Supplemental material

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J Immunother Cancer

Supplementary table S1: Individual description of clinical and paraclinical features, treatment modalities and outcomes according to Bonaca[9] and Hermann[8].

	Sex	Age (years)	CV risk factors	Previous AI	Cancer type	Stage	ICI	Time to onset (d)	Clinical symptoms	High Tn/ BNP (y/n)	ECG	TTE	CMR	Angiography / EMB	Associated irAEs	Bonaca grading	Severity*	Treatment	Outcome*	Follow-up (days)
1	M	69	D; S	Ps	HCC	III	PD1	181	-	+ / +	n	n	LGE; ↑T1m	- / -	Th	Pro	Sm / 2	GC	R; CRD	87
2	F	71	Dl; HBP; S	-	NSCLC	IV	PD1	2	CP; Dy; M; Pa	+ / +	LAFB	DSF	DSF; LGE	- / -	SS	Pro	CS / 3	GC	R; CRD	49
3	M	54	S	Vi	Me	IV	CTL4 + PD1	63	CP; M; Pa	+ / -	n	DSF	LGE	- / -	CNS; De; He; My; Th	Pro	CS / 3	GC	CR; NIC	830
4	M	64	D; HBP; S	ILD	NSCLC	III	PDL1	43	Dy; LLO; M; Pa	+ / -	n	n	LGE; ↑T1m; ↑T2m; T2O	- / -	He; MG; My; SS; Th	Def	Se (HF) / 4	GC; IVIg; MMF; MTX; PLEx	R	486
5	F	70	HBP	-	UTC	IV	PD1	26	CP; Dy; LLO	+ / +	DNTW	DSF; ↓GLS	DSF; LGE; T2O	+ / -	SS	Def	CS / 3	GC; PLEx	R; CRD	69
6	F	33	S	-	NSCLC	IV	PD1	20	LLO	+ / +	DNTW; PVC	WMA; ↓GLS	LGE; ↑T1m; T2O	- / -	SS; Th	Def	CS / 3	GC; PLEx	R; CRD	144
7	M	71	S	My; Ne	NSCLC	IV	PD1	64	Sy	+ / -	HGHB	↓GLS	LGE; ↑T2m; T2O	+ / +	SS	Def	Se / 4	GC	CR; NIC	325
8	F	53	-	ANA	Me	IV	CTL4 + PD1	46	Dy; M; Pa	+ / +	n	n	n	- / -	He; My; Pn; SS	Po	CS / 3	GC; IVIg; MTX; PLEx	R; NIC; CRD	288
9	M	80	HBP; S	-	UTC	IV	PD1	50	LLO	+ / +	PVC	WMA	LGE; T2O	- / -	SS	Pro	CS / 3	GC; PLEx	R	299
10	F	84	D	MG	Me	IV	PD1	17	Dy	+ / +	DNTW; LBBB	n	LGE; T2O	+ / +	He; MG exacerbation; My	Def	Se (HF) / 5	GC; PLEx	MRD	19
11	M	70	Dl; HBP; S	-	GAc	IV	CTL4 + PD1	63	-	+ / +	DNTW	DSF	DSF	- / -	CNS; He; Th	Po	Sm / 2	GC	CR	287

	Sex	Age (years)	CV risk factors	Previous AI	Cancer type	Stage	ICI	Time to onset (d)	Clinical symptoms	High Tn/ BNP (y/n)	ECG	TTE	CMR	Angio graphy / EMB	Associated irAEs	Bonaca grading	Severity*	Treatment	Outcome*	Follow-up (days)
12	F	50	S	HT; CL	UTC	IV	PD1+ Ox40	35	CP; Dy	+ / +	DNT W	DSF	LGE	+ / -	He; My; Pn; PNS	Def	CS / 3	GC; IVIg	CR	832
13	M	75	Dl; HBP; S	My	UTC	IV	PD1+ Ox40	15	Dy; M	+ / NS	AF	n	LGE	+ / -	My exacerbati on	Def	Se (HF) / 5	GC	MRD	123
14	M	83	S	-	NSCLC	IV	PD1	44	-	+ / -	n	DSF	n	+ / -	My	Po	Sm / 2	GC	CR; CRD	333
15	M	61	-	-	Me	IV	PD1	83	Dy	+ / +	HGH B	DSF	LGE; ↑T1m	- / -	Co; Th	Pro	Se / 4	Cy; GC; IVIg	CR	252
16	M	69	D; S	-	NSCLC	IV	PD1	35	Dy	+ / +	n	DSF	NS	- / -	MG	Pro	CS / 3	GC; IVIg; MTX	R	665
17	M	74	Dl; S	-	NSCLC	IV	PD1	126	Dy; Pa	+ / NS	AF	DSF	n	+ / -	-	Def	Se (HF) / 4	GC	R	474
18	M	83	-	PMR	CEC	IIIb	PD1	36	F; M	+ / NS	HGH B	NS	NS	- / -	He; MG; My; SS	Po	Se / 5	GC; IVIg; PLEx	MRD	22
19	M	76	-	ANA; Ps	Me	IV	CTL4 + PD1	31	M	+ / +	n	NS	LGE; ↑T1m; ↑T2m	- / -	PNS; SS	Pro	Sm / 2	GC; PLEx	CR	148
20	F	69	S	ANA	Me	IV	CTL4 + PD1	21	CP	+ / -	SVT	n	↑T1m; ↑T2m	+ / -	Pn	Pro	CS / 2	GC	R; NIC	807
21	M	71	D; HBP	-	Me	IV	CTL4 + PD1	39	Dy	+ / -	DNT W	n	↑ LGE; ↑T1m; ↑T2m; T2O	- / -	Th	Def	CS / 2	GC	CR; NIC	811
22	M	56	-	-	Me	III	PD1	75	CP	+ / -	DNT W	n	LGE; ↑T2m	+ / +(†)	De; Hy; SS	Pro	CS / 2	GC	R	101

	Sex	Age (years)	CV risk factors	Previous AI	Cancer type	Stage	ICI	Time to onset (d)	Clinical symptoms	High Tn/BNP (y/n)	ECG	TTE	CMR	Angiography / EMB	Associated irAEs	Bonaca grading	Severity*	Treatment	Outcome*	Follow-up (d)
23	M	64	Dl; HBP; S	-	NSCLC	IV	PD1	126	Dy	+ / +	LBBB	DSF	NS	- / -	-	Pro	Se (HF) / 5	GC	MRD	50
24	M	62	S	-	NSCLC	IV	PDL1	21	CP; Dy	+ / +	AF	DSF	NS	+ / +	-	Def	Se (HF) / 5	GC	MRD	40
25	F	69	S	ANA	HCC	IV	CTL4 + PD1	16	Dy; M	+ / -	AIVR	n	LGE	+ / -	My; Th	Po	CS / 3	GC; IVIg; PLEx	R	70
26	F	52	S	-	CC	IV	CTL4 + PDL1	35	F; LLO	+ / -	n	n	↑T1m	+ / +	My; SS; Th	Def	CS / 3	GC	R	32
27	M	66	S	-	HCC	III	PDL1	32	Dy; LLO; M	+ / +	n	WMA	n	+ / +	De; MG; My	Def	Se (HF) / 5	GC	MRD	8
28	M	78	S	-	NSCLC	IV	PD1	42	CP; Dy; LLO	+ / +	RBB	n	n	- / -	My	Po	Se (HF) / 5	GC; IVIg; MMF; PLEx	MRD	37
29	M	72	-	-	NSCLC	IV	PD1	58	Dy	+ / +	AF	n	n	+ / -	-	Po	CS / 3	-	NIC; CRD	183

AF: atrial fibrillation; AI: autoimmunity; AIVR: Accelerated idioventricular rhythm; ANA: antinuclear antibodies; CC: cholangiocarcinoma; CEC: cutaneous epidermoid carcinoma; CL: cutaneous lupus; CNS: central nervous system; Co: colitis; CP: chest pain; CR: complete recovery; CRD: cancer-related death; CS: clinically significant; CV: cardiovascular; Cy: cyclosporin; D: diabetes; De: dermatitis; Def: definite; Dl: dyslipidaemia; DNTW: diffuse negative T waves; DSF: decline in systolic function; Dy: dyspnoea; EMB: endomyocardial biopsy; F: fatigue; GAc: gastric adenocarcinoma; GC: glucocorticoids; GLS: global longitudinal strain; HBP: high blood pressure; HCC: hepatocellular carcinoma; He: hepatitis; HF: heart failure; HGHB: high grade heart block; HT: Hashimoto thyroiditis; Hy: hypophysitis; ICI: immune checkpoint inhibitor; ILD: interstitial lung disease; IVIg: intravenous immunoglobulins; LAFB: left anterior fascicular block; LBBB: left bundle branch block; LC: lung cancer; LGE: late gadolinium enhancement; LLE: lower limbs oedema; M: myalgia; Me: melanoma; MG: myasthenia gravis; MMF: mycophenolate mofetil; MRD: myocarditis-related death; MTX: methotrexate; My: myositis; n: normal; Ne: neuropathy; NIC: new ICI challenge; NS: not specified; NSCLC: non-small cell lung cancer; Pa: palpitations; PLEx: plasma exchange; PMR: Polymyalgia rheumatica; Pn: pneumonitis; PNS: peripheral nervous system; Po: possible; Pro: probable; Ps: psoriasis; PVC: premature ventricular contractions; R: recovering; RBB: right bundle block; S: smoking; Se: severe; Sm: smoldering; SS: sicca syndrome; SVT: supra-ventricular tachycardia; Sy: syncope; T1m: T1 mapping; T2O: T2 oedema; Th: thyroiditis; UTC: urinary tract carcinoma; Vi: vitiligo; WMA: wall motion abnormality.

* Severity is assessed according to IC-OS consensus statement (severe, clinically significant, smoldering) and CTCAE v5 (grade 1-5), and recovery is assessed according to IC-OS consensus statement.

† T lymphocytes infiltrate with insufficient density for myocarditis diagnosis.