143P   **Tumor infiltrating lymphocytes (TILs) and PDL1 expression as prescreening enrichment biomarkers of clinical benefit to immune checkpoint inhibitors (CI) in early clinical trials (ECT)**

J. Martin-Liberal[1], F. Pagliuca[2], C. Hierro[1], C. Viaplana[3], E. Muñoz Couselo[4], J. Capdevila[5], I. Matos[4], L. Fariñas Madrid[4], E. Zamora[4], I. Braña Garcia[4], E. Elez Fernandez[4], M. Ochoa De Olza Amat[4], A. Azaro[4], M. Alsina[4], M. Vieito Villar[1], R. Fasani[1], J. Tabernero[4], E. Garralda[6], R. Dienstmann[3], P.G. Nuciforo[7]

[1]Oncology, Vall d'Hebron Institute of Oncology (VHIO)-Cellex Center, Barcelona, Spain, [2]Department of Advanced Biomedical Sciences, Pathology Section, Naples University Federico II, Naples, Italy, [3]Oncology Data Science (ODysSey) Group, Vall d'Hebron University Hospital, Barcelona, Spain, [4]Medical Oncology, Vall d'Hebron University Hospital, Barcelona, Spain, [5]Gastrointestinal and Endocrine Tumor Unit, Vall d'Hebron University Hospital, Barcelona, Spain, [6]Early Drug Development Unit, Vall d'Hebron Institute of Oncology (VHIO)-Cellex Center, Barcelona, Spain, [7]Molecular Oncology, Vall d'Hebron University Hospital, Barcelona, Spain

Background: Patients (pts) enrolled in ECT with CI are mainly selected based on tumor type. Genomic markers are informative in few cases. We assessed microenvironment markers as prescreening tool to identify pts with higher chances of clinical benefit from CI.

Methods: Pts treated with anti PD1/PDL1 drugs in monotherapy or in combination with other CI in ECT at our centre were evaluated for TILs on hematoxylin-eosin stained sections and PDL1 expression in tumor (tumcells) and immune cells (immcells) by immunohistochemistry (SP263 antibody). Results were correlated with clinical outcomes.

Results: From June 16 to June 17, 64 pts were recruited. TILs and PDL1 expression were available for all and 39 pts, respectively. Tumor types were melanoma (16 pts), neuroendocrine (9), gyne (8), breast (5), H&N (4), others (22). In total, 38 pts received anti PD1/PDL1 in monotherapy, the rest received anti PD1/PDL1 based combinations (12 pts had prior CI treatment). Response rate (RR) was 22%; median PFS was 4 months (m) (CI95% 3.30-5.57). We found no differences in PDL1 expression in tumcells according to tumor type (Kruskal test $p = 0.33$) and a weak correlation between TILs and PDL1 in tumcells (Pearson 0.44; $p = 0.004$) or immcells (Pearson 0.57; $p = 0.0001$). Median TILs was 7% (range 1-90), with no difference according to tumor type (Kruskal test $p = 0.45$). Median TILs was higher in pts with response to CI (17.5% v 5%, Kruskal test $p = 0.06$). RR in pts with TILs $\geq$7% was 32% v 9% if TILs <7% (Fisher test $p = 0.06$). In a multivariable logistic model adjusting for tumor type and CI regimen, RR was significantly higher in pts with TILs $\geq$7% (odds ratio 8.2; $p = 0.05$). Median PFS in pts with TILs $\geq$7% was 5 m v 3.7 m if TILs <7% (HR = 0.57 in a multivariable Cox model, $p = 0.06$). In univariate models, there was a trend for higher RR if PDL1 $\geq$1% in tumcells (35% v 12%, fisher test $p = 0.28$) or if PDL1 $\geq$1% in immcells (35% v 16%, fisher test $p = 0.27$). PFS was not correlated with PDL1 expression.

Conclusions: Quantifying TILs is a simple prescreening strategy that may help select pts for CI therapy in ECT from otherwise unselected population. The value of adding PDL1 expression needs further investigation.