POTENTIAL ROLE OF SERUM PROTEOME IN PREDICTING IMMUNE-RELATED ADVERSE EVENTS FROM IMMUNOTHERAPY IN NON-SMALL CELL LUNG CANCER

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Background Predicting immune-related adverse events (irAEs) in early stage is being emphasized even more. Host response to disease is reflected in serum proteome level and that allows serum proteome level as a new marker to explore response to immunotherapy. With the help of a serum-based proteomics test, Primary Immune Response (PIR), we are accessing the correlations between developing irAEs and immunotherapy in non-small cell lung cancer (NSCLC) patients.

Methods Data of 48 consented NSCLC patients with baseline PIR test done within one week prior to the start of immunotherapy were collected. Samples were grouped into either sensitive or intermediate/resistant (not sensitive) by PIR classification. We analyzed the durations from the immunotherapy initiation to the first episode of irAE. IrAEs were graded according to Common Terminology Criteria for Adverse Events (CTCAE) v5.0.

Results Among the 48 NSCLC patients, 19 patients (39%) experienced one or more irAEs with the majority classified as either grade 1 (n=7, 36%) or grade 2 (n=10, 52%). PIR-sensitive group showed no difference in irAE free period compared to PIR-not sensitive ($p=0.92$, $HR=0.95$, 95% $CI=0.3212$ to 2.834). The median 'Time to first irAE' were undefined and 24 in PIR-sensitive and PIR-not sensitive, respectively.

Conclusions Our results demonstrated PIR-sensitive patients are not likely to tolerate immunotherapy longer without developing irAEs.

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