111P  PD-L1 expression in TNBC: A predictive biomarker of response to neoadjuvant chemotherapy


Background: Immune system plays an important role in tumor surveillance and escape. Recently tumor infiltrating lymphocytes (TILs) have been proposed as a predictive biomarker for clinical outcome and pathological response (pR) after neoadjuvant (neoad) chemotherapy (CT) in breast cancer. PD-L1 is expressed in about 20% of TNBC, suggesting the possibility of being a therapeutic target for this subtype of cancers. Here we studied the association between PD-L1 expression and pR in TNBC.

Methods: We enrolled 54 pts who had received neoad CT (EC for 4 cycles followed by Paclitaxel q21 for 4 cycles) between Jan 2008 and Dec 2016 at Policlínico Umberto I and San Giovanni Hospital of Rome. We performed IHC for CD20, CD3, CD4, CD8, and peripheral blood immune markers. The clinical stage before neoad CT was as follow: 12.9% cT1 (7 pts), 72.2% cT2 (39 pts), 3.7% cT3 (2 pts), 1.85% cT4 (1 pt) and 5.5% cTx (3 pts). 23 pts were cN+ (42.5%). After neoad CT 30 pts underwent mastectomy (55%) and 24 conservative surgery (45%). 19 pts (35%) showed pCR. No significant associations were found between pR and cT, cN, age, histotype and KI-67. In 64.8% of basal biopsies (35 pts) PD-L1 was not detected on tumor cells and in 18.5% (10 pts) it was absent in the immune infiltrate. PD-L1 expression was detected in >25% of tumor cells in 4 pts, all of which showed pCR (p = 0.024). No associations between intensity of membrane staining and pR were detected (p = 0.7). The immune infiltrate was characterized mostly by the presence of CD3+ CD8+. No statistically significant associations between and PD-L1 expression on immune infiltrate were detected.

Conclusions: Basal PD-L1 expression on cancer cells was associated with a better pR in TNBC undergoing neoad CT. The introduction of anti PD-1/PD-L1 therapy in this setting of pts could lead to interesting results.

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