FPN 116P: Any regression of tumor (ART) as an intermediate endpoint in patients (pts) treated with immune checkpoint inhibitors (ICI): a pan-cancer analysis

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Background

- Response to ICI per RECIST 1.1 or immune-related (ir)-RECIST is associated with improved overall survival (OS)[1,2].
- Pts with stable disease (SD) may also benefit from therapy but constitute a heterogeneous group where the increase or decrease in tumor size does not meet response or progression criteria, respectively.
- Tumor regressions following ICI are likely to occur from activity of therapy and are known to be generally more durable compared to other treatments[3].
- We hypothesize that ART is a valuable objective intermediate endpoint associated with OS for advanced malignancies treated with ICI, which may better capture a signal of activity beyond RECIST1.1/irRECIST responders without requiring radiology reviews.

Methods

- 1216 pts with advanced non-small cell lung cancer (NSCLC), melanoma, urothelial carcinoma (UC), esophagogastric cancer (EGC), renal cell carcinoma (RCC), head and neck squamous cell cancer (HNSCC), and colorectal cancer (CRC) treated with ICI were included.
- Data on known key prognostic factors were collected: Neutrophil-Lymphocyte Ratio (NLR), sites of metastasis, ECOG-performance status, tumor mutation burden (TMB), and prior therapy.
- Cox proportional hazards models examining association of ART and RECIST1.1 with OS were performed and results were validated using bootstrap analyses of 1000 replicates.

Conclusion

Any regression of tumor (ART) is a robust and readily determined intermediate endpoint capturing a signal of activity and OS benefit in pts with advanced solid tumors receiving ICI compared to RECIST 1.1.

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Future Directions

- External Validation of ART in a larger cohort.
- Use of ART to objectively capture activity of ICI without requiring burdensome radiology reviews (RECIST1.1/irRECIST) in future prospective and retrospective studies.

References

1) Eisenhauer EA, et al. Eur J Cancer. 2009Jan;45(2):228-47
2) Seymour L, et al. Lancet Oncol 2017; Mar; 18(3):e143-e152.
3) Pons-Tostivint E et al. JCO Precis Oncol. 2019 Dec;3:1-10.

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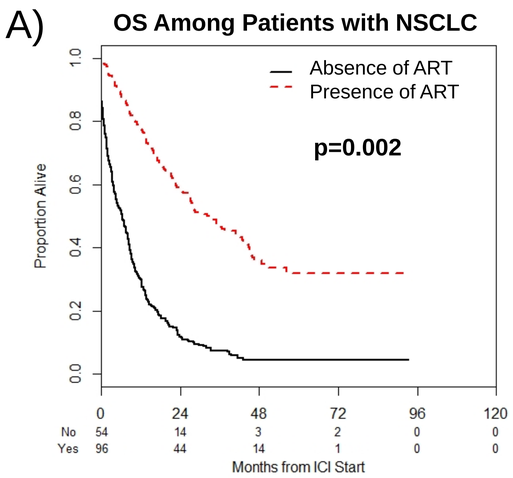
- None to be reported

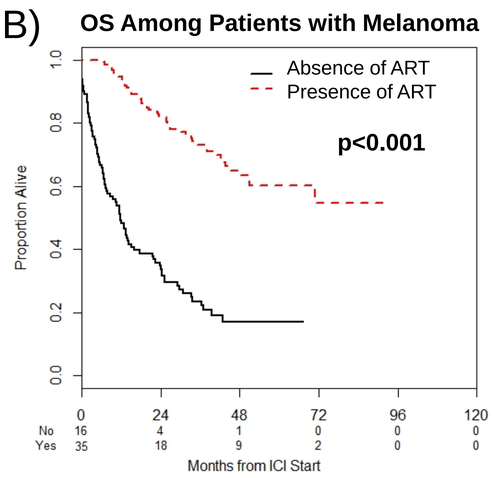
Results

- Median age: 66 (range 58-73); 58% were male.
- Per RECIST 1.1, 68 pts (5.6%) had complete response, 277 (22.9%) partial response, 579 (47.7%) progressive disease, and 290 (23.9%) SD
- 175 (60.3%) pts with SD had ART.
- In NSCLC and Melanoma, where number of pts with SD is > 25, ART was associated with prolonged OS (Figures A & B).

A)



B)



In the entire cohort, ART remained significantly associated with OS on multivariable analysis (Figure C).

C)