



PD-L1 EXPRESSION IN VARIOUS NSCLC CYTOLOGY SAMPLES PREPARED AS NON-CELL BLOCKS

ŠIMIĆ V.¹, Vrabec Branica B.¹, Harabajsa S.¹, Marušić A.², Badovinac S.³, Jakopović M.^{3,4}, Smojver-Ježek S.^{1,4}

¹ University Hospital Centre Zagreb, Zagreb, Croatia
Department of Pathology and Cytology, Division of Pulmonary Cytology Jordanovac

² University Hospital Centre Zagreb, Zagreb, Croatia
Department of Radiology

³ University Hospital Centre Zagreb, Zagreb, Croatia
Department of Lung Diseases Jordanovac

⁴ University of Zagreb, Zagreb, Croatia
School of Medicine

Objective: Aim: To compare PD-L1 expression between cytology samples obtained with bronchoscopy (bronchial washing/brushing; BW/BB and transbronchial fine needle aspirations; TBFNA) and other cytology samples such as pleural effusion, FNA of peripheral lymph nodes, FNA of skin nodules and transthoracic FNA/biopsy; all prepared as non-cell block cytology.

Materials and methods: We compared archive records of the result of PD-L1 expression in relation to specimen type (bronchoscopic and non-bronchoscopic samples) prepared as smears at our institution over a one year period.

Air dried cytology smears and cytopsins of NSCLC were stained with Anti-PD-L1, Clone 22C3, Dako on Autostainer. PD-L1 protein expression was scored by using Tumor Proportion Score (TPS) with positive cut-off of $\geq 1\%$. The



slides were routinely examined and scored by two cytologists.

Result: Out of 393 cytological smears that underwent PD-L1 scoring we have compared 341 smears. There were 216 samples of materials collected during bronchoscopy and 125 of various other samples; 37 were obtained by FNA of peripheral lymph nodes, 28 by FNA of skin nodules, 28 by transthoracic FNA/biopsy and 32 pleural effusion. PD-L1 stained negative in total of 179/341 (52,49%) samples. PD-L1 stained positive in total of 162/341(47,50%) samples of which 105 were obtained with bronchoscopy and 57 of samples collected with other methods. Among of total PD-L1 positive smears, 72 were PD-L1 positive $\geq 50\%$; 45/105 (42,8%) were bronchoscopical samples and 27/57(47,3%) other samples. Comparison in PD-L1 expression between two groups of samples showed no statistical significant difference among groups (X2 test, df 1, $p=0,591$). Comparison between two groups of PD-L1 positive $\geq 50\%$ showed no statistical significant difference among samples groups (X2 test, df 1, $p=0,581$).

Conclusion: There were no statistical significant differences in PD-L1 protein expression between samples collected during bronchoscopy and non-bronchoscopic samples prepared as non-cell block cytology. PD-L1 expression was independent of cytology sample type in our study.