

Monitoring immunotherapies with liquid biopsies: the experience of Sapienza University of Rome

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Immune-checkpoint inhibitors (ICIs), have revolutionized the treatment of many solid tumors, including non-oncogene addicted non small cell lung cancer (NSCLC). Currently, the use of ICIs is the standard of care in first-line treatment for NSCLC, either as monotherapy or in combination with chemotherapy, based on tissue expression of PD-L1 according to the Tumor Proportional Score (TPS). Although chemoimmunotherapy is currently the preferred first-line treatment option for the majority of patients without driver genetic alterations, most patients experience disease progression within the first year after treatment initiation, leading to an intensive research to identify biomarkers of treatment efficacy. LIQUID-LUNG is a prospective trial aimed to evaluate the clinical validity of a multimodal liquid biopsy in patients candidate to chemo-immunotherapy vs ICIs alone. Specifically canonical CTCs, tumor macrophage fusion cells and CTC clusters have been enumerated, characterised and compared at different timepoints to understand their overlap and complementary contribution in patients' management.