expansion, give rise to differentiated subsets, and mediate long-term tumor control and T cell persistence, in line with recent murine ICB studies mediated by TCF+ progenitor T cells.\textsuperscript{4, 5} Our data also suggest that TIL subsets mediating ACT-response (stem-like CD39-) might be distinct from TIL subsets enriched for anti-tumor-reactivity (terminally differentiated CD39+) in human TIL.\textsuperscript{6, 7}

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Trial Registration NA

Ethics Approval The study was approved by NCI’s IRB ethics board.

REFERENCES


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Abstract 774 Figure 1 Antibiotics up to six months before ICI reduce OS

Figure 1: Antibiotics Prior to Checkpoint Inhibitor Therapy Lead to Inferior Overall Survival: Analysis of patients treated with any type of antibiotic lead to worsened overall survival compared to those who did not receive antibiotics or who received a one time dose of cefazolin. Statistical analysis showed by both Log Rank and Wilcoxon testing p-values were $<0.0001$ with median survival 6.5y vs. 2.3y for those who received antibiotics prior to ICI treatment (HR 3.4, 95% CI 2.2 to 5.3).

Abstract 774 Figure 2 Antibiotics up to six months before ICI reduce PFS

Figure 2: Antibiotics Prior to Checkpoint Inhibitor Therapy Lead to Inferior Progression-Free Survival: Analysis of patients treated with any type of antibiotic lead to worsened progression-free survival as well compared to those who did not receive antibiotics or who received a one time dose of cefazolin. Statistical analysis showed by both Log Rank and Wilcoxon testing p-values were 0.0027 and 0.0011 respectively. Median PFS from initiation of immunotherapy was 1.1y vs. 0.46y for those who received antibiotics prior to ICI treatment (HR 1.7, 95% CI 1.2 to 2.5).

Checkpoinнт blockade therapy

**774 ANTIBIOTIC ADMINISTRATION PRIOR TO IMMUNOTHERAPY LEADS TO POOR OVERALL SURVIVAL ACROSS MULTIPLE MALIGNANCIES**

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Background The use of immune checkpoint inhibitors (ICI) has increased significantly in the past five years, along with the number of available drugs and regimens. ICIs have dramatically increased survival in cancer patients, however, there has been data to show that they have reduced efficacy in the presence of antibiotics.\textsuperscript{1} Antibiotic use prior and during ICI therapy was associated with worsening clinical outcomes in patients with renal cell carcinoma,\textsuperscript{2} melanoma,\textsuperscript{3} and non-small-cell-lung-cancer.\textsuperscript{4} Specifically, exposure within 60 days of initiation of ICIs in NSCLC seemed most detrimental, however, some studies have suggested that antibiotics disrupt intestinal microflora for up to six months.\textsuperscript{5, 6} Therefore, we hypothesized that the duration of the antibiotic effect on ICI efficacy may be present for a longer duration.

Methods The electronic medical record was queried at the University of Cincinnati Medical Center for the administration of ICIs and antibiotics. Data was collected on the use, type, and duration of antibiotics before ICI use after administration with relevant demographic and clinicopathologic variables including treatment type, cancer type, staging information, and clinical course including subsequent antibiotic use. Univariate (Fisher’s Exact) and multivariant analysis (multiple logistic regression) were conducted and survival analysis was determined according to log-rank testing.

Results 217 patients were examined. The median age was 64 (range 22-93), 38% were female, 73% had ECOG 0-1, and 77% were white. Cancer types included melanoma 24%, non-small-cell lung cancer (NSCLC) 34%, small cell lung cancer 2%, renal cancer 11%, urothelial cancer 10%, head and neck cancers 11%, and 16% other primaries. 20% remained on ICI at the time of data entry. The most

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common ICIs were pembrolizumab, nivolumab, followed by ipilimumab-nivolumab, durvalumab, and durvalumab. 81 patients of 218 received antibiotics within 6 months of receiving checkpoint inhibitors. Of antibiotics administered, the most common classes were cephalosporins (86%), fluoroquinolones (28%), and glycopeptides (23%) with substantial overlap. Overall survival and progression-free survival was improved for those who did not receive antibiotics prior to ICI therapy (median OS 6.5 vs. 2.3 years, HR 0.36, p<0.0001; median PFS 1.1 vs 0.5 years, HR 0.6, p=0.0027) (figure 1 and 2 respectively). Linear regression showed no significant association between antibiotic use prior to ICI use and age, sex, race, ICI type, or ECOG status.

Conclusions
This data adds to the growing body of knowledge that the use of antibiotics prior to ICI treatment leads to inferior overall and progression-free survival.

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REFERENCES

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776 A ROLE FOR IMMUNE CHECKPOINT BLOCKADE TO ENHANCE T CELL-MEDIATED RESPONSES IN COMBINATION WITH CHEMOTHERAPY IN OESOPHAGEAL ADENOCARCINOMA

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