

Supplemental Table 1. Study and patient characteristics of identified cases of chronic immune-related adverse events

First author	Year	Article type	Quality	Cancer	Patient ID	Metastatic disease (Y/N)	Gender (M/F)	Autoimmune Hx (Y/N)	Best response	ICI	Delivery	# cycles before irAE	# of irAE	Type of irAE	Category
Sun ¹	2008	Case report	5	Bladder	1	N	M	N	Adjuvant	Ipilimumab	Single-agent	2	1	Anterior uveitis	Ocular
Di Giacomo ²	2009	Case report	5	Melanoma	2	Y	F	N	Stable disease	Ipilimumab	Single-agent	3	2	Dermatitis	Dermatological
Akhtari ³	2009	Case report	5	Melanoma	3	Y	F	N	Stable disease	Ipilimumab	Single-agent	4	1	Neutropenia	Hematological
Harmankaya ⁴	2011	Case report	5	Melanoma	4	Y	F	N	Partial	Ipilimumab	Single-agent	3	2	Colitis	Gastrointestinal
Manousakis ⁵	2013	Case report	5	Melanoma	5	Y	M	N	NR	Ipilimumab	Single-agent	3	1	Polyradiculoneuropathy	Neurological
Tissot ⁶	2013	Case report	5	Melanoma	6	N	M	N	Adjuvant	Ipilimumab	Single-agent	6	1	Erythema nodosum	Dermatological
Dick ⁷	2015	Case report	5	Melanoma	7	Y	M	N	Complete	Ipilimumab	Single-agent	2	1	Colitis	Gastrointestinal
Johnson ⁸	2015	Retrospective cohort	3	Melanoma	8	NR	NR	N	NR	Ipilimumab	Single-agent	NR	1	Dermatitis	Dermatological
				Melanoma	9	NR	F	N	NR	Ipilimumab	Single-agent	4	1	Peripheral neuropathy	Neurological
				Melanoma	10	NR	M	N	NR	Ipilimumab	Single-agent	NR	1	Peripheral neuropathy	Neurological
Gao ⁹	2015	Retrospective cohort	3	Prostate	11	Y	M	N	NR	Ipilimumab	With ADT	4	2	Hepatitis	Gastrointestinal
				Prostate	12	Y	M	N	NR	Ipilimumab	With ADT	2	2	Aplastic anemia	Hematological
Jinnur ¹⁰	2015	Case report	5	Melanoma	13	Y	M	N	NR	Ipilimumab	Single-agent	4	1	Phrenic nerve neuropathy	Neurological
Johncilla ¹¹	2015	Case series	4	Melanoma	14	Y	NR	N	NR	Ipilimumab	Single-agent	NR	1	Hepatitis	Gastrointestinal

Altman ¹²	2015	Case report	5	Melanoma	15	Y	M	N	NR	Ipilimumab	Single-agent	2	1	Bell's Palsy	Neurological
Yeh ¹³	2015	Case report	5	Melanoma	16	Y	M	N	NR	Ipilimumab	Single-agent	3	1	Optic neuritis	Neurological
Abdallah ¹⁴	2016	Case report	5	Melanoma	17	Y	F	N	NR	Ipilimumab	Single-agent	2	1	Progressive necrotic myelopathy	Neurological
Papavasileiou ¹⁵	2016	Case series	4	Melanoma	18	Y	M	N	Progression	Ipilimumab	Single-agent	3	2	Orbital inflammation	Ocular
Freeman-Keller ¹⁶	2016	Retrospective cohort	3	Melanoma	19	NR	NR	N	NR	Nivolumab	Single-agent	42	1	Colitis	Gastrointestinal
				Melanoma	20	NR	NR	N	NR	Nivolumab	Single-agent	NR	1	Pneumonitis	Respiratory
Khoja ¹⁷	2016	Case report	5	Melanoma	21	Y	F	N	Complete	Pembrolizumab	Single-agent	36	2	Eosinophilic fasciitis	Rheumatological
Naidoo ¹⁸	2016	Case series	4	Melanoma	22	Y	M	N	Complete	Nivolumab	Single-agent	10	1	Bullous pemphigoid	Dermatological
				Melanoma	23	Y	F	N	Partial	Durvalumab	Single-agent	8	1	Bullous pemphigoid	Dermatological
Hwang ¹⁹	2016	Case series	4	Melanoma	24	Y	M	N	Progression	Pembrolizumab	Single-agent	16	1	Bullous pemphigoid	Dermatological
Zimmer ²⁰	2016	Retrospective cohort	3	Melanoma	25	Y	F	N	Partial	Pembrolizumab	Single-agent	3	1	Myasthenia gravis	Neurological
Beck ²¹	2016	Case report	5	Melanoma	26	Y	M	Y	Stable	Pembrolizumab	Single-agent	5	1	Bullous pemphigoid	Dermatological
Bowyer ²²	2016	Retrospective cohort	3	Melanoma	27	Y	NR	N	NR	Ipilimumab	Single-agent	NR	1	Pneumonitis	Respiratory
Chia ²³	2016	Case report	5	NSCLC	28	Y	M	N	Progression	Pembrolizumab	Single-agent	2	1	Psoriasis	Dermatological
Cappelli ²⁴	2016	Retrospective cohort	3	Renal cell	29	Y	M	N	Stable	Anti-PD-1 + anti-CTLA-4 NOS	Dual-agent	NR	1	Colitis	Gastrointestinal

				Melanoma	30	NR	F	N	Partial	Anti-PD-1 + anti-CTLA-4 NOS	Dual-agent	NR	2	Inflammatory arthritis	Rheumatological
				Renal cell	31	Y	M	N	Stable	Anti-PD-1 + anti-CTLA-4 NOS	Dual-agent	NR	2	Inflammatory arthritis	Rheumatological
Kimura ²⁵	2016	Case report	5	Melanoma	32	Y	M	N	Stable	Nivolumab	Single-agent	1	1	Myasthenia gravis	Neurological
Gounant ²⁶	2016	Case report	5	NSCLC	33	Y	M	N	Stable	Nivolumab	Single-agent	7	1	Pneumonitis	Respiratory
Ban-Hoefen ²⁷	2016	Case report	5	Melanoma	34	N	M	N	Adjuvant	Ipilimumab	Single-agent	4	3	Neutropenia	Hematological
Ascierto ²⁸	2016	Case report	5	Melanoma	35	Y	F	N	Complete	Nivolumab	Single-agent	NR	4	Vitiligo	Dermatological
Uemura ²⁹	2016	Case report	5	Melanoma	36	Y	M	N	Stable	Ipilimumab	Single-agent	2	1	Grover's disease	Dermatological
Diem ³⁰	2016	Case series	4	Melanoma	37	Y	M	Y	Complete	Pembrolizumab	Single-agent	4	2	Anterior uveitis	Ocular
Wilson ³¹	2016	Case report	5	Melanoma	38	Y	M	N	Progression	Ipilimumab	Single-agent	3	3	Optic neuritis	Ocular
Abe ³²	2016	Case report	5	NSCLC	39	Y	M	N	Stable	Nivolumab	Single-agent	1	1	Akathisia	Neurological
Jung ³³	2016	Case report	5	Renal cell	40	Y	M	N	Partial	Nivolumab	Single-agent	NR	1	Nephritis	Renal
Parakh ³⁴	2017	Case report	5	Melanoma	41	Y	M	N	NR	Pembrolizumab	Single-agent	10	1	Bullous pemphigoid	Dermatological
Duffy ³⁵	2017	Phase I/II	2	HCC	42	N	NR	N	Adjuvant	Tremelimumab	Single-agent	NR	1	Dermatitis	Dermatological
Spain ³⁶	2017	Case series	4	Melanoma	43	Y	F	N	Partial	Nivolumab Ipilimumab	Dual-agent	4	3	Hepatitis	Gastrointestinal
Zarbo ³⁷	2017	Case series	4	Renal cell	44	Y	M	N	NR	Anti-PD-1 + anti-CTLA-4 NOS	Dual-agent	NR	3	Alopecia	Dermatological

				Renal cell	45	Y	M	N	NR	Anti-PD-1 + anti-CTLA-4 NOS	Dual-agent	NR	3	Onychoschizia	Dermatological
Tetzlaff ³⁸	2017	Case series	4	NSCLC	46	Y	F	N	NR	Nivolumab	Single-agent	6	1	Dermatitis	Dermatological
Bergqvist ³⁹	2017	Case series	4	Melanoma	47	Y	M	N	NR	Ipilimumab	Single-agent	2	1	Colitis	Gastrointestinal
				Melanoma	48	Y	M	N	NR	Ipilimumab	Single-agent	4	1	Colitis	Gastrointestinal
				Melanoma	49	Y	F	N	NR	Ipilimumab	Single-agent	4	1	Colitis	Gastrointestinal
				Melanoma	50	Y	F	N	NR	Ipilimumab	Single-agent	2	3	Colitis	Gastrointestinal
				Melanoma	51	N	M	N	Adjuvant	Ipilimumab	Single-agent	2	1	Colitis	Gastrointestinal
				NSCLC	52	Y	M	Y	NR	Nivolumab	Single-agent	18	1	Colitis	Gastrointestinal
Shiuan ⁴⁰	2017	Case series	4	Melanoma	53	N	F	N	Adjuvant	Nivolumab	Single-agent	NR	1	Thrombocytopenia	Hematological
Spain ⁴¹	2017	Retrospective cohort	3	Melanoma	54	Y	M	N	Partial	Ipilimumab	Single-agent	4	3	Polyradiculoneuropathy	Neurological
				Melanoma	55	NR	NR	N	Partial	Blinded study	Dual-agent	1	1	Peripheral neuropathy	Neurological
				Melanoma	56	NR	NR	N	Partial	Nivolumab	Single-agent	23	2	Peripheral neuropathy	Neurological
				Melanoma	57	NR	F	Y	Complete	Nivolumab	Single-agent	NR	3	Phrenic nerve neuropathy	Neurological
Larkin ⁴²	2017	Case series	4	Melanoma	58	Y	F	N	Partial	Nivolumab	Dual-agent	1	1	Encephalitis	Neurological
Kanno ⁴³	2017	Case report	5	Melanoma	59	Y	F	N	Partial	Nivolumab	Single-agent	4	2	Anterior uveitis	Ocular
Uenami ⁴⁴	2017	Case report	5	NSCLC	60	Y	M	Y	Partial	Nivolumab	Single-agent	1	1	Vitiligo	Dermatological

Ruiz-Banobre ⁴⁵	2017	Case report	5	NSCLC	61	Y	M	Y	Partial	Nivolumab	Single-agent	8	1	Arthritis	Rheumatological
Kaunitz ⁴⁶	2017	Retrospective cohort	3	Colorectal	62	Y	M	N	Complete	Anti-PD-1 NOS	Single-agent	NR	1	Bullous pemphigoid	Dermatological
Kim ⁴⁷	2017	Case series	4	Melanoma	63	Y	F	N	Progression	Pembrolizumab Ipilimumab	Single-agent	3	2	Arthritis	Rheumatological
Tetzlaff ⁴⁸	2017	Case series	4	Ovarian	64	Y	F	N	NR	Nivolumab Ipilimumab	Dual-agent	20	2	Erythema nodosum	Dermatological
				Melanoma	65	Y	F	N	NR	Nivolumab	With targeted therapy	4	1	Erythema nodosum	Dermatological
Brouwer ⁴⁹	2017	Case report	5	Melanoma	66	Y	M	N	Partial	Nivolumab Ipilimumab	Dual-agent	8	4	Ocular rosacea	Ocular
Hsieh ⁵⁰	2017	Case report	5	Melanoma	67	Y	M	N	Complete	Pembrolizumab	Single-agent	13	3	Encephalitis	Neurological
Doherty ⁵¹	2017	Case series	4	Melanoma	68	Y	F	N	NR	Pembrolizumab	Single-agent	1	1	Hepatitis	Gastrointestinal
				Melanoma	69	Y	F	N	Progression	Nivolumab	Single-agent	3	1	Hepatitis	Gastrointestinal
				Mesothelioma	70	Y	M	N	Progression	Pembrolizumab	Single-agent	1	1	Hepatitis	Gastrointestinal
Balaji ⁵²	2017	Case series	4	NSCLC	71	Y	M	N	NR	Nivolumab	Single-agent	2	1	Pneumonitis	Respiratory
de Chabot ⁵³	2017	Case series	4	NSCLC	72	N	M	N	Partial	Nivolumab	Single-agent	2	3	Myasthenia gravis	Neurological
Pfohler ⁵⁴	2017	Case report	5	Melanoma	73	Y	M	N	Progression	Pembrolizumab Nivolumab	Single-agent	1	1	Thrombocytopenia	Hematological
Benson ⁵⁵	2017	Case report	5	Melanoma	74	Y	M	Y	Progression	Ipilimumab	Single-agent	3	2	Nephritis	Renal
Elosua-Gonzalez ⁵⁶	2017	Case report	5	NSCLC	75	Y	M	N	Partial	Nivolumab	Single-agent	3	3	Psoriatic arthritis	Rheumatological
Alhammad ⁵⁷	2017	Case series	4	Melanoma	76	Y	M	N	NR	Pembrolizumab	Single-agent	9	1	Brachial plexus neuropathy	Neurological
Kitchlu ⁵⁸	2017	Case series	4	Melanoma	77	Y	M	Y	NR	Ipilimumab	Single	4	1	Membranous	Renal

											agent			nephropathy	
Rofe ⁶⁹	2017	Case report	5	Melanoma	78	Y	F	Y	Complete	Pembrolizumab	Single agent	1	3	Bullous Pemphigoid	Dermatological
Michot ⁶⁹	2017	Case series	4	NSCLC	79	Y	M	N	NR	Atezolizumab	With chemo	NR	1	Pancytopenia	Hematological
Narumi ⁷¹	2018	Case report	5	NSCLC	80	Y	M	N	Progression	Nivolumab	Single-agent	1	1	Neuromyelitis optica spectrum disorder	Neurological
Kostine ⁶²	2018	Prospective cohort	2	NR	81	NR	NR	N	NR	NR	NR	NR	1	Inflammatory arthritis	Rheumatological
				NR	82	NR	NR	N	NR	NR	NR	NR	NR	1	Inflammatory arthritis
Kishi ⁶³	2018	Case report	5	NSCLC	83	Y	M	N	Complete	Nivolumab	Single agent	12	1	IgA nephropathy	Renal
Kuswanto ⁶⁴	2018	Case series	4	Renal cell	84	Y	F	N	Complete	Pembrolizumab	Single agent	4	2	Polymyalgia rheumatic	Rheumatological
				Renal cell	85	Y	F	N	Stable	Nivolumab	Single agent	32	1	Polymyalgia rheumatic	Rheumatological
				Renal cell	86	Y	F	N	NR	Nivolumab	Single agent	18	1	Polymyalgia rheumatic	Rheumatological
				Biliary	87	Y	F	N	NR	Atezolizumab	Single agent	2	2	Polymyalgia rheumatic	Rheumatological
McGuire ⁶⁵	2018	Case report	5	Melanoma	88	N	F	N	Adjuvant	Anti-PD-1 NOS	Single agent	9	1	Hepatitis	Gastrointestinal
Fellner ⁶⁶	2018	Case series	4	Renal cell	89	Y	M	N	Stable	Nivolumab Ipilimumab	Dual agent	NR	1	Polyneuropathy	Neurological
Kolb ⁶⁷	2018	Case series	4	Merkel	90	Y	F	N	NR	Nivolumab Pembrolizumab Ipilimumab	Dual agent	6	1	AIDP	Neurological
Luu ⁶⁸	2018	Case report	5	Melanoma	91	N	M	N	Adjuvant	Pembrolizumab Ipilimumab	Single agent	NR	2	Hepatitis	Gastrointestinal
De Martin ⁶⁹	2018	Prospective cohort	2	Melanoma	92	N	F	N	Adjuvant	Ipilimumab	Single agent	NR	1	Hepatitis	Gastrointestinal
Tetzlaff ⁷⁰	2018	Case series	4	Melanoma	93	Y	M	N	Stable	Pembrolizumab	Single agent	27	1	Granulomatous lesions	Dermatological
Matsubara ⁷¹	2018	Case report	5	Melanoma	94	Y	M	N	Partial	Nivolumab	Single agent	1	1	Hepatitis	Gastrointestinal
Martini ⁷²	2018	Retrospective cohort	3	Renal cell	95	NR	M	N	Partial	Anti-PD-1 NOS	Single agent	NR	1	Hepatitis	Gastrointestinal

				Renal cell	96	Y	M	N	Partial	Anti-PD-1 NOS	Single agent	NR	2	Arthritis	Rheumatological
				Renal cell	97	NR	M	N	Complete	Anti-PD-1 NOS	Single agent	NR	3	Pancreatitis Arthritis Colitis	Gastrointestinal
				Renal cell	98	NR	F	N	Partial	Anti-PD-1 NOS	Single agent	NR	1	Arthritis	Rheumatological
				Renal cell	99	NR	F	N	Partial	Anti-PD-1 NOS	Single agent	NR	1	Myositis	Rheumatological
				Renal cell	100	NR	M	N	Complete	Anti-PD-1 NOS	Single agent	NR	2	Anterior uveitis Arthritis	Rheumatological
Inamo ⁷⁴	2018	Retrospective cohort	3	NSCLC	101	Y	F	N	Progression	Anti-PD-1 NOS	Single agent	NR	2	Arthritis	Rheumatological
				NSCLC	102	NR	M	N	Progression	Anti-PD-1 NOS	Single agent	NR	2	Arthritis	Rheumatological
Hid Cadena ⁷⁴	2018	Case report	5	Melanoma	103	N	M	N	Adjuvant	Blinded study	Single agent	NR	1	Giant cell arteritis	Rheumatological
Algaze ⁷⁵	2018	Case report	5	NSCLC	104	Y	M	N	Partial	Nivolumab	Single agent	21	1	Autoimmune haemolytic anaemia	Hematological
Brand ⁷⁶	2018	Case report	5	Laryngeal	105	Y	M	N	Partial	Pembrolizumab	Single agent	14	1	Mucositis	Gastrointestinal
Mandala ⁷⁷	2018	Case report	5	Melanoma	106	N	F	N	Adjuvant	Blinded study	Single agent	NR	2	Pneumonitis	Respiratory
Badovinac ⁷⁸	2018	Case report	5	NSCLC	107	Y	F	N	Partial	Nivolumab	Single agent	NR	2	Myositis	Rheumatological
Lomax ⁷⁹	2018	Retrospective cohort	3	Melanoma	108	Y	M	N	Complete	Pembrolizumab	Single agent	NR	1	Arthritis	Rheumatological
Takahashi ⁸⁰	2018	Case report	5	NSCLC	109	N	M	N	Adjuvant	Nivolumab	Single agent	7	3	Colitis	Gastrointestinal
Tjarks ⁸¹	2018	Case report	5	Renal cell	110	Y	M	N	Stable	Nivolumab	Single agent	16	1	Scleroderma	Rheumatological
Mancone ⁸²	2018	Case series	4	Melanoma	111	Y	M	N	NR	Nivolumab Ipilimumab	Dual agent	2	1	Polyneuropathy	Neurological
Paolini ⁸³	2018	Case report	5	NSCLC	112	N	F	N	Partial	Nivolumab	Single agent	5	1	Erythema nodosum	Dermatological
Chen ⁸⁴	2018	Case series	4	Melanoma	113	NR	M	N	NR	Pembrolizumab Ipilimumab	Dual agent	NR	1	Dermatitis	Dermatological
Derle ⁸⁵	2018	Case report	5	Melanoma	114	Y	M	Y	NR	Ipilimumab	Single agent	NR	1	Myasthenia gravis	Neurological

											agent				
Tan ⁸⁶	2018	Case report	5	Melanoma	115	Y	M	N	Partial	Nivolumab Ipilimumab	Dual agent	NR	2	Neurosarcoidosis	Neurological
Narvaez ⁸⁷	2018	Prospective cohort	3	Lung-other	116	NR	M	N	NR	Nivolumab	Single agent	NR	2	Arthritis	Rheumatological
Garcia ⁸⁸	2018	Case series	4	Melanoma	117	N	F	N	Adjuvant	Ipilimumab	Single agent	3	3	Meningoencephalomyelitis	Neurological
				Melanoma	118	N	M	N	Adjuvant	Ipilimumab	Single agent	2	3	AIDP	Neurological
Sanchez ⁸⁹	2018	Case report	5	Melanoma	119	Y	M	N	Partial	Pembrolizumab	Single agent	NR	1	Organizing pneumonia	Respiratory
Dunn-Pirio ⁹⁰	2018	Case report	5	Melanoma	120	Y	M	N	Stable	Nivolumab Ipilimumab	Dual agent	NR	4	Neurosarcoidosis	Neurological
Burotto ⁹¹	2018	Case report	5	Melanoma	121	Y	F	N	Progression	Nivolumab Ipilimumab	Dual agent	NR	1	Hepatitis	Gastrointestinal
Moseley ⁹²	2018	Case series	4	Melanoma	122	Y	M	N	Complete	Nivolumab Ipilimumab	Dual agent	NR	3	Arthritis	Rheumatological
Donaldson ⁹³	2018	Case report	5	NSCLC	123	Y	M	N	Stable	Nivolumab	Single agent	6	1	Lichenoid mucocutaneous eruption	Dermatological
Comont ⁹⁴	2018	Case report	5	Bladder	124	N	M	N	Adjuvant	Durvalumab Tremelimumab	Dual agent	NR	1	Acral vasculitis	Rheumatological
Delaney ⁹⁵	2018	Retrospective cohort	3	NSCLC	125	Y	M	N	NR	Nivolumab	Single agent	6	1	Aplastic anemia	Hematological
				Melanoma	126	Y	M	N	NR	Nivolumab	With chemo	4	1	Aplastic anemia	Hematological
				Melanoma	127	Y	M	N	NR	Pembrolizumab	Single agent	3	1	Pure red cell aplasia	Hematological
				NSCLC	128	NR	F	N	NR	Nivolumab	Single agent	27	1	Thrombocytopenia	Hematological
				Melanoma	129	Y	F	N	NR	Pembrolizumab	Single agent	20	1	Thrombocytopenia	Hematological
				Melanoma	130	Y	M	N	NR	Pembrolizumab	Single agent	13	1	Thrombocytopenia	Hematological
de Jong ⁹⁶	2018	Case report	5	NSCLC	131	Y	F	N	Partial	Nivolumab	Single agent	7	1	Pneumonitis	Respiratory
Horisberger ⁹⁷	2018	Case report	5	NSCLC	132	Y	M	N	Complete	Nivolumab	Single agent	13	2	Mucositis	Gastrointestinal

Nakatani ⁹⁸	2018	Case report	5	NSCLC	133	Y	F	N	Partial	Nivolumab	Single agent	10	2	Lambert-Eaton	Neurological
Plaquevent ⁹⁹	2018	Case report	5	Melanoma	134	Y	M	Y	Complete	Ipilimumab	Single agent	NR	1	Vitiligo	Dermatological
Cho ¹⁰⁰	2019	Phase I/II	2	Thymic	135	NR	NR	Y	Partial	Pembrolizumab	Single agent	1	2	Hepatitis	Gastrointestinal
				Thymic	136	NR	NR	N	Stable	Pembrolizumab	Single agent	2	1	Myasthenia gravis	Neurological
				Thymic	137	NR	NR	Y	Partial	Pembrolizumab	Single agent	NR	1	Myocarditis	Cardiac
				Thymic	138	NR	NR	N	Stable	Pembrolizumab	Single agent	2	3	Myocarditis	Cardiac
				Thymic	139	NR	NR	N	Stable	Pembrolizumab	Single agent	5	2	Nephritis	Renal
				Thymic	140	NR	NR	N	Stable	Pembrolizumab	Single agent	2	2	Myocarditis	Cardiac
Nardin ¹⁰¹	2019	Case report	5	Melanoma	141	Y	M	N	Partial	Ipilimumab	Single agent	3	3	Orbital inflammation	Ocular
Smith ¹⁰²	2019	Retrospective cohort	3	NSCLC	142	NR	M	N	NR	Anti-PD-1 + anti-CTLA-4 NOS	Dual agent	NR	3	Tenosynovitis	Rheumatological
				Melanoma	143	NR	F	N	Stable	Anti-PD-1 NOS	Single agent	NR	2	Tenosynovitis	Rheumatological
				Melanoma	144	NR	M	N	Progression	Anti-PD-1 + anti-CTLA-4 NOS	Dual agent	NR	2	Arthritis	Rheumatological
				Melanoma	145	NR	F	N	Progression	Anti-PD-1 + anti-CTLA-4 NOS	Dual agent	NR	3	Arthritis	Rheumatological
				Melanoma	146	NR	F	N	Progression	Anti-PD-1 + anti-CTLA-4 NOS	Dual agent	NR	2	Arthritis	Rheumatological
				Anal	147	NR	F	N	NR	Anti-PD-1 + anti-CTLA-4 NOS	Dual agent	NR	1	Arthritis	Rheumatological
				Cervical	148	NR	F	N	Complete	Anti-PD-1 + anti-CTLA-4 NOS	Dual agent	NR	4	Arthritis	Rheumatological
				NSCLC	149	NR	M	N	Stable	Anti-PD-1 NOS	Single agent	NR	1	Arthritis	Rheumatological
				Merkel	150	Y	M	N	Complete	Anti-PD-1 NOS	Single agent	NR	3	Arthritis	Rheumatological
Mir ¹⁰³	2019	Prospective cohort	2	Melanoma	151	NR	F	N	NR	Nivolumab	Dual agent	1	1	Colitis	Gastrointestinal

										Ipilimumab					
				Melanoma	152	NR	M	N	NR	Nivolumab Ipilimumab	Dual agent	NR	2	Colitis	Gastrointestinal
Tauber ¹⁰⁴	2019	Case report	5	Colorectal	153	Y	F	N	Partial	Nivolumab Ipilimumab	Dual agent	2	1	Myositis	Rheumatological
Mamlouk ¹⁰⁵	2019	Retrospective cohort	3	NSCLC	154	Y	M	N	Complete	Pembrolizumab	With chemo	NR	1	Nephritis	Renal
Fixsen ¹⁰⁶	2019	Case report	5	NSCLC	155	Y	F	N	Partial	Pembrolizumab	Single agent	8	1	Lichenoid dermatitis	Dermatological
Lee ¹⁰⁷	2019	Retrospective cohort	3	Melanoma	156	NR	NR	N	NR	Pembrolizumab	Single agent	NR	1	Arthralgia	Rheumatological
				Melanoma	157	NR	NR	N	NR	Pembrolizumab	Single agent	NR	1	Arthralgia	Rheumatological
				NSCLC	158	NR	NR	N	NR	Nivolumab	Single agent	NR	1	Arthralgia	Rheumatological
Chanal ¹⁰⁸	2019	Retrospective cohort	3	Melanoma	159	Y	M	N	Progression	Pembrolizumab	Single agent	2	1	Myositis	Rheumatological
Kim ¹⁰⁹	2019	Retrospective cohort	3	Uveal melanoma	160	NR	F	N	Progression	Nivolumab Ipilimumab	Dual agent	1	3	Myasthenia gravis	Neurological
				Melanoma	161	NR	F	N	Progression	Nivolumab Ipilimumab	Dual agent	10	3	Anterior uveitis	Ocular
				Melanoma	162	Y	M	N	Complete	Nivolumab Ipilimumab	Dual agent	6	2	Retinal detachment	Ocular
				Melanoma	163	NR	F	N	Complete	Nivolumab Ipilimumab	Dual agent	1	4	Retinopathy	Ocular
				Melanoma	164	NR	F	N	Progression	Nivolumab Ipilimumab	Dual agent	5	3	Optic neuritis	Ocular
Leaf ¹¹⁰	2019	Retrospective cohort	3	Melanoma	165	Y	M	N	Progression	Pembrolizumab	Single agent	2	2	AIHA	Hematological
				NSCLC	166	Y	F	N	Partial	Nivolumab	Single agent	12	1	AIHA	Hematological
				NSCLC	167	Y	F	N	Stable	Nivolumab	Single agent	4	1	AIHA	Hematological
				Melanoma	168	Y	M	N	Partial	Pembrolizumab	Single agent	10	3	AIHA	Hematological
				Melanoma	169	Y	M	N	Progression	Nivolumab Ipilimumab	Dual agent	2	2	AIHA	Hematological
				Melanoma	170	Y	M	Y	Progression	Pembrolizumab	Single agent	1	1	AIHA	Hematological

											agent				
Porambo ¹¹¹	2019	Case report	5	NSCLC	171	NR	M	N	NR	Nivolumab	Single agent	2	1	Neuralgic amyotrophy	Neurological
Reed ¹¹²	2019	Case report	5	NSCLC	172	Y	F	N	Stable	Nivolumab	Single agent	3	1	Pneumonitis	Respiratory
Lou ¹¹³	2019	Case report	5	NSCLC	173	Y	F	N	Partial	Nivolumab	Single agent	8	2	Hypereosinophilia	Hematological
Berger ¹¹⁴	2019	Case report	5	Melanoma	174	Y	F	N	Stable	Pembrolizumab	Single agent	7	2	Thrombocytopenia	Hematological
Schoenfeld ¹¹⁵	2019	Case report	5	Melanoma	175	N	M	N	Adjuvant	Nivolumab	Single agent	NR	2	Pneumonitis	Respiratory
Schwab ¹¹⁶	2019	Case report	5	Head and neck	176	Y	M	N	Stable	Nivolumab Ipilimumab	Dual agent	7	1	Takutsu cardiomyopathy	Cardiac
Wouters ¹¹⁷	2019	Case report	5	NSCLC	177	N	M	Y	Adjuvant	Nivolumab	Single agent	1	1	Bullous Lupus	Dermatological
Gill ¹¹⁸	2019	Case series	4	NSCLC	178	Y	F	N	Complete	Pembrolizumab	With chemo	6	1	Encephalitis	Neurological
Veronesi ¹¹⁹	2019	Case report	5	Melanoma	179	Y	F	N	Partial	Nivolumab	Single agent	8	1	Lichen sclerosis	Dermatological
Ryuzaki ¹²⁰	2019	Case series	4	Pancreatic	180	N	M	N	Adjuvant	Nivolumab	Single agent	3	1	Nephritis	Renal
Isami ¹²¹	2019	Case report	5	NSCLC	181	Y	M	N	Progression	Nivolumab	Single agent	2	2	Myasthenia gravis	Neurological
Bezinelli ¹²²	2019	Case report	5	Ovarian	182	Y	F	N	Progression	Pembrolizumab	Single agent	2	1	Mucus membrane pemphigoid	Dermatological
Sidiropoulou ¹²³	2019	Case report	5	NSCLC	183	Y	M	Y	Partial	Nivolumab	Single agent	2	1	Erythema annulare centrifugum	Dermatological
Komiya ¹²⁴	2019	Retrospective cohort	3	NSCLC	184	NR	NR	N	Stable	Nivolumab	Single agent	NR	1	Pneumonitis	Respiratory
				NSCLC	185	NR	NR	Y	Partial	Nivolumab	Single agent	NR	1	Pneumonitis	Respiratory
				NSCLC	186	NR	NR	N	Partial	Nivolumab	Single agent	NR	1	Pneumonitis	Respiratory
				NSCLC	187	NR	NR	Y	Progression	Pembrolizumab	Single agent	NR	1	Pneumonitis	Respiratory
				NSCLC	188	NR	NR	N	Stable	Pembrolizumab	Single agent	NR	1	Pneumonitis	Respiratory
Noda ¹²⁵	2019	Case report	5	NSCLC	189	Y	F	N	Partial	Pembrolizumab	Single agent	1	2	Myasthenia gravis	Neurological
Dubey ¹²⁶	2019	Retrospective cohort	3	Melanoma	190	Y	M	N	NR	Nivolumab	Single agent	1	1	Peripheral neuropathy	Neurological

Galli ¹²⁷	2019	Case report	5	NSCLC	191	Y	M	N	NR	Nivolumab	Single agent	11	1	Alopecia	Dermatological
Yuen ¹²⁸	2019	Case report	5	Ovarian	192	Y	F	N	NR	Avelumab	With targeted therapy	4	1	Myasthenia gravis	Neurological
Maetani ¹²⁹	2019	Case report	5	Gastric	193	Y	M	N	Partial	Nivolumab	Single agent	6	2	Encephalopathy	Neurological
Shah ¹³⁰	2019	Case report	5	Melanoma	194	Y	M	Y	Partial	Pembrolizumab	Single agent	4	2	Hepatitis	Gastrointestinal
Blanchard ¹³¹	2019	Case report	5	NSCLC	195	Y	F	N	Partial	Pembrolizumab	Single agent	7	1	Bronchiolitis	Respiratory
Rajan ¹³²	2019	Phase I/II	2	Thymic	196	Y	NR	N	Stable	Avelumab	Single agent	3	2	Peripheral neuropathy	Neurological
Kurokawa ¹³³	2019	Case report	5	NSCLC	197	Y	M	N	Progression	Pembrolizumab	Single agent	2	1	Hepatitis	Gastrointestinal
Martinez-Domenech ¹³⁴	2019	Case report	5	Head and neck	198	Y	M	N	NR	Pembrolizumab	Single agent	25	1	Dermatitis	Dermatological
Thapa ¹³⁵	2019	Case report	5	Lung-other	199	Y	M	N	Partial	Nivolumab	Single agent	2	2	Inflammatory arthritis	Rheumatological
Reddy ¹³⁶	2019	Case report	5	NSCLC	200	Y	F	N	NR	Nivolumab	Single agent	11	2	Cholangiopathy	Gastrointestinal
Sakoh ¹³⁷	2019	Case report	5	NSCLC	201	Y	M	N	Stable	Nivolumab	Single agent	13	1	Peripheral neuropathy	Neurological
Rkman ¹³⁸	2019	Case report	5	Bladder	202	Y	M	N	Partial	Atezolizumab	Single agent	3	2	Vitiligo	Dermatological
Mitropoulou ¹³⁹	2019	Case series	4	Melanoma	203	Y	F	N	NR	Nivolumab	Single agent	NR	1	Bronchiolitis	Respiratory
Aye ¹⁴⁰	2019	Case series	4	Angiosarcoma	204	Y	M	N	Partial	Nivolumab	Single agent	NR	1	Pure red cell aplasia	Hematological
Sun ¹⁴¹	2019	Case report	5	Melanoma	205	Y	F	N	NR	Pembrolizumab	Single agent	NR	1	Bullous Pemphigoid	Dermatological
				Melanoma	206	Y	M	N	NR	Pembrolizumab	Single agent	4	1	Bullous Pemphigoid	Dermatological
Ahem ¹⁴²	2020	Retrospective cohort	3	Renal cell	207	Y	NR	N	Partial	Nivolumab	Single agent	NR	2	Peripheral neuropathy	Neurological
Olson ¹⁴³	2020	Case report	5	Melanoma	208	Y	F	N	Complete	Nivolumab Ipilimumab	Dual agent	4	2	AIHA	Hematological
Cordes ¹⁴⁴	2020	Case report	5	Renal cell	209	Y	F	N	Partial	Nivolumab Ipilimumab	Dual agent	7	2	Encephalitis	Neurological
Haddad ¹⁴⁵	2020	Case report	5	Melanoma	210	Y	F	N	Complete	Pembrolizumab	Single agent	13	1	Lipodystrophy	Rheumatological

Thomas ¹⁴⁶	2020	Case report	5	Melanoma	211	Y	M	N	NR	Pembrolizumab	Single agent	34	2	Behcet's	Rheumatological
Irfuku ¹⁴⁷	2020	Case report	5	Renal cell	212	Y	M	N	NR	Nivolumab	Single agent	8	1	Nephritis	Renal
Malek ¹⁴⁸	2020	Case report	5	Renal cell	213	Y	M	N	NR	Nivolumab Ipilimumab	Dual agent	NR	3	Hepatitis	Gastrointestinal
Guo ¹⁴⁹	2020	Case series	4	Melanoma	214	Y	M	Y	NR	Pembrolizumab	Single agent	1	2	Myocarditis	Cardiac
Miyahara ¹⁵⁰	2020	Retrospective cohort	3	NSCLC	215	Y	M	N	NR	Nivolumab	Single agent	NR	1	Colitis	Gastrointestinal
				NSCLC	216	Y	M	N	NR	Pembrolizumab	Single agent	8	1	Colitis	Gastrointestinal
Okji ¹⁵¹	2020	Case report	5	NSCLC	217	Y	F	N	Stable	Pembrolizumab	Single agent	7	2	Nephritis	Renal
Chan ¹⁵²	2020	Retrospective cohort	3	NSCLC	218	Y	M	N	Progression	Atezolizumab	With targeted therapy	13	1	Eosinophilic fasciitis	Rheumatological
				Melanoma	219	Y	F	N	Complete	Nivolumab	Single agent	3	1	Eosinophilic fasciitis	Rheumatological
Taillefer ¹⁵³	2020	Case report	5	Melanoma	220	Y	M	N	Stable	Nivolumab	Single agent	9	1	Encephalitis	Neurological
Xu ¹⁵⁴	2020	Case report	5	NSCLC	221	Y	F	Y	Stable	Camrelizumab	With chemo	6	3	Vitiligo	Dermatological
Subedi ¹⁵⁵	2020	Retrospective cohort	3	Kaposi sarcoma	222	Y	M	N	Complete	Pembrolizumab	Single agent	NR	1	Arthritis	Rheumatological
				Cervical	223	Y	F	N	Stable	Nivolumab	Single agent	NR	1	Arthritis	Rheumatological
				Colorectal	224	Y	F	N	Progression	Avelumab	Single agent	NR	1	Arthritis	Rheumatological
				Cervical	225	Y	F	N	Complete	Anti-PD-1 NOS	With targeted therapy	NR	1	Arthritis	Rheumatological
				NSCLC	226	Y	F	Y	Partial	Anti-PD-1 NOS	With targeted therapy	NR	1	Arthritis	Rheumatological
Mizuno ¹⁵⁶	2020	Retrospective cohort	3	NSCLC	227	Y	M	N	NR	Nivolumab	Single agent	3	1	Cholangitis	Gastrointestinal
Rossi ¹⁵⁷	2020	Case report	5	Renal cell	228	Y	M	N	NR	Nivolumab	Single agent	NR	1	Eosinophilic folliculitis	Dermatological
Robert ¹⁵⁸	2020	Case series	4	NSCLC	229	Y	F	N	Progression	Atezolizumab	Single agent	1	1	Encephalitis	Neurological
				NSCLC	230	Y	M	N	Stable	Pembrolizumab	Single agent	NR	3	Encephalitis	Neurological

											agent				
Xing ¹⁵⁹	2020	Case report	5	NSCLC	231	Y	M	Y	Progression	Sintilimab	Single agent	2	2	Myasthenia gravis	Neurological
Terashima ¹⁶⁰	2020	Case report	5	NSCLC	232	N	M	N	Adjuvant	Durvalumab	Single agent	8	1	IgG4-related pleural disease	Respiratory
Daoussis ¹⁶¹	2020	Prospective cohort	3	Bladder	233	Y	M	N	Partial	Atezolizumab	Single agent	NR	1	Inflammatory arthritis	Rheumatological
				NSCLC	234	Y	M	N	Partial	Nivolumab	Single agent	NR	1	Inflammatory arthritis	Rheumatological
				NSCLC	235	Y	M	N	Progression	Nivolumab	Single agent	NR	1	Inflammatory arthritis	Rheumatological
				NSCLC	236	Y	F	N	Partial	Pembrolizumab	Single agent	NR	1	Inflammatory arthritis	Rheumatological
				Melanoma	237	Y	M	N	Partial	Nivolumab	Single agent	NR	1	Inflammatory arthritis	Rheumatological
Liu ¹⁶²	2020	Case report	5	NSCLC	238	Y	M	N	Partial	Pembrolizumab	Single agent	1	1	Hepatitis	Gastrointestinal
Marques-Piubelli ¹⁶³	2020	Case report	5	Melanoma	239	Y	F	N	NR	Pembrolizumab	With targeted therapy	NR	1	Lichenoid dermatitis	Dermatological
Ogawa ¹⁶⁴	2020	Case report	5	NSCLC	240	Y	M	N	Stable	Atezolizumab	Single agent	1	1	Meningitis	Neurological
Von Itzstein ¹⁶⁵	2020	Case report	5	NSCLC	241	N	M	N	Complete	Durvalumab	Single agent	2	1	Myositis	Rheumatological
Leaver ¹⁶⁶	2020	Case report	5	Melanoma	242	Y	M	N	Partial	Nivolumab Ipilimumab	Dual agent	2	2	Myocarditis	Cardiac
Samejima ¹⁶⁷	2020	Case report	5	NSCLC	243	Y	M	N	NR	Nivolumab	Single agent	17	1	Cardiomyopathy	Cardiac
Nowosielski ¹⁶⁸	2020	Case report	5	Melanoma	244	Y	M	N	Complete	Nivolumab Ipilimumab	Dual agent	16	2	Inflammatory arthritis	Rheumatological
Tanabe ¹⁶⁹	2020	Case report	5	Gastric	245	Y	M	N	NR	Nivolumab	Single agent	4	1	IgA nephropathy	Renal
Ueki ¹⁷⁰	2020	Case report	5	Renal cell	246	Y	F	N	Partial	Nivolumab	Single agent	3	2	Nephritis	Renal
Kambayashi ¹⁷¹	2020	Case report	5	Melanoma	247	Y	M	N	NR	Nivolumab Ipilimumab	Dual agent	4	3	Demyelinating Neuropathy	Neurological
Rizell ¹⁷²	2020	Case report	5	HCC	248	Y	F	N	Complete	Pembrolizumab	Single agent	8	1	Hepatitis	Gastrointestinal
Zarkavelis ¹⁷³	2020	Case report	5	Bladder	249	Y	M	N	NR	Nivolumab	Dual agent	4	1	Dermatomyositis	Rheumatological

										Ipilimumab					
Hendrix ¹⁷⁴	2020	Case report	5	Renal cell	250	Y	M	N	NR	Nivolumab	Single agent	9	1	Thrombocytopenia	Hematological
Terrier ¹⁷⁵	2020	Case series	4	NSCLC	251	Y	F	Y	NR	Pembrolizumab	Single agent	6	1	Scleroderma	Rheumatological
Murray-Brown ¹⁷⁶	2020	Case report	5	NSCLC	252	Y	M	N	Complete	Nivolumab	Single agent	20	1	Inflammatory arthritis	Rheumatological
Parikh ¹⁷⁷	2020	Retrospective cohort	3	Melanoma	253	NR	F	N	NR	Nivolumab Ipilimumab	Dual agent	NR	2	Optic nerve edema	Ocular
Osaki ¹⁷⁸	2020	Case report	5	NSCLC	254	Y	M	N	Progression	Nivolumab	Single agent	1	2	Dermatomyositis	Rheumatological
Bhattacharyya ¹⁷⁹	2020	Case report	5	Bladder	255	Y	F	N	Complete	Pembrolizumab	Single agent	4	1	Lichen planus	Dermatological
Uner ¹⁸⁰	2020	Case report	5	Head and neck	256	Y	M	N	NR	Pembrolizumab	Single agent	6	1	Necrotizing glomerulonephritis	Renal
Todo ¹⁸¹	2020	Case report	5	Bladder	257	Y	M	N	Complete	Pembrolizumab	Single agent	1	3	Myasthenia gravis	Neurological
Ueki ¹⁸²	2020	Case report	5	NSCLC	258	Y	F	N	Partial	Pembrolizumab	Single agent	5	1	Pancytopenia	Hematological
Pundole ¹⁸³	2020	Case report	5	Melanoma	259	N	M	N	Adjuvant	Nivolumab	Single agent	1	1	Osteonecrosis	Rheumatological
McClure ¹⁸⁴	2020	Case report	5	NSCLC	260	Y	M	N	Stable	Nivolumab	Single agent	17	1	Sclerosing cholangitis	Gastrointestinal
Iyer ¹⁸⁵	2020	Case report	5	Head and neck	261	Y	M	N	Partial	Nivolumab Ipilimumab	Dual agent	4	1	Cerebellar ataxia	Neurological
Uchio ¹⁸⁶	2020	Case report	5	NSCLC	262	Y	M	Y	Stable	Pembrolizumab	Single agent	1	1	Myositis	Rheumatological
Wong ¹⁸⁷	2020	Case series	4	NSCLC	263	Y	M	N	Stable	Nivolumab	Single agent	1	2	Myasthenia gravis	Neurological
Lin ¹⁸⁸	2020	Case report	5	Mesothelioma	264	Y	M	Y	Complete	Nivolumab	Single agent	2	2	Membranous nephropathy	Renal
Kullberg ¹⁸⁹	2020	Case report	5	NSCLC	265	Y	M	Y	Progression	Pembrolizumab	Single agent	8	3	Vasculitis	Rheumatological
Tanaka ¹⁹⁰	2020	Case report	5	NSCLC	266	Y	M	N	Partial	Pembrolizumab	With chemo	2	2	Hepatitis	Gastrointestinal
Patel ¹⁹¹	2020	Retrospective cohort	3	Renal cell	267	Y	M	N	Partial	Nivolumab	Single agent	3	2	Interstitial nephritis	Renal
				Renal cell	268	Y	M	N	Complete	Nivolumab Ipilimumab	Dual agent	2	1	Interstitial nephritis	Renal

				Renal cell	269	Y	M	N	Partial	Nivolumab Ipilimumab	Dual agent	4	1	Interstitial nephritis	Renal
Ziogas ¹⁹²	2020	Case report	5	Melanoma	270	N	M	N	Adjuvant	Ipilimumab	Single agent	3	2	Hepatitis	Gastrointestinal
Siciliano ¹⁹³	2020	Case report	5	Melanoma	271	Y	M	N	Complete	Pembrolizumab	Single agent	10	1	Psoriasis	Dermatological
Ueki ¹⁹⁴	2020	Case report	5	NSCLC	272	Y	F	N	Partial	Pembrolizumab	Single agent	17	1	Cystitis	Renal
Yoshikawa ¹⁹⁵	2020	Case report	5	NSCLC	273	Y	M	N	Progression	Nivolumab	Single agent	3	1	Sclerosing cholangitis	Gastrointestinal
Onishi ¹⁹⁶	2020	Case report	5	Melanoma	274	Y	M	N	NR	Nivolumab	Single agent	4	2	Hepatitis	Gastrointestinal
Peng ¹⁹⁷	2020	Case report	5	Renal cell	275	Y	M	N	Partial	Pembrolizumab	With chemo	1	2	Uveitis	Ocular
Giaccone ¹⁹⁸	2020	Phase I/II	2	Thymic	276	Y	NR	N	NR	Pembrolizumab	Single agent	20	1	Hepatitis	Gastrointestinal
				Thymic	277	Y	NR	N	NR	Pembrolizumab	Single agent	2		Myasthenia gravis	Neurological
Paparoupa ¹⁹⁹	2020	Case report	5	Melanoma	278	Y	F	N	Complete	Nivolumab Ipilimumab	Dual agent	3	1	Colitis	Gastrointestinal
Kanaoka ²⁰⁰	2020	Case report	5	NSCLC	279	Y	F	N	Progression	Pembrolizumab	Single agent	2	1	Hepatitis	Gastrointestinal
Wang ²⁰¹	2020	Case report	5	Mesothelioma	280	N	M	N	Stable	Pembrolizumab	Single agent	6	4	IgA nephropathy	Renal
Vogrig ²⁰²	2020	Retrospective cohort	3	Melanoma	281	NR	F	N	NR	Pembrolizumab	Single agent	NR	1	Optic neuropathy	Ocular
Rosner ²⁰³	2020	Case series	4	Melanoma	282	Y	M	N	Partial	Nivolumab	Single agent	1	1	Sensorineural hearing loss	Neurological
Liu ²⁰⁴	2020	Case report	5	NSCLC	283	N	F	N	Partial	Durvalumab	Single agent	20	1	Thrombocytopenia	Hematological
Scanvion ²⁰⁵	2020	Retrospective cohort	3	Melanoma	284	Y	F	N	Partial	Pembrolizumab	Single agent	1	2	Hypereosinophilia	Hematological
				Melanoma	285	Y	F	N	Stable	Pembrolizumab	Single agent	1	3	Hypereosinophilia	Hematological
				Melanoma	286	Y	M	N	Complete	Pembrolizumab	Single agent	3	2	Hypereosinophilia	Hematological
				Melanoma	287	Y	M	N	Stable	Pembrolizumab	Single agent	1	2	Hypereosinophilia	Hematological
				Melanoma	288	Y	F	N	Stable	Pembrolizumab	Single agent	3	2	Hypereosinophilia	Hematological

				NSCLC	289	N	F	N	Adjuvant	Nivolumab	Single agent	2	4	Hypereosinophilia	Hematological
				NSCLC	290	Y	M	N	Partial	Nivolumab	Single agent	1	1	Hypereosinophilia	Hematological
				NSCLC	291	Y	M	N	Progression	Nivolumab	Single agent	1	3	Hypereosinophilia	Hematological
				Melanoma	292	Y	M	N	Partial	Nivolumab	Single agent	1	2	Hypereosinophilia	Hematological
				NSCLC	293	Y	F	N	Stable	Nivolumab	Single agent	1	1	Hypereosinophilia	Hematological
				NSCLC	294	Y	M	N	Stable	Nivolumab	Single agent	1	2	Hypereosinophilia	Hematological
				NSCLC	295	Y	M	N	NR	Nivolumab	Single agent	1	1	Hypereosinophilia	Hematological
Beninato ²⁰⁶	2021	Retrospective cohort	3	Melanoma	296	NR	M	N	NR	Ipilimumab	Single agent	NR	2	Bell's Palsy	Neurological
Okada ²⁰⁷	2021	Retrospective cohort	3	Gastric	297	Y	M	N	NR	Nivolumab	Single agent	NR	1	Polyradiculoneuropathy	Neurological
Bui ²⁰⁸	2021	Case series	4	Small cell lung	298	Y	F	N	NR	Nivolumab	Single agent	NR	2	Lupus erythematosus-like eruptions	Dermatological
Bejarano ²⁰⁹	2021	Case report	5	NSCLC	299	Y	M	N	Partial	Pembrolizumab	Single agent	7	1	Interstitial nephritis	Renal
Gallo ²¹⁰	2021	Case report	5	NSCLC	300	Y	F	N	Stable	Atezolizumab	Single agent	1	1	Colitis	Gastrointestinal
Goda ²¹¹	2021	Case report	5	NSCLC	301	Y	F	Y	Progression	Pembrolizumab	With chemo	1	1	Aplastic anemia	Hematological
Ruin ²¹²	2021	Case series	4	Melanoma	302	Y	M	N	NR	Pembrolizumab	Single agent	2	1	Hepatitis	Gastrointestinal
				Melanoma	303	Y	F	N	Stable	Nivolumab Ipilimumab	Dual agent	4	1	Hepatitis	Gastrointestinal
Huntley ²¹³	2021	Case series	4	Bladder	304	Y	M	N	Complete	Pembrolizumab	Single agent	1	2	Mucositis	Dermatological
				NSCLC	305	Y	M	N	Stable	Pembrolizumab	Single agent	10	2	Mucositis	Dermatological
Koch ²¹⁴	2021	Case report	5	Melanoma	306	Y	M	N	Partial	Nivolumab	Dual agent	1	1	Vestibulopathy	Neurological
Suyama ²¹⁵	2021	Case report	5	NSCLC	307	Y	M	N	NR	Durvalumab	Single agent	2	2	Pneumonitis	Hematological
Duong ²¹⁶	2021	Retrospective cohort	3	Small cell lung	308	NR	M	N	NR	Nivolumab	Single agent	1	1	Encephalitis	Neurological
Honma ²¹⁷	2021	Case report	5	NSCLC	309	Y	F	N	Stable	Atezolizumab	With	3	1	Hepatitis	Gastrointestinal

											chemo				
Villarreal ²¹⁸	2021	Case report	5	Melanoma	310	Y	F	Y	Stable	Nivolumab Ipilimumab	Dual agent	1	1	Polymyalgia rheumatic	Rheumatological
Murray ²¹⁹	2021	Case report	5	NSCLC	311	Y	M	N	Complete	Pembrolizumab	Single agent	8	1	Inflammatory arthritis	Rheumatological
Dombildes ²²⁰	2021	Case report	5	NSCLC	312	N	M	N	Adjuvant	Durvalumab	Single agent	5	1	Panbronchiolitis	Respiratory
Shahzad ²²¹	2021	Retrospective cohort	3	Renal cell	313	Y	M	N	Stable	Nivolumab Ipilimumab	Dual agent	NR	3	Ocular hypertension	Ocular
Kim ²²²	2021	Retrospective cohort	3	Thyroid	314	Y	F	N	NR	Atezolizumab	With chemo	3	2	Inflammatory arthritis	Rheumatological
Maillard ²²³	2021	Case report	5	Melanoma	315	N	M	N	Adjuvant	Nivolumab	Single agent	6	1	Hidradenitis Suppurativa	Dermatological
Stürmer ²²⁴	2021	Case series	4	Melanoma	316	Y	F	N	Partial	Nivolumab Ipilimumab	Dual agent	4	3	Colitis	Neurological
				Melanoma	317	Y	F	N	Stable	Nivolumab	Single agent	4	1	Myasthenia gravis	Neurological
Ogawa ²²⁵	2021	Case report	5	NSCLC	318	Y	M	N	NR	Pembrolizumab	With chemo	1	1	Colitis	Gastrointestinal
Janssen ²²⁶	2021	Case series	4	Melanoma	319	Y	M	N	Complete	Nivolumab	Single agent	1	1	Guillain-Barre Syndrome	Neurological
Williams ²²⁷	2021	Case report	5	Prostate	320	Y	M	N	NR	Nivolumab Ipilimumab	Dual agent	2	2	Myasthenia gravis	Neurological
Lin ²²⁸	2021	Retrospective cohort	3	Small cell lung	321	Y	M	N	Partial	Nivolumab	With chemo	NR	1	Pneumonitis	Respiratory
				NSCLC	322	Y	M	N	Stable	Pembrolizumab	With chemo	NR	1	Pneumonitis	Respiratory
				NSCLC	323	Y	M	N	Progression	Anti-PD-1 NOS	With chemo	NR	1	Pneumonitis	Respiratory

Abbreviations: NSCLC, non-small cell lung cancer, HCC, hepatocellular carcinoma, NR, not reported, irAE, immune-related adverse events, Y, yes, N, no, M, male, F, female, CI, immune checkpoint inhibitor, irAE, immune-related adverse event, ADT, androgen deprivation therapy, anti-PD-1, anti-programmed death-1, anti-CTLA-4, anti-cytotoxic T lymphocyte antigen-4, NOS, not otherwise specified, AIDP, acute inflammatory demyelinating polyneuropathy, AIHA, autoimmune hemolytic anemia