Supplementary Data:

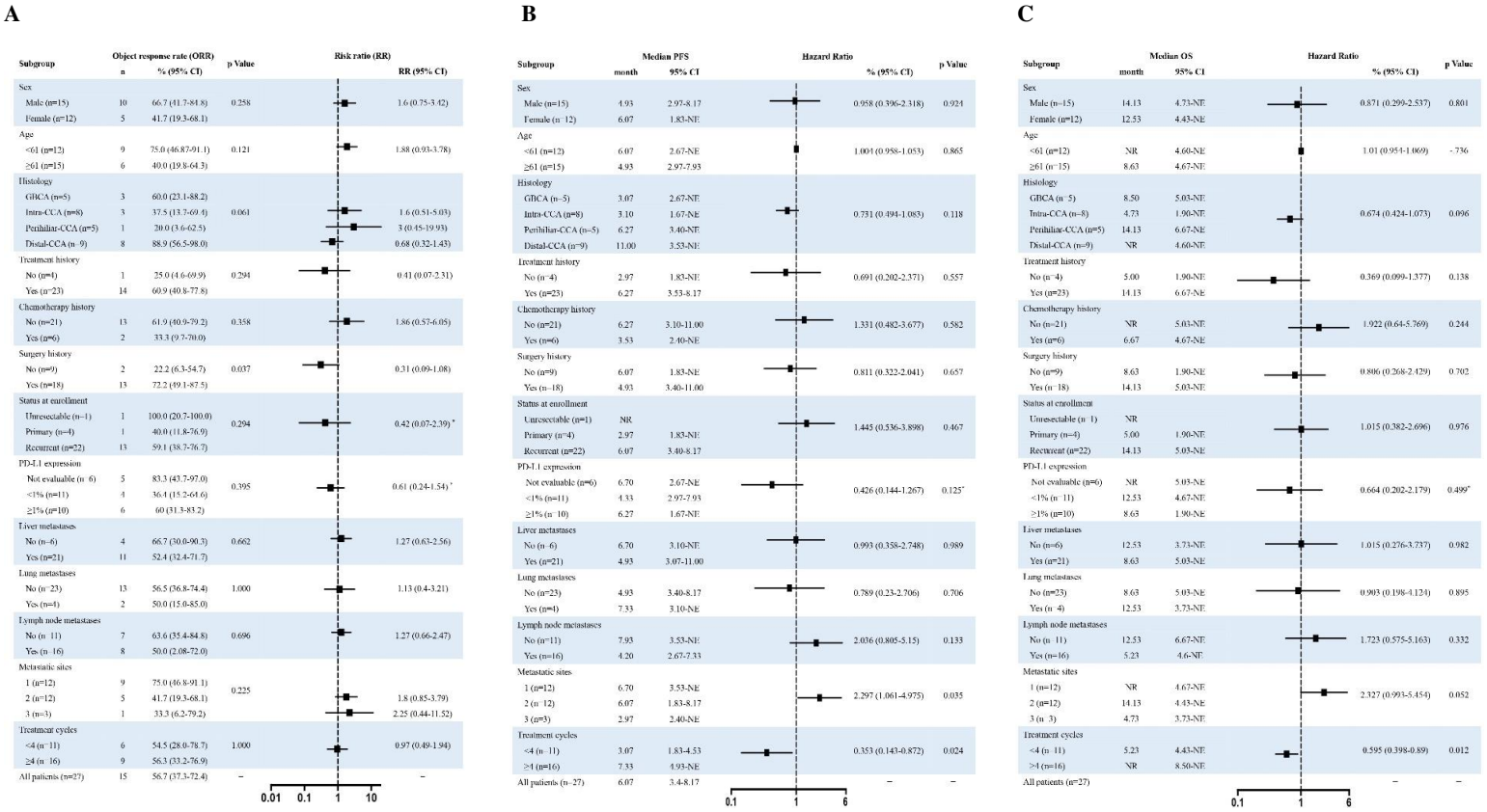


Figure S1: Multivariate analysis of the correlation between different variables and ORR (A), median PFS (B) and median OS (C).

Sample	MSI	TMB	TNB	Fitness	Heterogeneity	Group
Pt19	2.13	2.85	1.39	-15.789	NA	Respond
Pt30	1.82	2.96	1.12	-16.6964	0.2	Respond
Pt13	0.1	1.33	0.65	-4.37534	0.84	NonRespond
Pt4	2.67	4.65	2.03	-8.96791	0	Respond
Pt17	0.74	4.5	1.5	-14.869	0.16	NonRespond
Pt27	2.76	6.83	4.07	-7.33157	0.13	NA
Pt25	1.61	2.56	1.37	-2.16677	0.32	NonRespond
Pt8	0.7	3.24	1.36	-3.42382	NA	NonRespond
Pt24	0.71	0.94	0.25	-1.7125	NA	NonRespond
Pt10	3.12	0.87	0.52	-0.47016	0.28	NA
Pt6	0.71	1.91	0.5	-2.01753	0.47	NonRespond
Pt16	2.11	1.87	0.87	-11.7561	0.98	NA
Pt20	2.07	1.46	0.94	-6.9884	0.82	NonRespond
Pt31	1.19	3.37	1.63	-7.1236	NA	Respond
Pt28	1.43	1.63	0.53	-14.8748	0.25	Respond
Pt14	2.11	6.28	2.24	-1.47346	0.97	Respond
Pt7	2.82	4.46	2.26	-1.97912	0.3	NonRespond
Pt23	1.39	1.39	0.97	-13.5947	NA	Respond
Pt18	1.29	1.3	0.68	-5.94804	0.4	NonRespond
Pt2	2.1	2.94	1.23	-2.39602	0.12	Respond

Figure S2: Data of whole-exome sequencing.

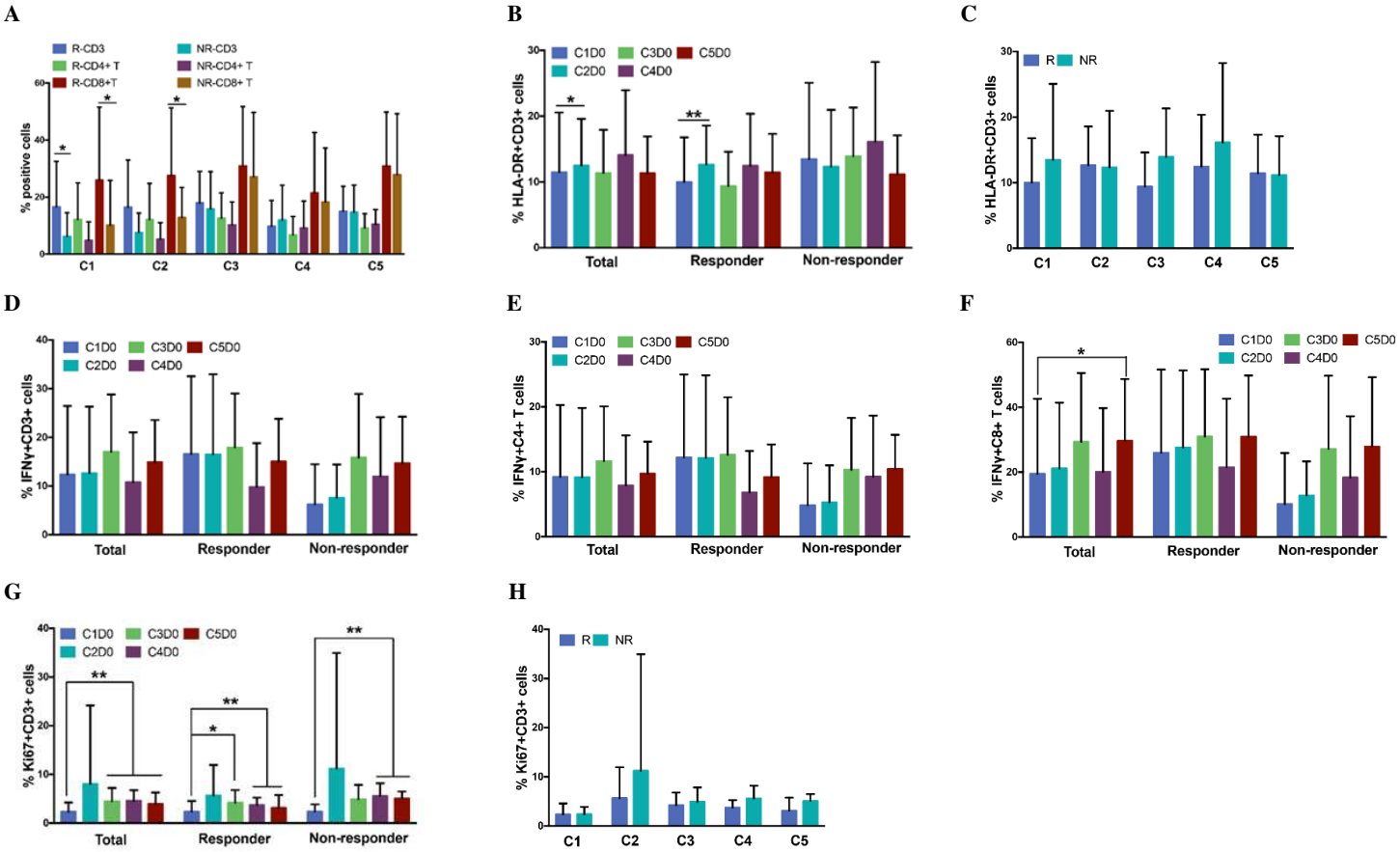


Figure S3: Analysis of the association between clinical antitumor activity and the activation of peripheral T cells.

* : $P \leq 0.05$. * * : $P \leq 0.01$. R = responder. NR = non-responder.

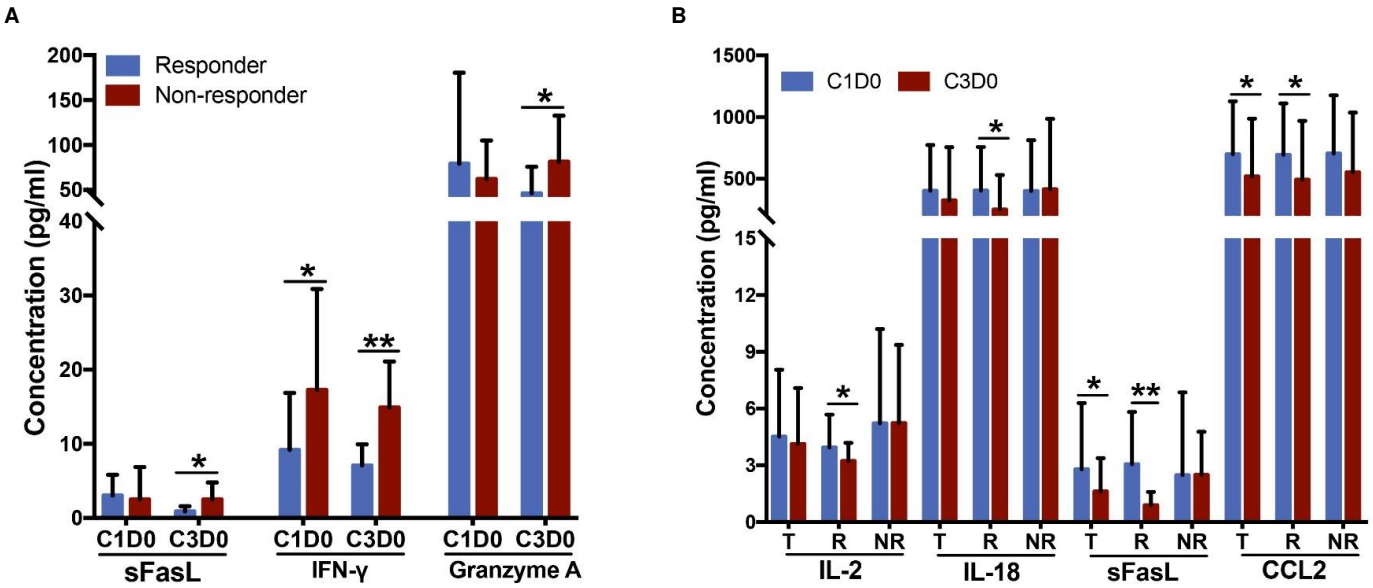


Figure S4: Analysis of the association between clinical antitumor activity and the concentration of serum cytokines and chemokines

* : $P \leq 0.05$. * * : $P \leq 0.01$. T = total. R = responder. NR = non-responder.

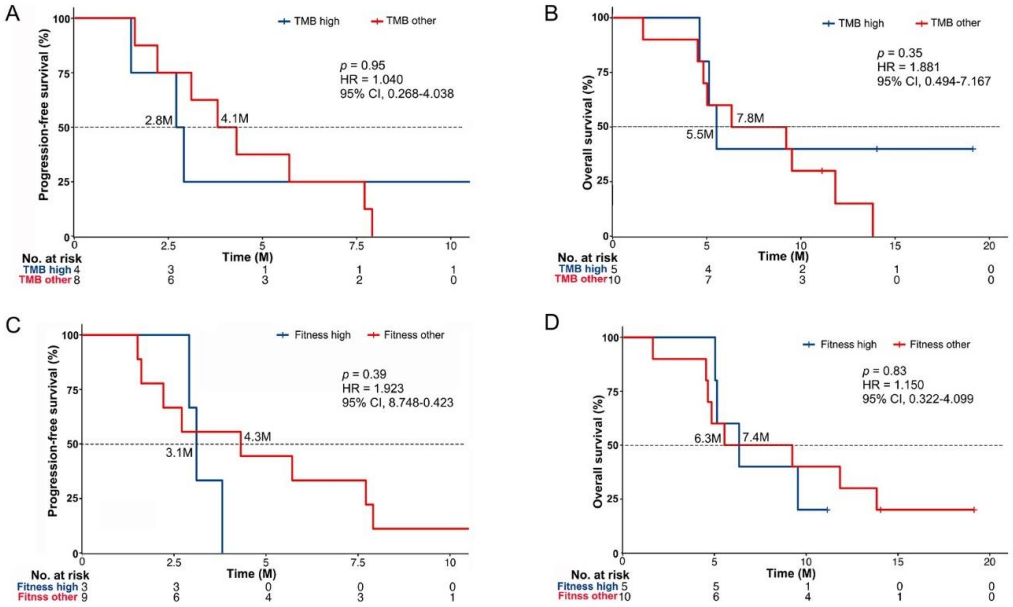


Figure S5: A. Kaplan-Meier curves of progression free survival of patients with high TMB and other levels of TMB. B. Kaplan-Meier curves of overall survival of patients with high TMB and other levels of TMB. C. Kaplan-Meier curves of progression free survival of patients with high fitness and other levels of fitness. D. Kaplan-Meier curves of overall survival of patients with high fitness and other levels of fitness.

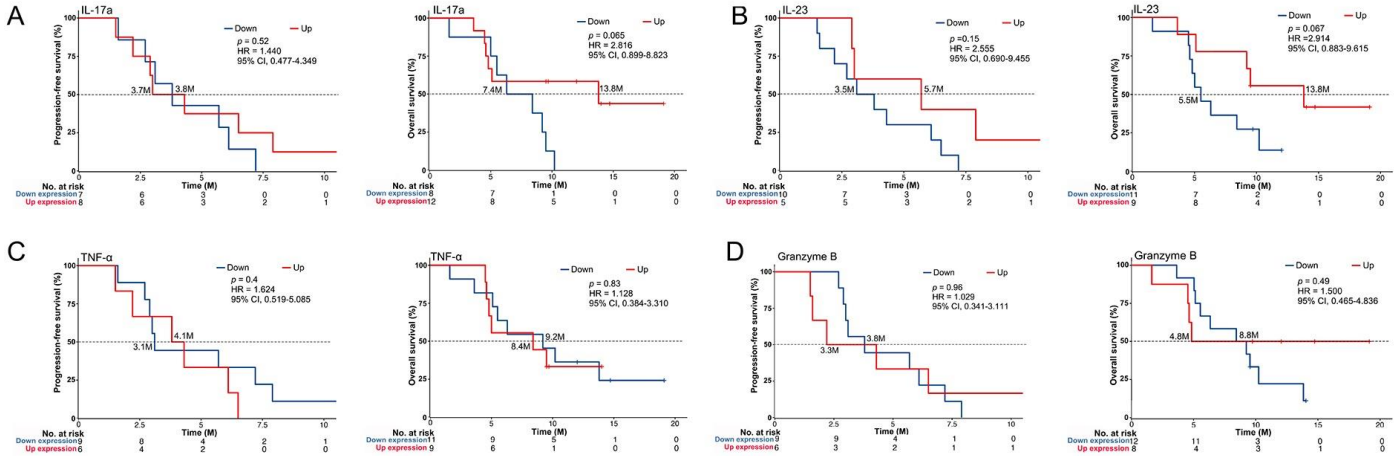
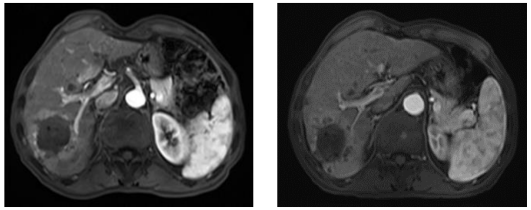


Figure S6: Analysis of correlation between serum IL-17a (A), IL-23 (B), TNF-α (C) and Granzyme B (D)and progression free survival and overall survival.

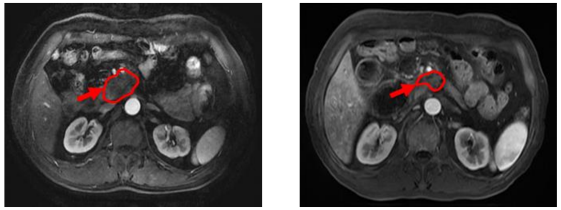
Figure S7

Patient 1 with SD



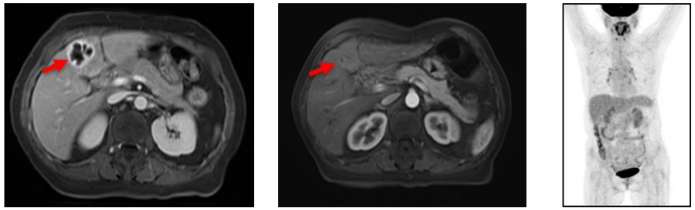
Baseline 4-cycle after treatment

Patient 2 with PR



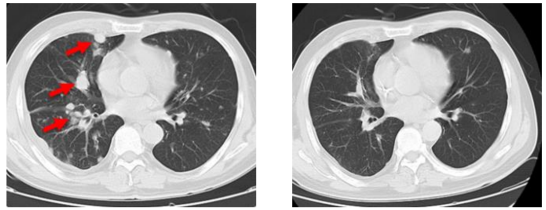
Baseline 2-cycle after treatment

Patient 4 with CR



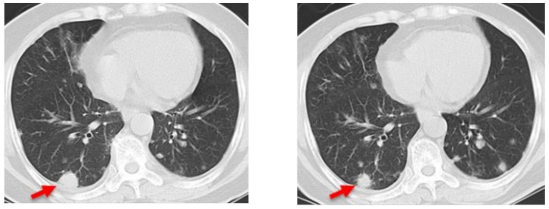
Baseline 4-cycle after treatment PET/CT confirmation

Patient 5 with PR



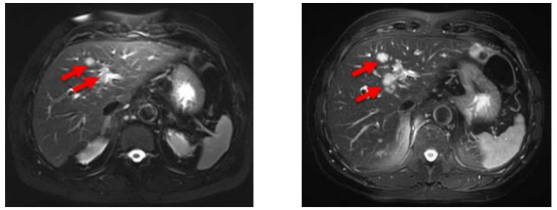
Baseline 2-cycle after treatment

Patient 6 with SD



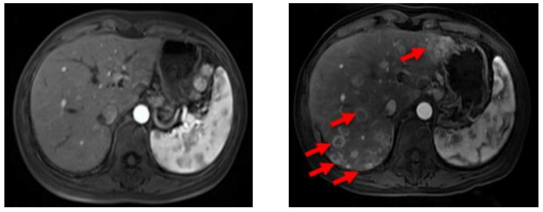
Baseline 6-cycle after treatment

Patient 7 with SD



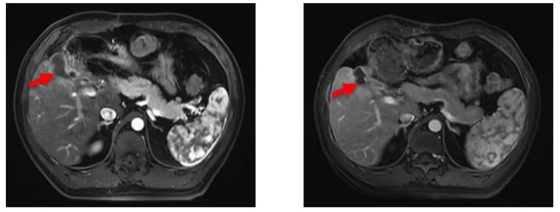
Baseline 4-cycle after treatment

Patient 8 with PD



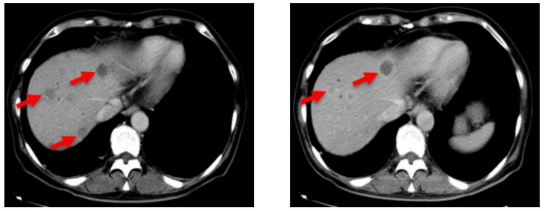
Baseline 2-cycle after treatment

Patient 9 with PR

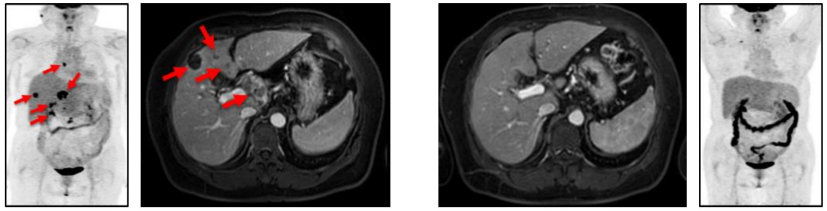


Baseline 2-cycle after treatment

Patient 11 with SD

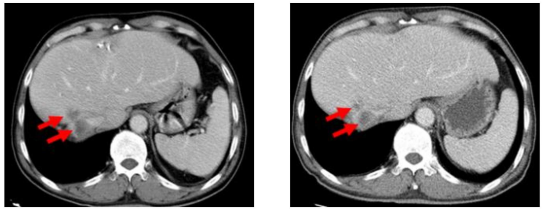


Patient 12 with CR



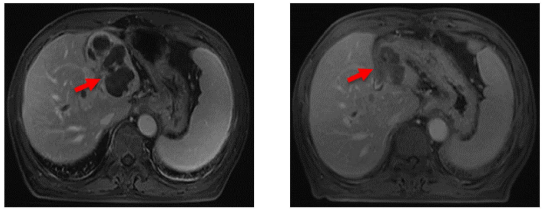
Baseline 2-cycle after treatment

Patient 13 with SD



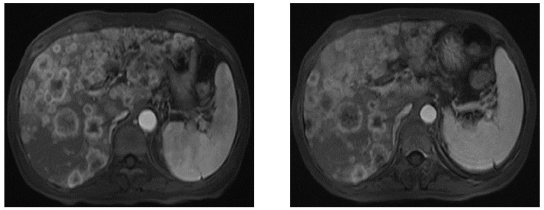
Baseline 4-cycle after treatment

Patient 15 with PR



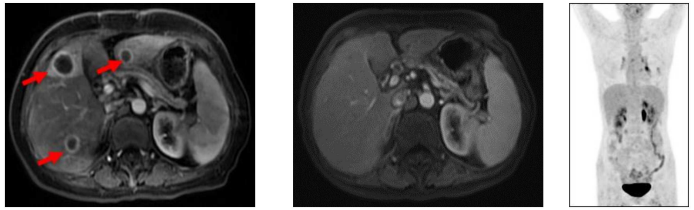
Baseline 6-cycle after treatment

Patient 18 with SD



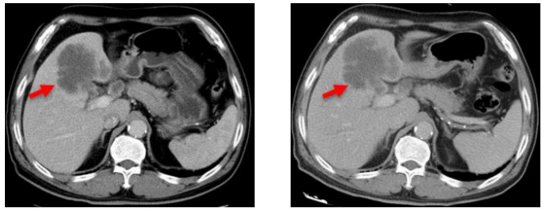
Baseline PET/CT Baseline 6-cycle after treatment PET/CT confirmation

Patient 14 with CR



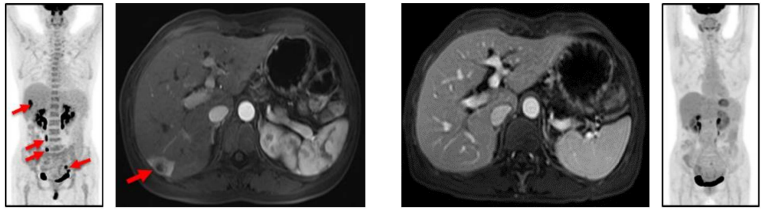
Baseline 6-cycle after treatment PET/CT confirmation

Patient 17 with SD



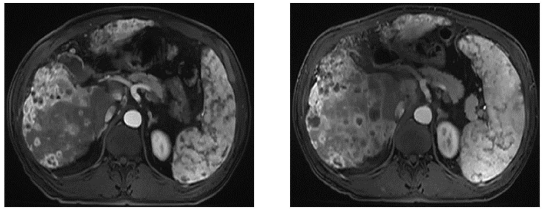
Baseline 2-cycle after treatment

Patient 19 with CR



Baseline 2-cycle after treatment

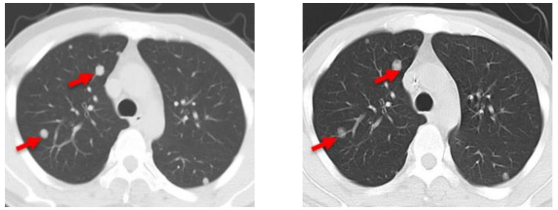
Patient 20 with PD



Baseline 2-cycle after treatment

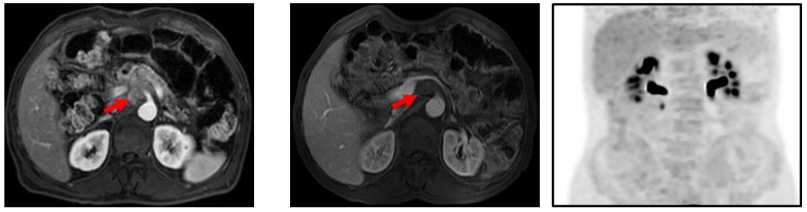
Baseline PET/CT Baseline 6-cycle after treatment PET/CT confirmation

Patient 21 with SD



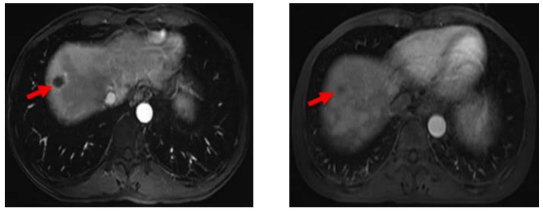
Baseline 6-cycle after treatment

Patient 22 with CR



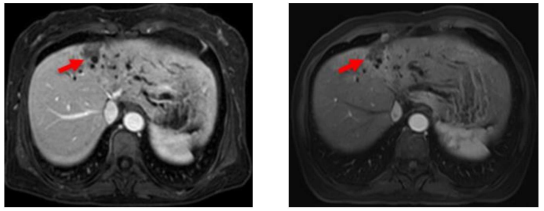
Baseline 6-cycle after treatment PET/CT confirmation

Patient 23 with PR

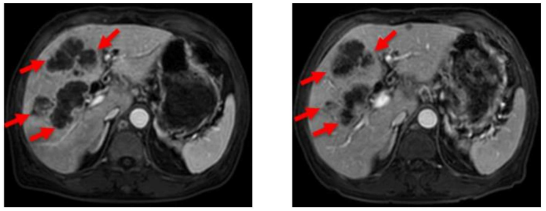


Baseline 2-cycle after treatment

Patient 24 with SD

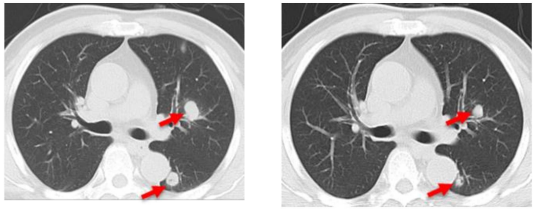


Patient 25 with SD



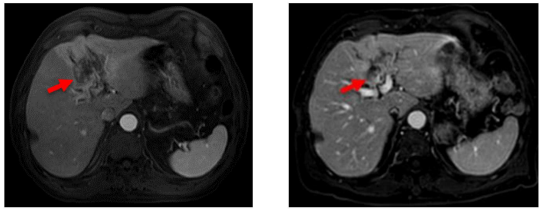
Baseline 2-cycle after treatment

Patient 26 with PR



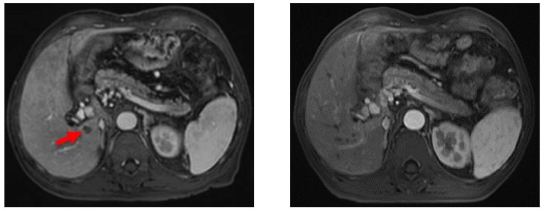
Baseline 2-cycle after treatment

Patient 30 with PR



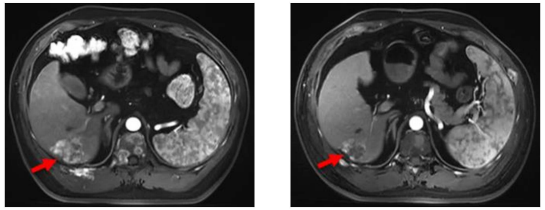
Baseline 2-cycle after treatment

Patient 32 with PR



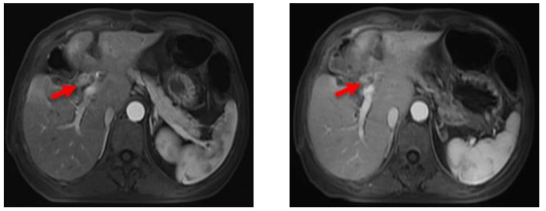
Baseline 2-cycle after treatment

Patient 28 with PR



Baseline 2-cycle after treatment

Patient 31 with PR



Baseline 2-cycle after treatment

Baseline 2-cycle after treatment