Circulating tumor cell (CTC) enumeration in patients (pts) with metastatic genitourinary (mGU) tumors treated in a phase I study of cabozantinib and nivolumab (CaboNivo) +/- ipilimumab (CaboNivoIpi)

Background

- Circulating Tumor Cells (CTCs) and circulating T-Cells may serve as biomarkers for clinical outcomes in GU tumor patients.
- Cabozantinib may have immunomodulatory properties that counteract tumor-induced immunosuppression, providing a rationale for combining cabozantinib with checkpoint inhibitors.
- We examined the association between CTCs and T-Cell subtypes at baseline and post-treatment at cycle 2 and 3, with response to therapy with combination cabozantinib and nivolumab or cabozantinib, nivolumab, and ipilimumab.

Methods

Blood samples from mGU cancer patients undergoing CaboNivo or CaboNivoIpi therapy were collected at baseline and on-therapy and sent to Epic Sciences for processing. Slides were stained with pan-CX/CD45/PD-L1(DAPI) for CTC detection or CD4/CX/Ki-67(DAPI) for T-Cell analysis. Approximately 3 million cells per slide were imaged through advanced digital pathology pipelines to detect and quantify CTCs in a sensitive manner of 10^-6 - 10^-7 from a single tube of blood.

Results

Sensitivity of 10^-6 - 10^-7 from a single tube of blood

Conclusions

- The Epic Sciences Functional Cell Profiling (FCP) platform is able to detect and characterize CTC and T-cell at the single cell level with a sensitivity of 10^-6 - 10^-7 from a single tube of blood.
- High CTC counts at Cycle 2, and low %CD4 in GU-cancer patients is associated with lower response to therapy and shorter survival.
- Ongoing efforts include morphology analysis of T-cell populations and patient subgroups at cycle 2 align with previous studies.