Immune-response markers and actual response to immune-oncology therapy in uterine serous carcinoma.

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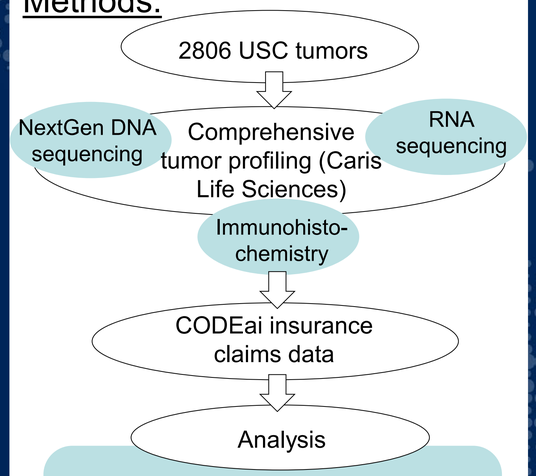
Background:

- Uterine serous carcinoma (USC) is an aggressive type of endometrial cancer with poor prognosis and limited treatment options.
- Immune-oncology (IO) agents have shown promise USC, though data is limited regarding which patients benefit most from IO therapy.
- In other malignancies, PD-L1, MSI-H status and high TMB have been predictive of IO response.

Objective:

characterize the immune profiles of USC and investigate treatment response to IO therapy

Methods:



- Statistical significance determined by chi-square and Wilcoxon rank sum test.
- p values adjusted for multiple comparisons (q) to be <0.05
- Survival calculated using CodeAI data

Figure 1: Flowchart describing methods

Results:

A

Figure 2: Treatment with IO therapy in USC had a significantly improved median overall survival benefit of more than 28 months.

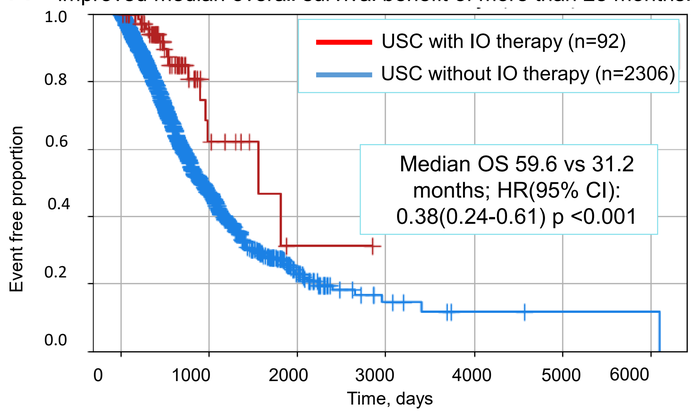


Figure 3: Markers of response to IO therapy. Serous tumors were low in microsatellite instability and tumor mutation burden. Nearly 20% expressed PD-L1.

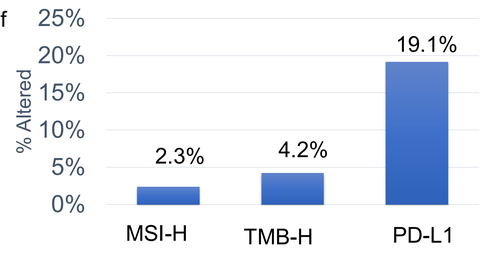


Figure 4: Immune microenvironment characterized by immune-cell fraction.

Immune Cell	
B cell	4.71%
Macrophage M1	1.35%
Macrophage M2	5.35%
Monocyte	0.00%
Neutrophil	2.10%
NK cell	2.94%
T cell CD4+ (non-regulatory)	0.00%
T cell CD8+	0.12%
T cell regulatory (Tregs)	1.59%
Myeloid dendritic cell	3.45%
uncharacterized cell	74.78%

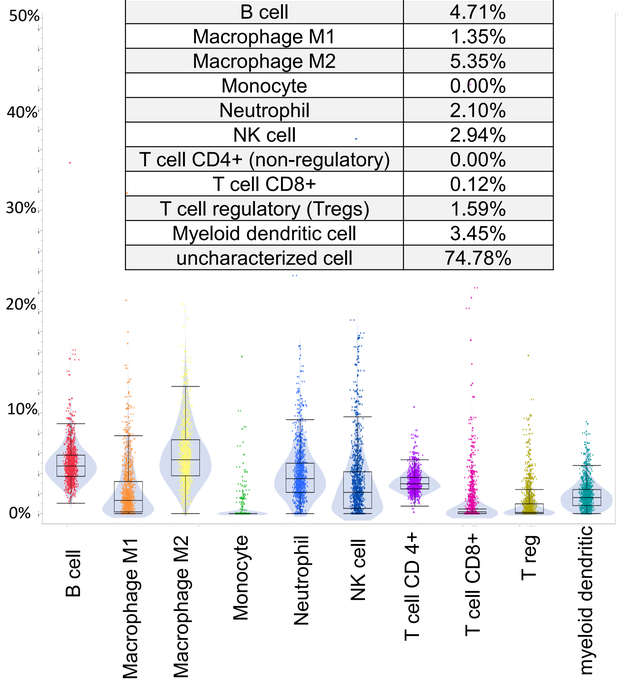
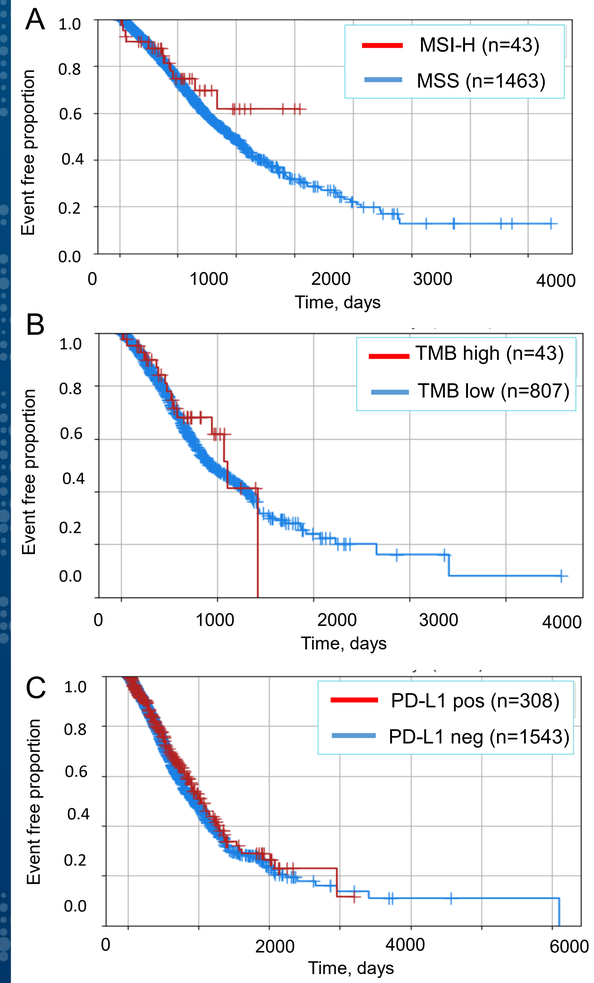


Figure 5: Patients with IO therapy response markers trended toward a better median survival, but this was not significant; **A**. MSI-H (OS not yet reached vs 31.6 months; HR(95% CI): 0.69(0.38-1.25) , **B.** TMB-H (months: 36.4 vs 31.6; HR(95% CI): 0.84(0.50-1.39). **C.** PD-L1 (months: 34.4 vs 31.2; HR(95% CI): 0.90 (0.74-1.1),



KEY FINDINGS:

- IO therapy was associated with a median OS benefit of > 2 years.
- We did not identify any prognostic markers of IO-therapy response.
- MSI-H and TMB-H are rare in USC, but PD-L1 is present in nearly 20% of cases.
- Notably these markers did trended toward a survival benefit, which could have important clinical implications. Further study is warranted.