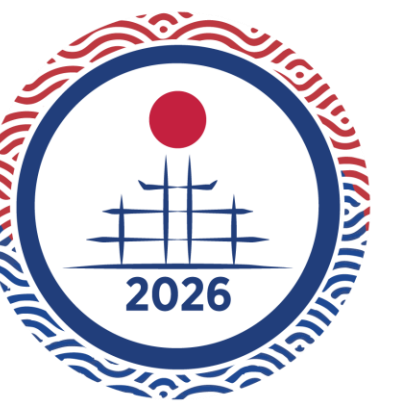


Real World Outcomes of Chemoimmunotherapy vs Pembrolizumab Monotherapy in Metastatic Squamous NSCLC



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INTRODUCTION

- Patients with squamous cell cancer (SCC) of the lung have consistently been shown to have poorer outcomes compared to those with adenocarcinoma. Outcomes are further impacted by PDL1 status, with low PDL1 expression associated with poorer outcomes¹
- Previous studies have shown benefit of both pembrolizumab monotherapy and combined pembrolizumab/chemotherapy over traditional chemotherapy alone in metastatic NSCLC, with current SOC being combined chemotherapy/immunotherapy (chemoIO)^{2,3}
- However, no prior head-to-head trial has been conducted comparing benefit of single agent pembrolizumab vs dual chemoIO in patients with metastatic SCC.

METHODS

- We sought to investigate real-world outcomes in patients with metastatic squamous cell carcinoma of the lung receiving combination chemoIO (carboplatin/pemetrexed/pembrolizumab) vs pembrolizumab monotherapy
- Retrospective chart analysis was performed on all patients diagnosed with metastatic SCC who received either standard of care chemoIO vs pembrolizumab monotherapy between 2016 and 2025 at an NCI-designated cancer center in Northeast Ohio
- Variables of interest included age, sex, race, ECOG status, smoking status, presence of liver or CNS metastases, Charleston Comorbidity Index (CCI), and PDL1 TPS expression.
- Overall survival (OS), progression free survival (PFS), and rate of grade 3 immune-related adverse events (irAEs) were compared between treatment groups, with Cox multivariable regression analysis for PDL1 status and demographic variables

DISCUSSION AND CONCLUSION

Take Home Points:

- **Pembrolizumab monotherapy was non-inferior to standard chemoIO in patients with squamous cell type NSCLC, and pembrolizumab alone even showed a trend towards higher OS**

- **Patients with PDL1<1% did not show statistically significant differences in OS, regardless of whether they were treated with pembrolizumab monotherapy or chemoIO**

Future Directions for Research:

- **Signal towards OS benefit without significant difference in survival for those with PDL1<1% highlights need for prospective comparative study of chemoIO vs IO monotherapy in the SCC space**

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Artificial Intelligence (AI) Use Disclaimer

No AI was utilized in the formulation, data collection or analysis, or preparation of presentation materials for this project.

RESULTS

- Database query returned a total of 85 patients - 47 patients received SOC chemoIO; 35 patients received pembrolizumab monotherapy
- **There was a trend toward higher median OS in the pembrolizumab group compared to the SOC group** (18.8months, 95%CI 14.3-23.2 vs 17.7 months, 95% CI 11.4-23.0,p=0.697)
- **Median PFS in the chemoIO group was 6.5 months (95% CI5.0-7.9) vs 4.4 months (95% CI 1.14-7.6) in the pembrolizumab group (p=0.233).**
- **Median OS remained similar in those with PDL1<1%, regardless of whether they received chemoIO or pembrolizumab monotherapy** (p=0.970)
- **There was a trend toward higher rate of grade III-V irAEs in the chemoIO group** (8 events in chemoIO vs 1 event in pembrolizumab monotherapy group; p= 0.071)

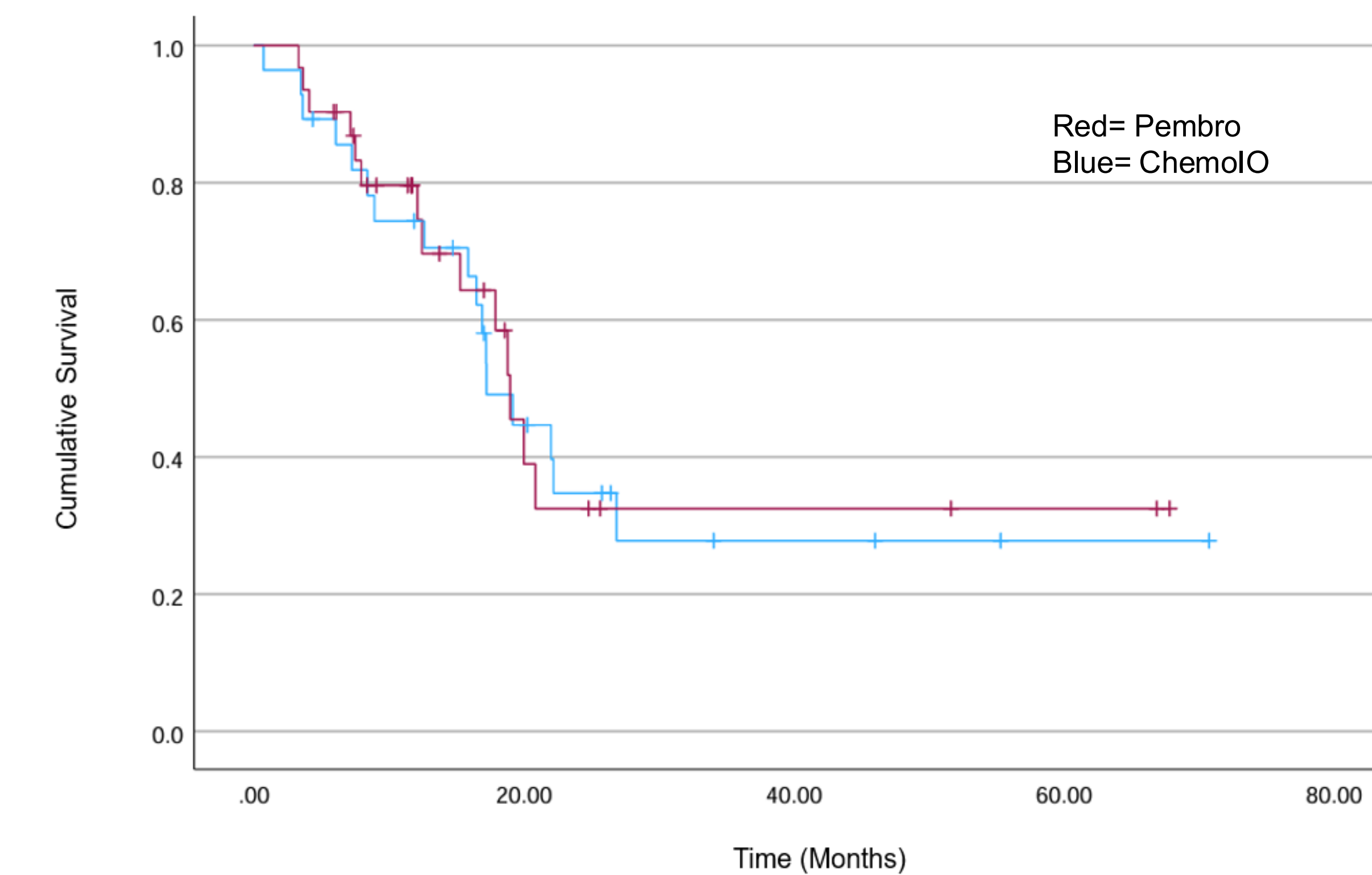


Figure 1: KM Curve for OS (p=0.697)

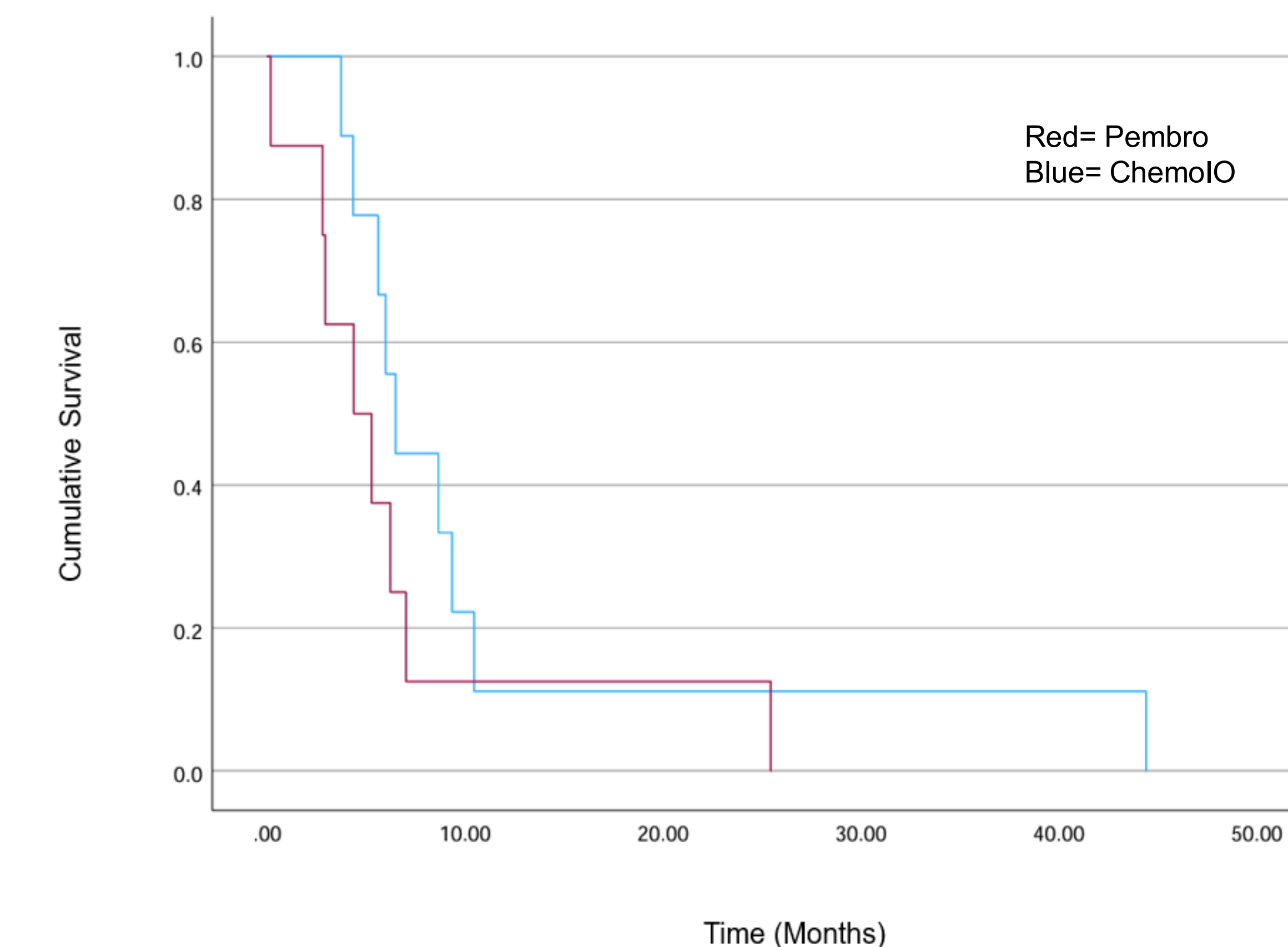


Figure 2: KM Curve for PFS (p=0.233)

	ChemoIO	Pembro Monotherapy	p-Value
Age, n(%)			0.1165
<65	15 (31.9%)	5 (14.7%)	
≥ 65	32 (68.1%)	29 (85.3%)	
Gender, n(%)			0.6352
Male	33 (70.2%)	22 (62.9%)	
Female	14 (29.8%)	13 (37.1%)	
Race, n(%)			0.0789
White	46 (97.9%)	30 (85.7%)	
Black/AA	1 (2.1%)	5 (14.3%)	
Smoking Status, n(%)			2.0
Current or Former	43 (95.6%)	30 (93.8%)	
Never	2 (4.4%)	2 (6.3%)	
ECOG, n (%)			0.5407
0	9 (19.6%)	4 (12.1%)	
1	37 (80.4%)	29 (87.9%)	
Mean CCI	9.488	10.344	0.06
Liver Metastasis, n(%)			0.22
No	38 (80.9%)	32 (91.4%)	
Yes	9 (19.1%)	3 (8.6%)	
CNS Metastasis, n(%)			1.0
No	36 (76.6%)	26 (74.3%)	
Yes	11 (23.4%)	9 (25.7%)	
PDL1, n (%)			<0.001%
< 1%	17 (37.8%)	1 (3.1%)	
1-49%	17 (37.8%)	9 (28.1%)	
≥ 50%	11 (24.4%)	22 (68.8%)	

Table 1: Study Demographic Features by Treatment Group