IMPACT OF PROTON PUMP INHIBITOR EXPOSURE ON PROGRESSION-FREE AND OVERALL SURVIVAL IN PATIENTS TREATED WITH IMMUNE CHECKPOINT INHIBITORS

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BACKGROUND AND IMPORTANCE

Immune checkpoint inhibitors (ICIs) are established standard therapies for multiple malignancies. Concomitant medications that alter the gut microbiome, particularly proton pump inhibitors (PPIs), may impair ICI efficacy. Retrospective studies indicate poorer outcomes, although real-world evidence remains heterogeneous.

AIMS AND OBJETIVES

To evaluate whether PPI use within 30 days prior to pembrolizumab initiation or during treatment impacts progression-free survival (PFS) and overall survival (OS) in patients with metastatic non-small cell lung adenocarcinoma (NSCLC) with PD-L1 expression ≥50%.

MATERIALS AND METHODS

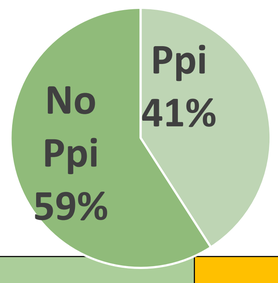
Retrospective observational study of metastatic NSCLC patients with PD-L1 ≥50% receiving first-line pembrolizumab (**Jan 2019–Sep 2025**).

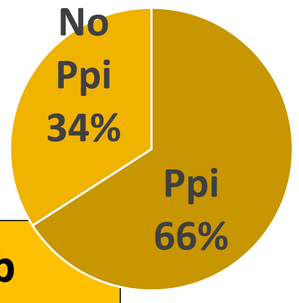
Collected **variables**: demographics, smoking status, ECOG, treatment dates, PPI exposure (≤30 days before/during treatment), progression and death dates.

Outcomes: mPFS: median progression-free survival; mOS: median overall survival.

RESULTS

N = 44





PPI vs No PPI (months)	≤30 days before pembrolizumab	During pembrolizumab treatment
mPFS	7.0 vs 10.0	9.1 vs 10.8
mOS	11.0 vs 25.0	10.6 vs NR

Survival outcomes are reported according to proton pump inhibitor (PPI) exposure within 30 days before pembrolizumab initiation and during pembrolizumab treatment (N=44).

CONCLUSION AND RELEVANCE

Concomitant PPI use may negatively impact PFS and OS in patients treated with pembrolizumab. Minimizing unnecessary PPI prescriptions could improve immunotherapy outcomes. Prospective multicenter studies are warranted to confirm these observations.