

DOI: 10.5152/TurkThoracJ.2019.05

[Abstract:0538] MS-007 [Accepted: Oral Presentation] [Pulmonary and Pleural Malignancies]

Clinical Features and Outcome of NOT-OTHERWISE SPECIFIED Lung Cancer via Small Biopsy Materials

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Objectives: Non-small cell lung cancer(NSCLC) can be diagnosed with small biopsy specimens due to the fact that 70% of patients are unresectable in advanced stages. Carcinomas lacking clear differentiation by morphology and special stains are classified as NSCLC, not otherwise specified (10%). The aim of this study was to investigate the clinical and survival characteristics of patients with NOS diagnosed with small biopsy specimens as the primary endpoint, and to evaluate mortality such as interstitial lung disease and COPD as secondary targets.

Methods: Retrospective population-based study of 196 NSCLC-NOS patients diagnosed histologically or cytologically via small tissue samples (bronchoscopic bronchial mucosa sampling, transthoracic lung biopsy, pleural fluid cytology (including cytobloc), conventional or EBUS lymph node aspiration specimens) from the Atatürk Chest Diseases and Thoracic Surgery Health Practice and Research Center from January 2011 to December 2016.

Results: The majority of the 196 cases included in the study were advanced stage (55.61%) and male gender (95.4%). The percentage of 35.71 EGFR19, EGFR21, ALK and 32.14% of ROS1 mutation analysis were performed; 5.71% had EGFR exon 19, 1.42% had EGFR exon 21 deletion, 4.28% had ALK and 1.58% had ROS1 positivity. According to lymph node staging system, N3 group had significant effect on survival [N3-N0 ($p=0.001$), N3-N2 ($p=0.035$)]. In the 8th staging system, the effect of the M1a and M1c groups on the total survival was found to be significant (14.45 ± 11.9 month 5.92 ± 5.6 month, $p=0.017$). The survival rate was significantly higher in stage IIIA and B cases than in both IV staging systems ($p<0.001$). No difference was found between stage IIIC cases and advanced stage cases ($p=0.24$) and the effect of progression-free survival could not be shown (PS) (respectively $p=0.332$, $p=0.178$). In 26 cases advanced diagnosis were done with surgery (lobectomy, pneumonectomy), cryobiopsy, FOB and TTIAB; 42.307% had squamous cell carcinoma, 34.61% had adenocarcinoma, 9.23% had large cell carcinoma and 3.87% had adenosquamous carcinoma. Group D COPD had significant effect on survival. No significant effect was shown between the presence of interstitial lung disease and VKI on PS and total survival.

Conclusion: Carcinoma NOS patients had the poorest survival among major NSCLC histologies and carried an unfavorable prognosis among stage 4, tumour size, presence of metastasis and COPD. Using targeted therapy as a first-line treatment, especially in advanced NSCLC. The importance of subtyping in lung cancer and the factors affecting survival should be better illuminated. We believe that our study contributes to the literature because it reflects prognostic data according to both staging systems with a large series including only NSCLC-NOS cases.

Keywords: Non-small cell lung cancer, not-otherwise specified, survival analyses