

Supplement Table 1. Immune-related adverse events (irAE) following camrelizumab treatment

irAE	Overall		Vaccinees		Non-vaccinees	
	2048		1518		530	
Num. Patients	all levels	≥3 level	all levels	≥3 level	all levels	≥3 level
RCCEP	605 (29.5%)	18 (0.9%)	454 (29.9%)	17 (1.1%)	151 (28.5%)	23 (4.3%)
Fever	61 (3.0%)	16 (0.8%)	41 (2.7%)	15 (1.0%)	20 (3.8%)	5 (0.9%)
Leukocytopenia / Neutrocytopenia	28 (1.4%)	0 (0%)	23 (1.5)	0 (0%)	5 (0.9%)	0 (0%)
Anthema	22 (1.1%)	3 (0.1%)	19 (1.3%)	10 (1.9%)	3 (0.6%)	1 (0.2%)
Dry mouth	19 (0.9%)	0 (0%)	0 (0%)	0 (0%)	19 (3.6%)	5 (0.9%)
Pneumonia	16 (0.8%)	4 (0.2%)	14 (0.9%)	3 (0.2%)	2 (0.4%)	1 (0.2%)
Hyper/ hypothyroidism	15 (0.7%)	0 (0%)	13 (0.9%)	0 (0%)	2 (0.4%)	0 (0%)
Diarrhea	15 (0.7%)	0 (0%)	12 (0.8%)	0 (0%)	3 (0.6%)	0 (0%)
Fatigue	25 (1.2%)	1 (0.1%)	19 (1.3%)	7 (1.3%)	6 (1.1%)	2 (0.4%)
Pruritus	14 (0.7%)	0 (0%)	14 (0.9%)	0 (0%)	0 (0%)	0 (0%)
Anorexia	12 (0.6%)	0 (0%)	7 (0.5%)	0 (0%)	5 (0.9%)	0 (0%)
Colitis	7 (0.3%)	0 (0%)	4 (0.3%)	0 (0%)	3 (0.6%)	0 (0%)
Hemorrhage	7 (0.3%)	5 (0.2%)	5 (0.3%)	3 (0.2%)	2 (0.4%)	1 (0.2%)
Vomiting	6 (0.3%)	0 (0%)	2 (0.1%)	0 (0%)	4 (0.8%)	0 (0%)
Liver Dysfunction	6 (0.3%)	1 (0.05%)	2 (0.1%)	1 (0.1%)	4 (0.8%)	0 (0%)
Myocarditis	2 (0.1%)	2 (0.1%)	2 (0.1%)	2 (0.1%)	0 (0%)	0 (0%)
Severe Edema	2 (0.1%)	0 (0%)	1 (0.1%)	0 (0%)	1 (0.2%)	0 (0%)
Kidney Dysfunction	2 (0.1%)	1 (0.05%)	0 (0%)	0 (0%)	2 (0.4%)	1 (0.2%)
Others	15 (0.7%)	2 (0.1%)	6 (0.4%)	2 (0.1%)	9 (1.7%)	2 (0.3%)

RCCEP: Reactive cutaneous capillary endothelial proliferation

Supplement Table 2. Clinical characteristics and treatments for matched subgroups				
	Overall	Vaccinees	Non-vaccinees	P-value
Characteristics				
Number of patients	1060	530	530	...
Median age, years	59.0 (53.0-65.0)	59.0 (53.0-65.0)	59 (52.0-66.0)	0.855
Gender	...	...	...	0.268
Male	824 (77.7)	420 (79.2)	404 (76.2)	...
Female	236 (21.3)	110 (20.8)	126 (23.8)	...
ECOG	...	...	...	1.000
<2	616 (58.1)	308 (58.1)	308 (58.1)	...
≥2	444 (41.9)	222 (41.9)	222 (41.9)	...
History of COVID-19 infection	6 (0.6)	2 (0.4)	4 (0.8)	0.752
Number of vaccination shots	...	1049	...	...
1. Shot	...	29 (5.5)	...	...
2. Shots	...	483 (91.1)	...	...
3. Shots	...	18 (3.4)	...	...
Adverse effect of vaccination	...	128 (24.2)	...	...
Muscle pain	...	106 (20.0)	...	...
Fever	...	81 (15.3)	...	...
Pneumonia	...	2 (0.4)	...	...
Comorbidities	370 (34.9)	185 (34.9)	185 (34.9)	1.000
Hypertension	178 (16.8)	89 (16.8)	89 (16.8)	...
Diabetics	36 (3.4)	18 (3.4)	18 (3.4)	...
Heart disease	26 (2.5)	13 (2.5)	13 (2.5)	...
Cerebral infarction	22 (2.1)	11 (2.1)	11 (2.1)	...
Others	108 (10.2)	54 (10.2)	54 (10.2)	...
Cancer Types	...	...	...	...
Lung	352 (33.2)	192 (36.2)	160 (30.2)	0.043
Liver	246 (23.2)	106 (20.0)	140 (26.4)	0.016
Intestinal Tract	74 (7.0)	45 (8.5)	29 (5.5)	0.070
Urinary system	55 (5.2)	33 (6.2)	22 (4.2)	0.166
Nasopharyngeal	52 (4.9)	29 (5.5)	23 (4.3)	0.477
Others	294 (27.7)	125 (23.6)	169 (31.9)	0.003
Cancer Stages	...	...	...	0.726
Non-metastasis stage	8 (0.8)	3 (0.6)	5 (0.9)	...
Metastasis stage	1052 (99.2)	527 (99.4)	525 (99.1)	...
Treatments				
Therapy				
Camrelizumab (Cam)	477 (45.0)	244 (46.0)	233 (44.0)	0.537
Cam + chemotherapy	436 (41.1)	239 (45.1)	197 (37.2)	0.010
Cam + targeted therapy	131 (12.4)	40 (7.5)	91 (17.2)	<.001
Cam + radiotherapy	16 (1.3)	7 (1.3)	9 (1.7)	0.802
Immune related adverse events	345 (32.5)	211 (39.8)	134 (25.3)	...
≤ 2	284 (26.8)	179 (33.8)	105 (19.8)	<.001
≥ 3	61 (5.8)	32 (6.0)	29 (5.5)	0.792
Treatment efficacy				
Complete remission (CR)	41 (3.9)	19 (3.6)	22 (4.2)	0.751
Partial remission (PR)	246 (23.2)	115 (21.7)	131 (24.7)	0.275
Stable disease (SD)	410 (38.7)	208 (39.2)	202 (38.1)	0.753
Progression disease (PD)	363 (34.2)	188 (35.5)	175 (33.0)	0.437
Overall response rate (ORR)	287 (27.1)	134 (25.3)	153 (28.9)	0.213
Disease control rate (DCR)	697 (65.8)	342 (64.5)	355 (67.0)	0.437

Treatment pause	130 (12.3)	22 (4.2)	108 (20.4)	<.001
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