

AB021. S021. Expression patterns and clinical implications of immunotherapy targets PD-1, PD-L1 and CD163 in undifferentiated carcinoma of the pancreas with osteoclast-like giant cells

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Abstract: One of the variants of pancreatic ductal adenocarcinoma (PDAC), the undifferentiated carcinoma with osteoclast-like giant cells (UCOGCs), has been recently studied with whole-exome sequencing. Despite striking similarities of somatic mutations with PDAC, the clinical course of UCOGC is very different from PDAC. Considering the relevance of immunotherapy markers in solid tumors, we investigated the expression of PD-1, PD-L1 and CD163 in a series of UCOGC. To this aim, 23 pancreatic UCOGC (10 pure and 13 PDAC-associated) and 5 extra-pancreatic tumors with osteoclast-like giant cells were immunostained using antibodies against PD-1, PD-L1 and CD163. In pancreatic UCOGC, PD-L1 was expressed in neoplastic cells of 15/23 (65%) cases, more often in cases with an associated PDAC (11/13) (P=0.039). This marker showed a poor prognostic value, confirmed at multivariable analysis: patients with PD-L1 positive UCOGC had a risk of all-cause mortality of more than 3 times fold than those with PD-L1 negative tumors (HR: 3.340; 95% CI: 1.062–17.999; P=0.036). PD-1 was expressed on rare lymphocytes in 10 UCOGC (43.5%), mainly located at the tumor periphery. CD163 was expressed on histiocytes, with a diffuse and strong staining pattern in all UCOGCs. Extra-pancreatic cases showed very similar staining patterns for the same biomarkers. Concluding, we report the expression of PD-L1, PD-1 and CD163 in a significant number of UCOGC, and show that PD-L1 has prognostic significance. Our results may have important implications for the immunotherapeutic strategies in this tumor type, and possibly for tumors with osteoclast-like giant cells of other organs.

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