≥65; p<0.0001, HR=2.201). As though only N0/1 analyzed for to eliminate the effect of pN2 disease on survival, we observed that the survival of Mediastinal Fat group was worse than T4 group (39.7% vs. 50.8%; p=0.419, HR=1.245). Also, we found that survival of T4 group was better than Mediastinal Fat group when only R0 patients was analyzed (50.9% vs 41.3%, p=0.418, HR=1.237). **Conclusion:** There was no significant difference in survival between patients with mediastinal fat invasion and patients on T4 category for lung cancer. Mediastinal fat invasion should be inclueded as one of a descriptor of T4 in new classification of NSCLC. **Keywords:** Nonsmall cell lung cancer, Mediastinal fat invasion, T4 descriptor

P1.13-13
High-Risk Clinical Stage I Non-Small Cell Lung Cancer Based on High-Resolution Computed Tomography Findings

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Background: Perioperative systemic therapy for stage I non-small cell lung cancer (NSCLC) has not been established. The purpose of this study was to identify the high-risk patients for recurrence in clinical stage I NSCLC who were potentially candidates for systemic therapy in addition to standard lobectomy. **Method:** After excluding patients who underwent sublobar resection, 397 patients with clinical stage I NSCLC who underwent lobectomy with systematic lymph node dissection between April 2007 and March 2016 were analyzed. Solid component size on high-resolution computed tomography (HRCT) was used as tumor size on the basis of the 8th edition of TNM classification. Relapse-free survival (RFS) was estimated using Kaplan-Meier method, and multivariable Cox proportional hazards model was used to identify independent prognostic factors for RFS. **Result:** Five-year RFS of all patients was 73.6%. Multivariable Cox analysis revealed that age (hazard ratio [HR], 1.04 (95% confidence interval [CI], 1.01− 1.06; P = 0.005), solid component size (mm) (HR, 1.06 (95% CI, 1.04−1.09; P <0.001), and pure solid type (HR, 1.79 (95% CI, 1.10−2.91; P = 0.02) were independent prognostic factors for RFS. When patients were divided into high-risk group for recurrence (solid component size of >2 cm or pure solid type) and low-risk group (solid component size of <2 cm and part solid type), there was a significant difference in RFS between high-risk group (n = 298; 5-y RFS, 65.0%) and low-risk group (n = 129; 5-y RFS, 91.0%; P <0.001). Lymphatic invasion (29.5% vs. 9.3%, P <0.001), vascular invasion (36.6% vs. 7.8%, P <0.001), pleural invasion (28.4% vs. 9.3%, P <0.001), and lymph node metastasis (17.9% vs. 1.6%, P <0.001) were more frequent in high-risk group than in low-risk group. **Conclusion:** In clinical stage I NSCLC, patients with solid component size of >2 cm or pure solid type on HRCT were high-risk group for recurrence. These patients may be potential candidates for systemic therapy such as neoadjuvant immunotherapy. **Keywords:** non-small cell lung cancer, recurrence, lobectomy

P1.13-14
Prognosis and Clinicopathologic Characteristics of Skip N2 Metastasis in Completely Resected Non-Small Cell Lung Cancer

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Background: In our daily practice of non-small cell lung cancer (NSCLC) surgery, we sometimes encounter cases of pathological stage was up because of unexpected lymph node metastasis. If single-station N2 metastasis without N1 (skip-N2) of the tumor ≤ 5cm was noted postoperatively, it becomes stage IIIA like other N2 disease, and is to be poor prognosis in the current TNM staging system. The aim of this study is to analyze the impact for prognosis and clinicopathologic characteristics of skip-N2 disease. **Method:** We identified 415 patients with <T3 N1-2 NSCLC who underwent anatomical lung resection completely between January 2000 and December 2018. The degree of lymph node metastasis was classified into three; N1, skip-N2 and the other N2 (N2). The prognosis and clinicopathologic characteristics of patients were analyzed comparing skip-N2 with N1 and N2. **Result:** The median follow-up time was 45.7 months. Cases with N1 was 215 (51.8%), skip-N2 was 48 (11.6%) and N2 was 152 (36.6%). Among 48 cases of skip-N2, only 8 cases (16.7%) was diagnosed as N2 preoperatively. 5-year overall survival rate (5y-OS) for N1, Skip-N2 and N2 were 70.9%, 65.7% and 45.3% respectively. 5-year recurrence free survival rate (5y-RFS) for N1, Skip-N2 and N2 were 69.8%, 60.4% and 36.0% respectively. Prognosis of Skip-N2 had similar N1 (5y-OS; p=0.476, 5y-RFS; p=0.534) and had a tendency of better prognosis than N2 (5y-OS; p=0.08, 5y-RFS; p=0.01). As for clinicopathologic characteristics (patients characteristics, tumor marker, tumor size, tumor location, clinical stage and pathological characteristics), there were no significant differences between Skip-N2 disease and the other N1-2 disease. In skip-N2, 98% of cases were found within the extent of lobe specific lymph-node dissection. **Conclusion:** From clinicopathologic factors which can be obtained preoperatively, it is difficult to predict skip-N2. But the possibility of skip N2 among clinical N0 is not high, almost of skip N2 were detectable during surgery; lobe specific lymph node dissection is appropriate for clinical N0. The prognosis of skip N2 showed similar outcome of N1 rather than N2, but the prognosis is not enough; adjuvant chemotherapy is necessary for this population. **Keywords:** NSCLC, Lymph node metastasis, skip N2

P1.14-01
Are Pretreatment Inflammation-Based Prognostic Scores Useful in Predicting the Outcomes of Patients with ALK-Positive NSCLC?

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Background: Approximately 5% of all diagnosed non-small cell lung cancer (NSCLC) patients harbor a genetic rearrangement between the ALK and EML4 genes, representing a specific molecular and clinical subgroup (ALK+ NSCLC). To date, upfront treatment with ALK-tyrosine-kinase inhibitors (ALK-TKIs) has replaced chemotherapy in the first line setting for this subset of patients with excellent results, but reliable prognostic markers are lacking. An increased systemic inflammatory response has been shown to be associated with a poor prognosis, and some of the parameters used to characterize this response can easily be measured in clinical practice in several tumor types, but have not been analyzed extensively in ALK+ lung cancer in the era of crizotinib. **Method:** We reviewed the medical records of all patients with previously treated advanced ALK-positive NSCLC who received crizotinib between January 2013 and March 2018 outside of a clinical trial. Pre-treatment modified Glasgow prognostic score (mGPS), Prognostic Nutritional Index (PNI) and Systemic immune-inflammation index (SII) were calculated. Multivariable logistic regression and Cox proportional hazards models were used to assess the impact of pretreatment mGPS, PNI and SII on overall survival (OS), progression-free survival (PFS), and overall response rate (ORR). **Result:** 82 patients were treated. Median age was 52.5 years (range; 20−77 years); 42.7% were female. Eighty-four point two percent of patients had an Eastern Cooperative Oncology Group Performance Status (ECOG PS) ≥1; 17.1% had received ≥2 prior systemic therapies. The objective response rate was 77.2% (CR+PR). The optimal cutoff levels were 0.09 for mGPS and PNI, 934.7 for SII by ROC curves analysis. Patients in the SII ≥934.7 grous was significantly correlated with worse PFS and OS by univariate analysis (Figure 1). In multivariate analyses, pretreatment prognostic nutritional index (PNI) ≥ 0.09 was independently associated with inferior OS (1 year OS rates, 90.2% vs. 73.7%; HR 2.46, 95% CI 0.88-4.85; p = 0.035). Additionally, we evaluated the effects of these markers on response prediction. The logistic regression analysis of the predictive factors for the response to crizotinib demonstrated that the mGPS and PNI were associated with inferior ORR (OR: 0.1, 95% CI 0.16-1.04; p = 0.009 and OR: 0.16, 95% CI 0.02-0.55; p = 0.035, respectively).

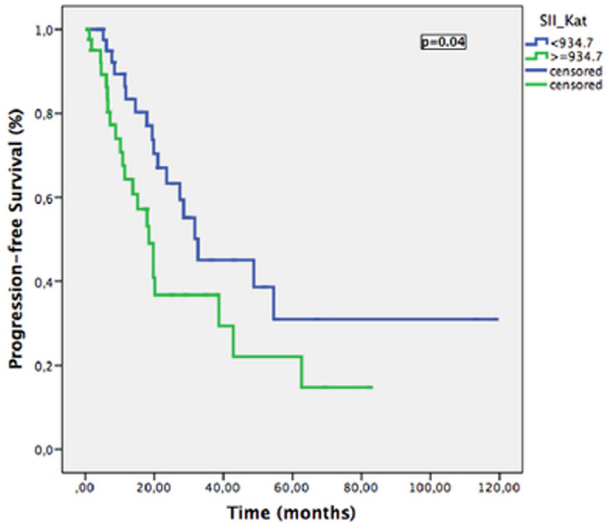

Figure 1.

Conclusion: In a cohort of patients with ALK positive NSCLC treated with crizotinib in routine practice, elevated pre-treatment SII was associated with shorter OS and PFS in univariate analysis and PNI was associated with shorter OS in multivariate analyses. Moreover the mGPS and PNI were associated with lower response rates. **Keywords:** Inflammation-based prognostic scores, Non small cell lung cancer, Anaplastic lymphoma kinase

P1.14-02
Survey of EGFR Molecular Testing of NSCLC in the Asia-Pacific Region

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Background: Around 1 million new lung cancer cases occur annually in the Southeast Asian and Western Pacific regions combined, comprising more than half the global new cases each year. In recent years several key oncogenic driver alterations have been identified in non-small cell lung cancer (NSCLC), including epidermal growth factor receptor (*EGFR*) gene mutations, which are detected in up to 60% of adenocarcinoma in Asian patients. *EGFR* mutation testing to optimise therapy and outcomes has become the standard of care in advanced NSCLC. This study aimed to survey the practice of *EGFR* mutation testing in NSCLC across countries in the Asia-Pacific region. **Method:** The survey was circulated as a web-based electronic online survey questionnaire (www.surveymonkey.com) from 18 August to 3 October 2018 to members of the Asian Pacific Society of Respirology. Survey questions sought information on the following aspects of *EGFR* molecular testing: prevalence, methods of testing, funding and cost, type of tissue or sample, time frame for test results, retesting after progression, prevalence of *T790M* testing and use of liquid biopsy. **Result:** Of 121 respondents from 16 countries who treated lung cancer patients, 71 (58.7%) treated <10 lung cancer patients per week, 38 (31.4%) treated 10-30 lung cancer patients per week, and 7 (5.8%) treated >30 lung cancer patients per week. A significantly higher percentage of NSCLC patients was tested for *EGFR* mutation in academic/tertiary centres and public hospitals than in private hospitals [96 of 99 (97.0%)] vs [18 of 22 (81.8%)] (OR, 7.11; 95% CI, 1.47−34.50; p=0.02). The percentage of *EGFR* mutation testing for ≥50% of cases was significantly higher when the number of lung cancer patients treated in the practice was ≥10 per week [40 of 45 (88.9%)] vs [49 of 71 (69.0%)] (OR, 3.56; 95% CI, 1.13−11.17; p=0.023). Testing for molecular aberrations in the initial biopsy was more commonly physician initiated [89 of 121 respondents (73.5%)] than reflex (i.e., ordered by the reporting pathologist based on histopatholgy) [32 respondents (26.4%)]. The percentage of *EGFR* mutation testing for ≥50% of cases was significantly higher when the test was fully reimbursed [46 of 51 (90.2%) compared to otherwise [47 of 70 (67.1%)] (OR, 1.63; 95% CI, 1.25−2.12; p=0.003). The turnaround time (days) was <7 (35.5% of the practices), 7-14 (47.9%) and >14 (12.4%). A significantly higher percentage of respondents would perform tissue rebiopsy in ≥50% of the cases with disease progression while on treatment with 1st- or 2nd-generation *EGFR*-TKIs if osimertinib was accessible for use, 34 of 72 (47.2%) compared to 7 of 49 (14.3%) if otherwise (OR, 5.37; 95% CI, 2.13-13.53; $p<0.0001$). Liquid biopsy for *T790M* mutation detection was performed more frequently in practices where there was access to osimertinib (91.6% vs 28.6%; OR, 27.50, 95% CI, 9.72-77.84; $p<0.0001$). **Conclusion:** It was more likely for ≥50% of NSCLC patients to be tested for *EGFR* mutation by respondents who treated ≥10 lung cancer patients per week and if the test was fully reimbursed. Tissue rebiopsy and liquid biopsy for *T790M* mutation detection was more frequently performed in practices with access to osimertinib. **Keywords:** EGFR mutation testing, Asia-Pacific, Rebiopsy