

**Table SI. Case series, programmed cell death protein 1 (PD-1)/PD-ligand 1 (PD-L1) inhibitor group and transforming growth factor-beta (TGF-β) inhibitor combination group**

Case	Age, years	Primary disease	Regimen	Incubation time, days	Severity score			Steroid dosage (mg/kg/day)		Duration of steroid treatment after onset of BP, months	Therapeutics combined with systemic steroids	Clinical outcome
					BPDAI	ABSIS	Acral severity (0-8)	Peak dose	Lowest maintenance dose			
1	68	Lung SCC	Durvalumab + Vactosertib (anti-PD-L1+ TGFβ-Ri)	234	106	16.00	7	1.33	0.34	6 (continued until death)	IVIG, Doxycycline	Deceased due to pneumonia
2	73	Lung AC	M7824 (Bintrafusp Alfa) (anti-PD-L1+ TGFβ-Ri)	147	101	21.50	5	1.35	0.17	2	Dapsone, Minocycline	Withdrawal of medication successfully controlled BP
3	69	Lung SCC	M7824 (Bintrafusp Alfa) (anti-PD-L1+ TGFβ-Ri)	279	123	61.00	6	1.20	0.36	12 +	IVIG, Azathioprine, Dapsone, Omalizumab, Minocycline	Withdrawal of medication enabled a lower steroid dosage <0.25 mg/kg/day
4	78	Lung AC	M7824 (Bintrafusp Alfa) (anti-PD-L1+ TGFβ-Ri)	304	136	75.75	8	1.01	0.32	5 +	IVIG, Azathioprine, Doxycycline, Omalizumab	Withdrawal of medication due to uncontrolled BP
5	81	Lung AC	Nivolumab (anti-PD-1)	570	15	4.00	0	0.23	0.08	11	Doxycycline	Immunotherapy continued without dose reduction
6	69	Lung AC	Pembrolizumab (anti-PD-1)	532	5	1.50	0	0.12	0.41	9 (continued until death)	Doxycycline	Deceased due to progression of disease
7	70	Lung, large cell neuroendocrine	Pembrolizumab (anti-PD-1)	64	42	24.75	2	1.07	0.21	1.5	Doxycycline	Withdrawal of medication successfully controlled BP
8	54	Lung AC	Pembrolizumab (anti-PD-1)	267	59	10.25	1	1.28	0.07	1	Minocycline	Withdrawal of medication successfully controlled BP
9	68	Melanoma	Pembrolizumab (anti-PD-1)	324	13	3.00	0	0.48	0.14	1	None	Withdrawal of medication successfully controlled BP
10	72	Glottic cancer	Pembrolizumab (anti-PD-1)	126	2	0.75	1	0.07	0.07	1	Doxycycline	Withdrawal of medication successfully controlled BP

+: Patients who continued systemic steroids until the last observation; AC: adenocarcinoma; BP: bullous pemphigoid; SCC: squamous cell carcinoma; BPDAI: Bullous Pemphigoid Disease Area Index; ABSIS: Autoimmune Bullous Skin Disorder Intensity Scores; IVIG: intravenous immunoglobulin.