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Rachel Ng; ... et. al

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Longitudinal multiomic analysis associates T cell dynamics with recurrence of ovarian cancer after chemotherapy

Rachel Ng[1,3], Dan Yuan[1], Inyoul Lee[1], Sarah Li[1], Pamela Troisch[1], Sergey Kornilov[1], Brett Smitt[1], Andrew Magis[1], Kim Murray[1], Rick Edmark[1], Charles Drescher[2], James Heath[1]

[1]Inst. for Sys. Bio., [2]Swedish Cancer Inst., [3]Univ. of Washington

In the US, ovarian cancer is a relatively rare but lethal cancer that causes the 5th most cancer deaths in women. Current standard of care involves surgery and chemotherapy. While there are attempts to introduce immunotherapy, clinical trials of immune checkpoint blockade showed limited effect thus far. There is a need to understand the cancer-intrinsic and patient-intrinsic factors that would affect patient outcome, especially factors related to immune engagement. We performed deep multiomic longitudinal analysis of 29 ovarian cancer patients before and after chemotherapy. We analyzed blood plasma proteomics and metabolomics, and profiled 132,124 circulating T cells for single-cell whole transcriptome, surface proteins, and T cell receptor sequences. Our characterization of patients' longitudinal response identified biomarkers and T cell dynamics predicting patient outcome.

SESSION: T Cells in Cancer III (AM)

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