

<b>Table S1. Medications Searched in Institutional Database Query</b>	
<b>Immune Checkpoint Inhibitors</b>	<b>Additional Immune Modulators</b>
Atezolizumab	Abatacept
Avelumab	Adalimumab
Cemiplimab	Anakinra
Durvalumab	Belatacept
Ipilimumab	Certolizumab
Lirilumab	Cyclophosphamide
Mogamulizumab	Etanercept
Nivolumab	Golimumab
Pembrolizumab	Immune globulin IV
Tremelimumab	Infliximab
Urelumab	Mycophenolate mofetil
Varlilumab	Rituximab
	Tocilizumab
	Vedolizumab

<b>Table S2. Toxicity of additional immune modulators</b>				
		<b>Treatment detail</b>		<b>Toxicity</b>
<b>Patient 1</b>	day 18,32	Infliximab dosed	day 59	<i>P.aeruginosa</i> , <i>S.marcescens</i> pneumonia; died
<b>Patient 2</b>	day 9 day 26	Infliximab dosed Mycophenolate initiated	day 44	Febrile neutropenia; <i>P. aeruginosa</i> SBP and sepsis; <i>C. albicans</i> fungemia; treated and discharged
<b>Patient 8</b>	day 4,11	Infliximab dosed	day 14	Disseminated HSV-1; died
<b>Patient 26</b>	day 79-128 day 81, 97	Infliximab dosed (x7) Cyclophosphamide dosed	day 130	<i>E. faecalis</i> , <i>P. aeruginosa</i> bacteremia; died; Fungal pneumonia on autopsy

Table S3. Individual Patient Characteristics and Outcomes

Pt No.	Primary malignancy	Age	Sex	Smok. status	ICI line of therapy	Pulm. history	Prior chest RT	ICI agent(s)	Biopsy result	CTCAE grade	Steroid failure type	Additional Immune-suppressant	Pneumonitis Response	Toxicity Pneumonitis Treatment	Cause of death
1	Melanoma	65	M	F	1	None	N	Nivolumab, Ipilimumab	Cellular interstitial pneumonitis, acute lung injury	2	Refr.	Inflix.	Transient	Infection	Infection
2	Multiple Myeloma	60	M	F	4	PE	N	Nivolumab, ipilimumab	Chronic pneumonitis, granulomas	3	Refr.	Inflix., MMF	Durable (resolved)	Infection	POD
3	Urothelial bladder cancer	75	M	F	2	None	N	Pembrolizumab		4	Refr.	Inflix.	No response		Pneumonitis
4	NSCLC	66	F	F	1	PE	N	Pembrolizumab		3	Refr.	Inflix.	Durable		FTT
5	Prostate cancer	53	M	N	4	None	N	Atezolizumab	Org. Pna.	3	Refr.	Inflix.	Transient		Pneumonitis
6	NSCLC	71	M	F	3	None	Y	Durvalumab		3	Refr.	Inflix., MMF	Durable (resolved)		Stroke
7	Small cell lung cancer	75	F	F	4	None	Y	Nivolumab		4	Refr.	Inflix.	Transient		Unknown; POD
8	NSCLC	79	M	F	2	PE	N	Pembrolizumab		3	Refr.	Inflix.	Transient	Infection	Infection
9	Squamous esophageal cancer	70	M	F	3	None	Y	Pembrolizumab		3	Refr.	Inflix.	No response		Pneumonitis
10	Melanoma	60	F	F	1	None	N	Ipilimumab		3	Refr.	Inflix.	Transient		POD
11	Melanoma	77	M	F	1	None	N	Nivolumab, ipilimumab	DAD	3	Refr.	Inflix.	Transient		Unknown
12	Colorectal	72	M	F	4	P / ILD	N	Nivolumab		3	Refr.	Inflix.	No response		Pneumonitis
13	NSCLC	59	F	F	1	None	N	Pembrolizumab		2	Resist.	MMF	Durable		Stroke, PE
14	Head and Neck SCC	69	M	F	2	None	N	Pembrolizumab	Cellular interstitial pneumonitis	2	Resist.	MMF, Inflix.	Durable		

Pt No.	Primary malignancy	Age	Sex	Smok. status	ICI line of therapy	Pulm. history	Prior chest RT	ICI agent(s)	Biopsy result	CTCAE grade	Steroid failure type	Additional Immune-suppressant	Pneumonitis Response	Toxicity Pneumonitis Treatment	Cause of death
15	NSCLC	71	M	F	1	C	N	Nivolumab, ipilimumab		2	Resist.	Inflix.	Transient		FTT
16	Renal Cell Carcinoma	56	M	N	3	None	Y	Nivolumab, Ipilimumab		2	Resist.	MMF	Transient		
17	NSCLC	64	F	F	2	None	Y	Pembrolizumab	Cellular interstitial pneumonitis	2	Resist.	Inflix.	Durable		
18	Fibromyxoid sarcoma	52	M	F	2	None	N	Atezolizumab	DAD, acute and organizing patterns	2	Resist.	Inflix., MMF	Durable		Traumatic fall
19	Melanoma	73	F	F	1	None	N	Pembrolizumab		2	Resist.	MMF	Durable		
20	NSCLC	68	F	F	1	C	Y	Pembrolizumab		2	Resist.	Inflix.	Transient		
21	Renal Cell Carcinoma	61	M	N	3	None	N	Nivolumab		2	Resist.	MMF	Durable		
22	Renal Cell Carcinoma	77	F	N	2	None	N	Nivolumab		2	Resist.	MMF	Durable (resolved)		
23	Renal Cell Carcinoma	53	F	F	1	None	N	Nivolumab, Ipilimumab		3	Resist.	Inflix.	Transient		Pneumonitis
24	Laryngeal squamous cell cancer	72	M	F	2	None	Y	Pembrolizumab	Interstitial pneumonia, acute lung injury, Org. Pna.	3	Resist.	Adalimumab	Transient		Pneumonitis
25	Sarcoma	62	M	F	2	PE	Y	Pembrolizumab		3	Resist.	Inflix.	Transient		Stroke vs neuro IRAE
26	NSCLC	63	M	F	2	None	Y	Nivolumab	Org. Pna., AFOP	3	Resist.	Inflix., Cyclop.	Transient	Infection	Infection

Pt. No=patient number; smok. status=smoking status; Refr.=steroid refractory; Resist.=steroid resistant; inflix.=infliximab; POD=progression of disease; FTT=failure to thrive; MMF=mycophenolate mofetil; org. pna.=organizing pneumonia; PE=pulmonary embolism; p=pneumonitis; ILD=interstitial lung disease; C-=COPD; DAD=diffuse alveolar damage; AFOP=acute fibrinous and organizing pneumonia