9-1-2021

1317P Renal toxicity in black patients with non-squamous non-small cell lung cancer treated with combination platinum-pemetrexed-pembrolizumab therapy

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Recommended Citation

Balanchivadze N, Nasser Z, Shahid M, McKay C, Li P, Sohaney R, and Gadgeel SM. 1317P Renal toxicity in black patients with non-squamous non-small cell lung cancer treated with combination platinum-pemetrexed-pembrolizumab therapy. Ann Oncol 2021; 32:S1013.

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Table: 1316P

	All eligible patients (complete case analysis)	Excluding patients ALK+/ EGFR+/ROS1+	Patients with non-squamous histology	Index date ≥2015	All eligible patients (multiple imputation for missing baseline characteristics)
Exposure	N and HR (95% CI)	N and HR	N and HR	N and HR	N and HR
Atz	N= 202, HR= 0.78 [0.64-0.96]	N=182, HR=0.77 [0.62-0.96]	N=140, HR=0.69 [0.53-0.89]	N=202, HR=0.75 [0.58-0.96]	N=265, HR=0.78 [0.65-0.94]
Dtx (Ref)	N= 494	N= 448	N= 356	N= 166	N= 946
Atz	N=202, HR=1.08 [0.89-1.3]	N=182, HR=1.10 [0.9-1.33]	N=140, HR=0.91 [0.71-1.18]	N=202, HR=1.07 [0.88-1.3]	N=265, HR=1.08 [0.91-1.3]
Niv (Ref)	N= 2574	N= 2350	N= 855	N= 1303	N= 3826

Legal entity responsible for the study: F. Hoffmann-La Roche.

Funding: F. Hoffmann-La Roche.

Disclosure: V. Subbiah: Financial Interests, Personal, Research Grant: PharmaMar; Financial Interests, Personal, Research Grant: Loxo; Financial Interests, Personal, Research Grant: Novartis; Financial Interests, Personal, Research Grant: Bayer; Financial Interests, Personal, Research Grant: GSK; Financial Interests, Personal, Research Grant: Nanocarrier; Financial Interests, Personal, Research Grant: Vegenics; Financial Interests, Personal, Research Grant: Celgene; Financial Interests, Personal, Research Grant: Northwest Biotherapeutics; Financial Interests, Personal, Research Grant: BERG Health; Financial Interests, Personal, Research Grant: Incyte; Financial Interests, Personal, Research Grant: Fujifilm; Financial Interests, Personal, Research Grant: D3; Financial Interests, Personal, Research Grant: Pfizer; Financial Interests, Personal, Research Grant: Multivir; Financial Interests, Personal, Research Grant: Amgen; Financial Interests, Personal, Research Grant: AbbVie; Financial Interests, Personal, Research Grant: Alfasigma; Financial Interests, Personal, Research Grant: Agensys; Financial Interests, Personal, Research Grant: Boston Biomedical; Financial Interests, Personal, Research Grant: Idea Pharma; Financial Interests, Personal, Research Grant: Inhibrx; Financial Interests, Personal, Research Grant: Exelix. A. Gupta: Financial Interests, Personal, Full or part-time Employment: Cytel. J. Ray: Financial Interests, Personal, Full or part-time Employment: F. Hoffmann-La Roche. P. Arora: Financial Interests, Personal, Full or part-time Employment: Cytel. K. Thorlund: Financial Interests, Personal, Full or part-time Employment: Cytel. S. Ramagopalan: Financial Interests, Personal, Full or part-time Employment: F. Hoffmann-La Roche.

https://doi.org/10.1016/j.annonc.2021.08.1918

1317P Renal toxicity in black patients with non-squamous non-small cell lung cancer treated with combination platinum-pemetrexed-pembrolizumab therapy

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Background: In Keynote 189, an increased incidence of renal toxicity was observed with combination platinum-pemetrexed-pembrolizumab (PPP) therapy compared to chemotherapy alone. Studies have shown that compared to White Americans, Black Americans are at higher risk of morbidity and mortality associated with chronic kidney disease (CKD). We conducted a retrospective analysis of patients treated with PPP to assess the rate of renal toxicity in Black and White patients.

Methods: Data of self-identified non-hispanic (NH) Black and NH White patients with advanced NS-NSCLC who were treated with PPP between January 1, 2017, and November 1, 2020, at the Henry Ford Health System was analyzed. Serum creatinine (Cr) and calculated glomerular filtration rate (GFR) before the first cycle of PPP and over the duration of PPP therapy were assessed. Acute kidney injury (AKI) was defined as an increase in Cr 1.5 times the baseline value. Reduction in GFR of $\geq$ 30% was considered significant. Multiple variables and outcomes were analyzed by two-group comparisons, univariate analysis, and Cox regression.

Results: A total of 134 patients were included in the analysis. The mean age was 66.5 (SD 8.6) years, and 65 (48.5%) patients were men. A total of 33 (24%) patients were NH Black and 101 (75.4%) were NH White. There were 10 (8.1%) patients who developed AKI, and the median time to development of AKI was 4.5 months. No significant association of Black (3) or White (7) ethnicity with AKI was observed (p =.57). The odds of developing AKI was not increased in patients with a history of hypertension (p =.67), diabetes mellitus (p =.33), cardiovascular disease (p =.68), or CKD (p =.33). A total of 17 out of 127 (13.4%) patients had significantly reduced GFR, and patients with CKD were more likely to have reduced GFR (OR 4.8, p =.02). At the median follow-up of 24.5 months, the median survival was 15.2 months (95% CI, 12.7-22.2). Black ethnicity (HR 1.21, p =.46) and development of AKI (HR 1.13; 95% CI, 0.45−2.86) were not associated with increased mortality.

Conclusions: Black patients with NS-NSCLC treated with PPP are not at higher risk of AKI or death than White patients. Development of AKI after PPP therapy was not associated with increased mortality.

Legal entity responsible for the study: The authors.

Funding: Has not received any funding.

Disclosure: S.M. Gadgeel: Financial Interests, Personal, Advisory Role, Honoraria: AstraZeneca; Financial Interests, Personal, Advisory Role, Honoraria: Roche/Genentech; Financial Interests, Personal, Advisory Role, Honoraria: Takeda; Financial Interests, Personal, Advisory Role, serve on IDMC on a phase III trial sponsored by AstraZeneca: Pfizer; Financial Interests, Personal, Advisory Role, Honoraria: Bristol Myers Squibb; Financial Interests, Personal, Advisory Role, Honoraria: Novartis; Financial Interests, Personal, Advisory Role, Honoraria: Janssen; Financial Interests, Personal, Advisory Role, Honoraria: Merck; Financial Interests, Personal, Advisory Role, Honoraria: Eli Lilly; Financial Interests, Personal, Advisory Role, Honoraria: Blueprint. All other authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2021.08.1919

1318P Neutrophil extracellular traps as a potential predictive marker for treatment with pembrolizumab alone or with chemotherapy as a first-line in patients with metastatic non-small cell lung cancer

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Background: In this multicentric retrospective study, we evaluated the correlation between pre-treatment blood neutrophils and neutrophil extracellular traps (NET) in biopsy samples and their predictive value for progression free survival (PFS) in patients with non-small cell lung cancer (NSCLC) receiving immunotherapy alone or in combination with chemotherapy as a first-line treatment.

Methods: Patients with metastatic NSCLC (n=70) were retrospectively analyzed between Apr 2019 and Dec 2020; 80% of the patients received platinum-containing chemotherapy with Pembrolizumab, and 20% — only Pembrolizumab as a first-line treatment. Tissue sections were stained immunohistochemically for Neutrophil elastase (NE) and Histone H3. Both NE and Histone H3 stained tissue areas were calculated manually and determined by Image-J software. We considered the extracellular component that was double-positive for NE and H3 to be NET.

Results: There were no significant relationships between patients` clinicopathological characteristics and detected NETs in the tumor samples. A positive correlation trend was observed between pre-treatment blood neutrophil counts and NET detection in the primary tumours (Rho= 0.22, p=0.07). Patients with a high amount of NET-positive areas (>66th percentile) had significantly shorter mean PFS, 11.5 months (95% CI: 10.2-13.1) than those with an intermediate/low amount of NET-positive areas, 15.9 months (95% CI: 13.5-18.4) (log-rank test p=0.009). Moreover, in a multivariate Cox regression model, the presence of a high amount of NET-positive areas was an independent predictive factor for shorter PFS, HR 2.5 (95% CI: 1.2-5.1; p=0.012).

Conclusions: High blood neutrophils tend to correlate with a high amount of NET-positive areas in the primary tumours. Excessive NET formation in tumour tissue is a potential negative predictive marker for short PFS.

Legal entity responsible for the study: The authors.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2021.08.1920