Figure S1. Subgroup analyses for progression-free survival from second-line treatment. IBP, immunotherapy beyond progression; ECOG PS, Eastern Cooperative Oncology Group performance status; HR, hazard ratio; CI, confidence interval.

Subgroup	IBP	Non-IBP		HR (95% CI)	P-value
All patients	88	48		0.597 (0.379 to 0.940)	0.012
Age in years					
≤65	60	31	-	0.514 (0.292 to 0.907)	0.008
>65	28	17	<del>_</del>	0.824 (0.387 to 1.753)	0.596
Sex					
Male	73	41		0.556 (0.335 to 0.923)	0.009
Female	15	7		0.764 (0.272 to 2.147)	0.577
Histological type			1		
Adenocarcinoma	52	32		0.696 (0.404 to 1.199)	0.164
Non-adenocarcinoma	36	16	-	0.394 (0.163 to 0.951)	0.004
Smoking status					
Never smoker	41	24		0.478 (0.245 to 0.931)	0.010
Current/former smoker	47	24		0.719 (0.386 to 1.339)	0.256
ECOG PS					
0-1	72	39		0.538 (0.322 to 0.897)	0.006
2	16	9		0.957 (0.357 to 2.569)	0.929
Brain metastases					
Yes	25	20		0.744 (0.333 to 1.663)	0.446
No	63	28		0.515 (0.293 to 0.905)	0.006
Bone metastases					
Yes	36	20	-	0.619 (0.302 to 1.269)	0.141
No	52	28		0.601 (0.336 to 1.075)	0.055
Liver metastases					
Yes	14	10		0.845 (0.339 to 2.104)	0.703
No	74	38		0.496 (0.290 to 0.851)	0.002
		← IRP I	0.5 1 2 3  Better Non-IBP Better	<b>→</b>	

Figure S2. Subgroup analyses for overall survival. IBP, immunotherapy beyond progression; ECOG PS, Eastern Cooperative Oncology Group performance status; HR, hazard ratio; CI, confidence interval.

Subgroup	IBP	Non-IBP		HR (95% CI)	P-value
All patients	88	48		0.584 (0.334 to 1.022)	0.041
Age in years					
≤65	60	31	-	0.466 (0.227 to 0.957)	0.021
>65	28	17	<u>-</u>	0.883 (0.364 to 2.140)	0.777
Sex					
Male	73	41		0.560 (0.310 to 1.013)	0.038
Female	15	7		$\rightarrow$ 0.760 (0.132 to 4.381)	0.734
Histological type					
Adenocarcinoma	52	32		0.583 (0.273 to 1.242)	0.131
Non-adenocarcinoma	36	16		0.549 (0.236 to 1.280)	0.117
Smoking status					
Never smoker	41	24		0.504 (0.209 to 1.213)	0.092
Current/former smoker	47	24		0.678 (0.330 to 1.391)	0.257
ECOG PS					
0-1	72	39		0.510 (0.259 to 1.007)	0.030
2	16	9	-	0.971 (0.369 to 2.557)	0.951
Brain metastases					
Yes	25	20	_ <del>_</del> :	0.550 (0.215 to 1.408)	0.199
No	63	28		0.595 (0.294 to 1.205)	0.109
Bone metastases					
Yes	36	20		0.495 (0.207 to 1.184)	0.071
No	52	28		0.643 (0.308 to 1.341)	0.210
Liver metastases					
Yes	14	10	-	0.538 (0.176 to 1.643)	0.255
No	74	38		0.604 (0.316 to 1.155)	0.096
		<b>-</b>	0.5 1 2 3	<b>→</b>	
		IBP I	Better Non-IBP Better		

Figure S3. Kaplan-Meier curves of (A) PFS2 and (B) OS for the patients who were treated with three agents (chemo + IO + anti-angio) and for the patients who were treated with two agents (chemo + IO). Chemo, chemotherapy; IO, immunotherapy; anti-angio, anti-angiogenic therapy; PFS2, progression-free survival from second-line treatment; OS, overall survival.

