

Supplemental Online Content

Spaas M, Sundahl N, Kruse V, et al. Checkpoint inhibitors in combination with stereotactic body radiotherapy in patients with advanced solid tumors: the CHEERS phase 2 randomized clinical trial. *JAMA Oncol*. Published online July 6, 2023. doi:10.1001/jamaoncol.2023.2132

eTable 1. Overview of Disease Burden at Baseline

eFigure 1. Subgroup Analysis of Progression-free Survival

eFigure 2. Subgroup Analysis of Overall Survival

eTable 2. Subgroup Analysis of Disease Burden and Radiation Targets in the Experimental Arm

eFigure 3. Change in Absolute Lymphocyte Count Across Both Study Arms

eFigure 4. Change in Absolute Lymphocyte Count According to Treatment Response

eFigure 5. Change in Absolute Lymphocyte Count in the Experimental Arm According to Location of Irradiated Target

eFigure 6. Landmark Analysis of Overall Survival Stratified by SBRT Response

This supplemental material has been provided by the authors to give readers additional information about their work.

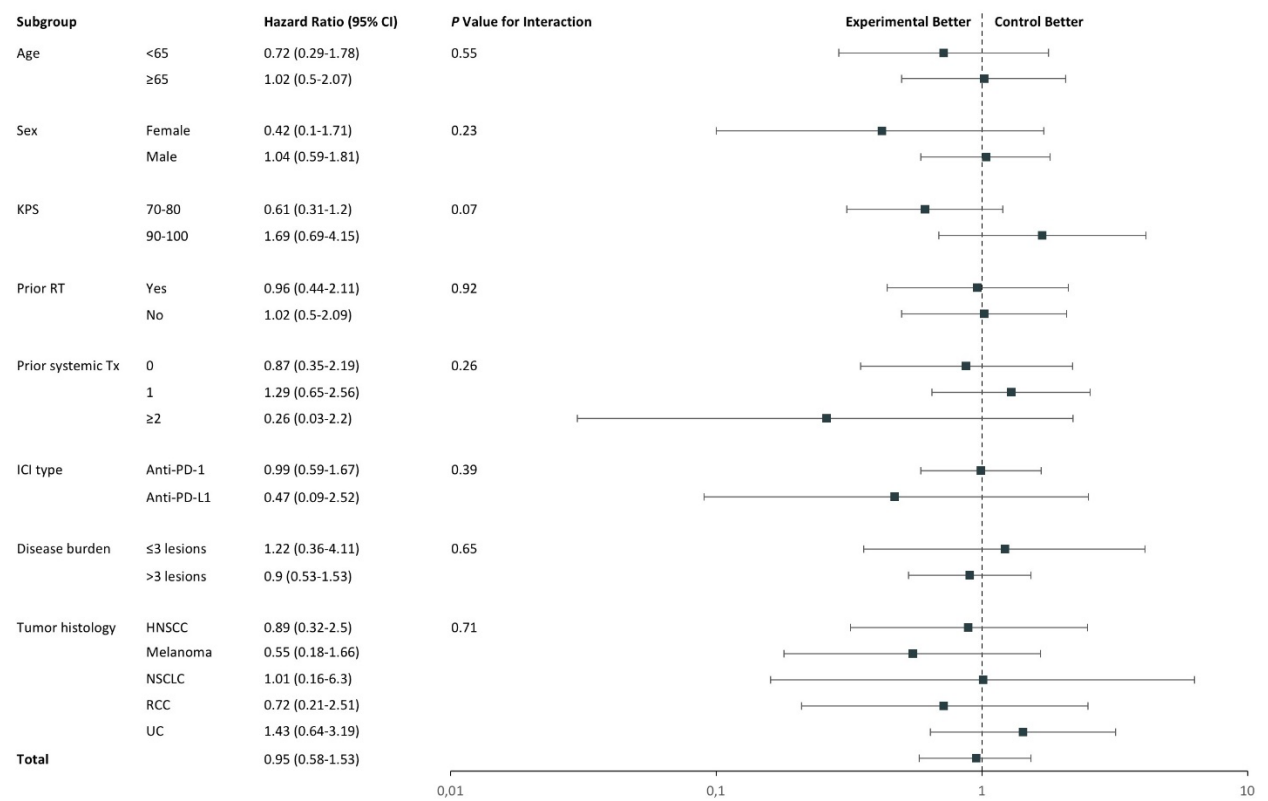
eTable 1. Overview of Disease Burden at Baseline

	Control arm (n=51)	Experimental arm (n=45)
Number of lesions		
≤3	14 (27%)	10 (22%)
4-5	6 (12%)	7 (16%)
6-10	12 (24%)	11 (24%)
>10	19 (37%)	17 (38%)
Number of organ systems involved		
1	11 (22%)	14 (31%)
2	21 (41%)	18 (40%)
3	8 (16%)	8 (18%)
>3	11 (22%)	5 (11%)
Organ systems involved		
Lymph node(s)	38 (75%)	29 (64%)
Lung	25 (49%)	20 (44%)
Liver	10 (20%)	9 (20%)
Bone	16 (31%)	11 (24%)
Other*	31 (61%)	24 (53%)
Proportion of lesions treated with SBRT		
<25%	NA	25 (55%)
25-50%		12 (27%)
100%		8 (18%)

Data are n (%).

* Other affected organ systems include the adrenal gland (n=3), kidney (n=1), pancreas (n=1), peritoneum (n=3), pleura (n=1), urinary tract (n=6), (sub)cutis (n=2), muscle (n=3) and mucosa (n=7).

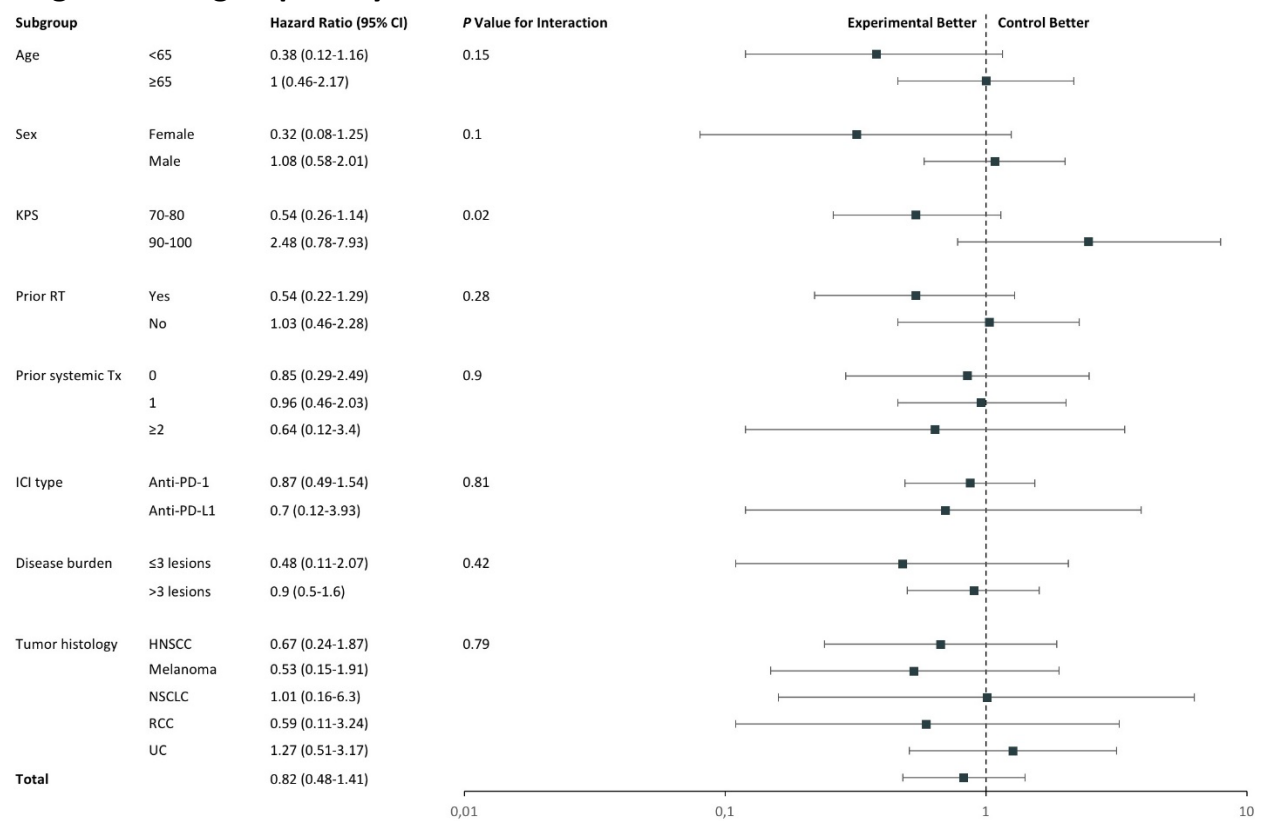
eFigure 1. Subgroup Analysis of Progression-free Survival



HNSCC=head and neck squamous cell carcinoma. ICI=immune checkpoint inhibitor. KPS=Karnofsky performance score. NSCLC=non-small cell lung carcinoma. RCC=renal cell carcinoma. RT=radiotherapy. Tx=treatment. UC=urothelial carcinoma.

P-values and confidence intervals are not adjusted for multiple testing. The p-value for interaction is based on a Chi-squared test (Anova).

eFigure 2. Subgroup Analysis of Overall Survival



HNSCC=head and neck squamous cell carcinoma. ICI=immune checkpoint inhibitor. KPS=Karnofsky performance score. NSCLC=non-small cell lung carcinoma. RCC=renal cell carcinoma. RT=radiotherapy. Tx=treatment. UC=urothelial carcinoma.

P-values and confidence intervals are not adjusted for multiple testing. The p-value for interaction is based on a Chi-squared test (Anova).

eTable 2. Subgroup Analysis of Disease Burden and Radiation Targets in the Experimental Arm

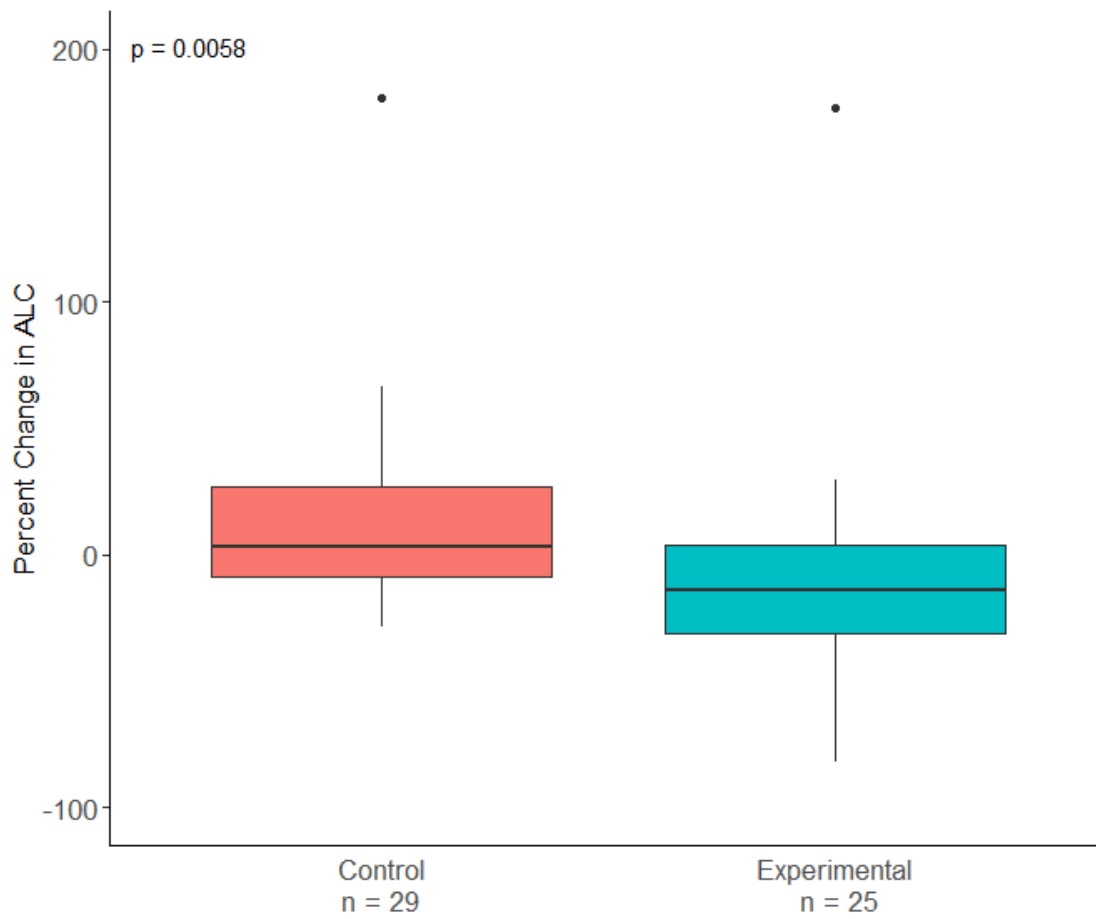
Variable	PFS HR* (95% CI)	OS HR* (95% CI)
Log(total number of lesions)	1.84 (1.17-2.90) [†]	3.91 (1.94-7.90) [‡]
Number of lesions treated with SBRT	0.71 (0.46-1.09)	0.31 (0.15-0.65) [†]

* A Cox proportional-hazards model, stratified for tumor histology, was used to calculate hazard ratios (HR) for progression-free (PFS) and overall survival (OS).

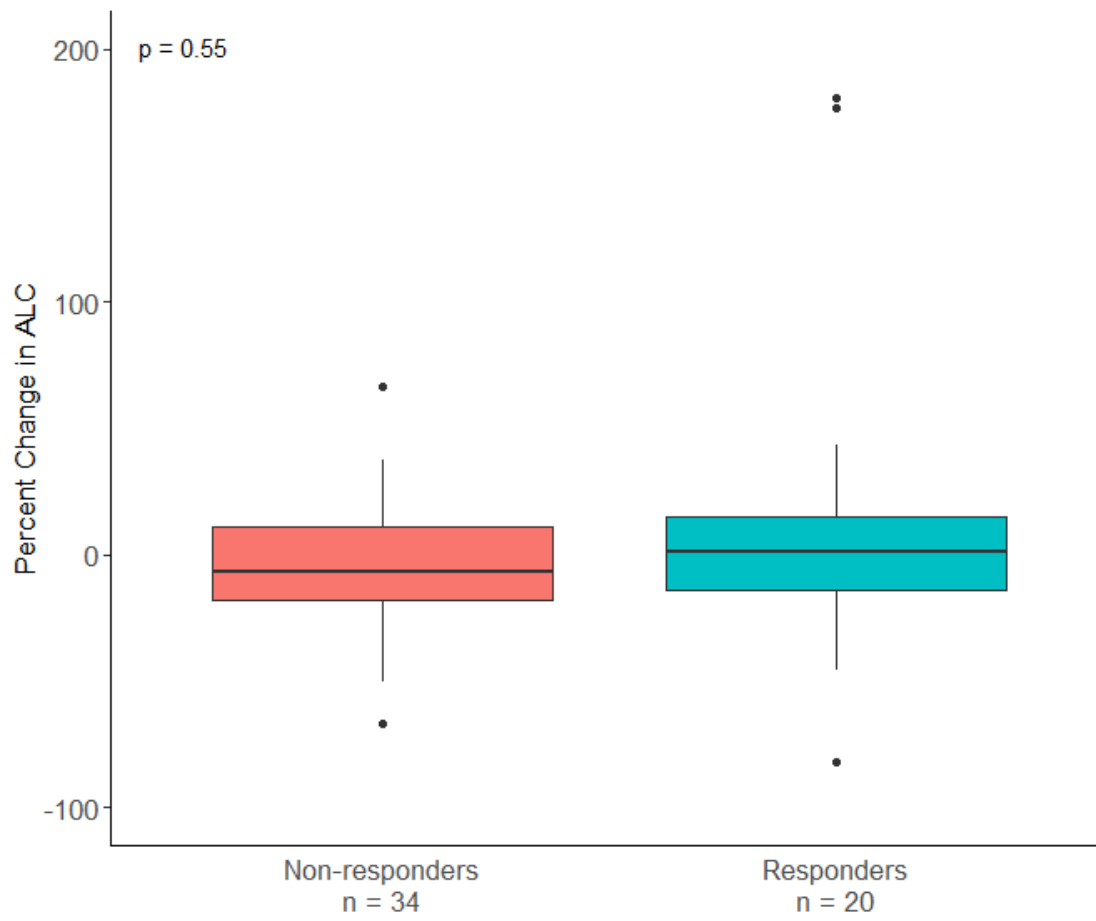
[†] p<0.01

[‡] p<0.001

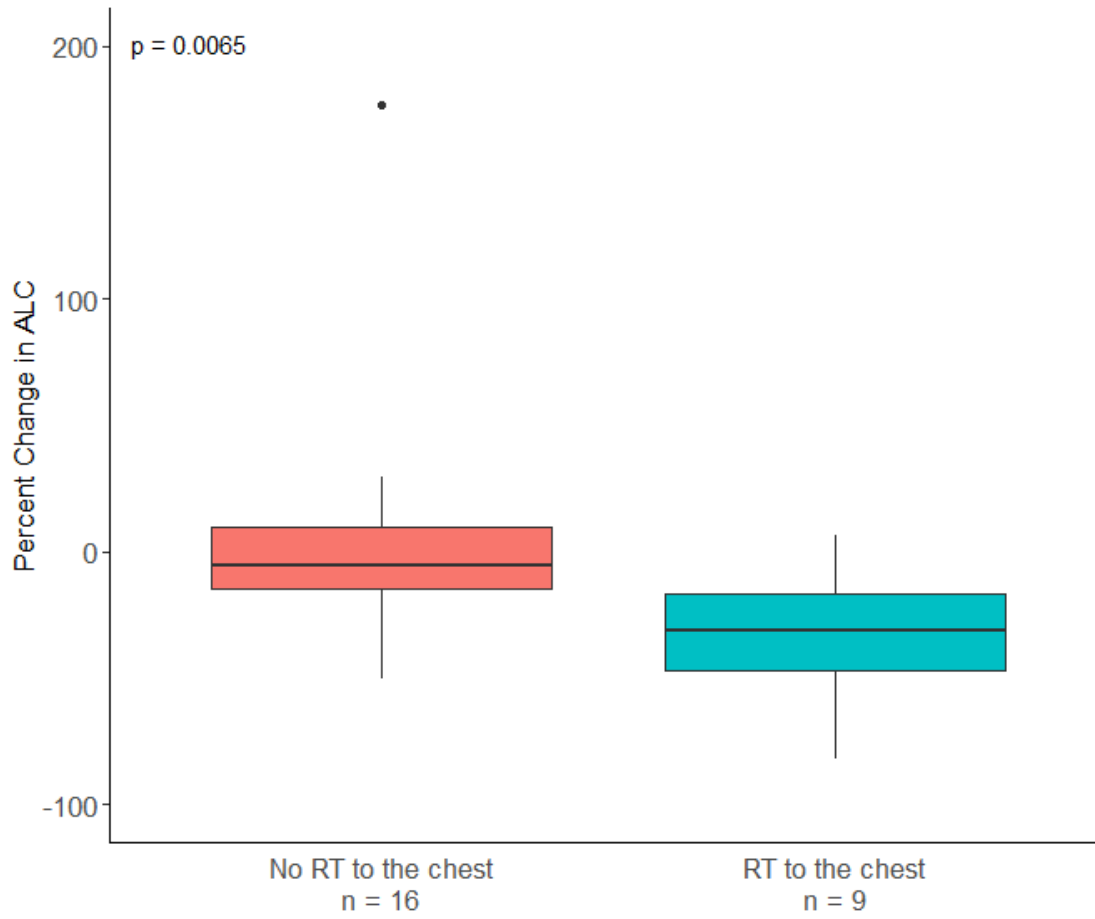
eFigure 3. Change in Absolute Lymphocyte Count Across Both Study Arms



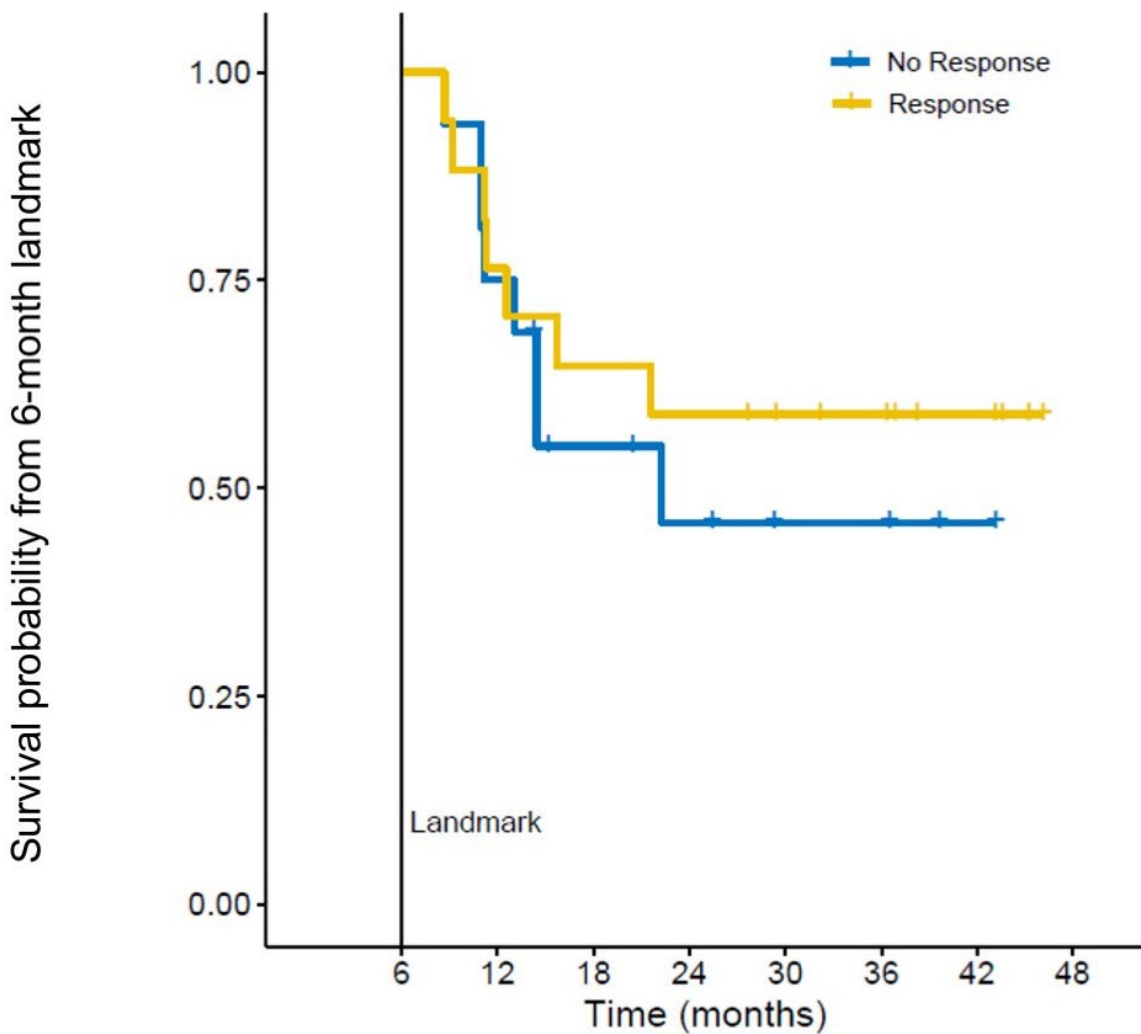
eFigure 4. Change in Absolute Lymphocyte Count According to Treatment Response



eFigure 5. Change in Absolute Lymphocyte Count in the Experimental Arm According to Location of Irradiated Target



eFigure 6. Landmark Analysis of Overall Survival Stratified by SBRT Response



No. of patients at risk

Strata	6	12	18	24	30	36	42	48
No Response	16	12	7	5	3	3	1	0
Response	17	13	11	10	8	7	4	0