

Supplemental Table 1

Pt. #	Site irradiated	Prior therapy	Stratum	Dose	# ipi cycles	Best local response (CT)	Best distant response (CT)	Best local response (PET)	Best distant best response (PET)	Time to progression on from RT (months)	Reason taken off study	PD-L1 status	Therapy at progression after RT/ipi	Current status	Time from RT to last f/u or death (months)
1	Lung	none	1	8 Gy x 2	5	PD	SD	CMR	PMD	9.8	N/A	ND	SBRT to new lung lesion; resection of brain met; pembro	Alive; SD on pembro	106.8
2	Abdominal node	TMZ; carbo/paclitaxel	2	6 Gy x 2	4	N/A	PD*	N/A	N/A	3.1	Patient wish	+	none	DOD	4.5
3	Lung	TMZ; carbo/paclitaxel	1	8 Gy x 2	4	PR	PD	CMR	PMD	1.4	N/A	+	none	DOD	7.1
4	Soft tissue mass, gluteal	dacarbazine, vemurafenib, prior RT to pancreas	2	6 Gy x 2	4	PR	PR (68%)	PMR	PMR	7.9	N/A	—	none	DOD	12.0
5	Axillary nodal mass	none	2	6 Gy x 2	4	SD	PD	PMR	PMD	3.2	N/A	ND	pembro	DOD	10.7
6	Lung	TACE, TMZ, carbo/paclitaxel, mTOR inhib, HCQ	1	8 Gy x 2	4	PD	PD	N/A	N/A	2.6	Prog.	ND	none	DOD	4.6
7	Lung	none	1	8 Gy x 2	3	PD	PD	N/A	N/A	2.0	Prog.	+	none	DOD	2.7
8	Lung	treme/CD40 agonist	1	8 Gy x 2	4	SD	PD	CMR	PMD	5.4	N/A	—	pembro	Alive; SD on pembro	36.7
9	Lung	BRAF/MEK inhibitor	1	8 Gy x 2	4	PD	SD	PMR	PMD	4.9	N/A	ND	pembro	DOD	10.7
10	Liver	none	2	6 Gy x 2	3	SD	PR (30%)	CMR	CMR	N/A	Toxicity	ND	none	Alive; NED	96.1
11	Liver	none	2	6 Gy x 2	3	SD	PD	SMD	PMD	7.9	Toxicity	—	pembro	DOD	37.9
12	Soft tissue	Prior RT (axilla), BRAF/MEK inhibitor, vemurafenib	2	6 Gy x 2	3	PR	PD	N/A	N/A	2.9	Prog.	+	none	DOD	3.8
13	Lung	none	1		2	N/A	PD*	N/A	N/A	1.4	Prog		none	DOD	4.9

				8 Gy x 3								–			
14	Soft tissue	BRAF/MEK inhibitor	2	6 Gy x 3	4	SD	PD	SMD	PMD	2.8	N/A	–	pembro	DOD	6.1
15	Axillary nodal mass	none	2	6 Gy x 3	4	SD	PR (59%)	SMD	CMR	6.1	N/A	–	pembro	DOD	9.8
16	Lung	none	1	8 Gy x 3	4	PR	PR (46%)	N/A	N/A	12.2	N/A	ND	GammaKnife and resection of brain mets; then pembro	Alive; SD on pembro	91.5
17	Axillary nodal mass	prior RT (lower back)	2	6 Gy x 3	4	SD	PD	PMR	PMD	3.3	N/A	–	pembro; then progressed in breast; mastectomy; placed on B-raf inhibitors	Alive; SD on B-Raf inhibitors	89.2
18	Inguinal nodal mass	none	2	6 Gy x 3	4	SD	SD	PMR	PMR	6.3	N/A	–	pembro	DOD	32.5
19	Liver	vemurafenib	2	6 Gy x 3	2	SD	PD	N/A	N/A	3.8	Prog	–	none	DOD	4.9
20	Lung	TMZ	1	8 Gy x 3	4	CR	SD	N/A	N/A	7.6	N/A	ND	pembro	Alive; SD on pembro	24.9
21	Sclav nodal mass	vemurafenib	2	6 Gy x 3	3	CR	PD	N/A	N/A	2.3	Prog	ND	none	DOD	4.5
22	Lung	none	1	8 Gy x 3	4	PR	PR (77%)	N/A	N/A	12.3	N/A	ND	pembro	Alive; SD on pembro	57.6

PR- partial response
PD- progressive disease
CR – complete response
SD – stable disease

PMR- partial metabolic response
PMD- progressive metabolic disease
SMD- stable metabolic disease
CMR- complete metabolic response

* PD based on new sites of metastases

TMZ- temozolomide N/A not applicable

ND – not done

TACE - Transcatheter arterial chemoembolization

HCQ – hydroxychloroquine

treme - Tremelimumab

Supplemental Table 2

	Stratum 2 DL1 (6 Gy x 2)		Stratum 1 DL1 (8 Gy x 2)		Stratum 2 DL2 (6 Gy x 3)		Stratum 1 DL2 (8 Gy x 3)		All groups
	Grades 1-2	Grade 3	Grades 1-2	Grade 3	Grades 1-2	Grade 3	Grades 1- 2	Grade 3	
Any adverse event	43	6	34	5	30	3	13	1	135
Any treatment-related adverse event	13	1	6	2	7		2		31
Specific treatment- related adverse events (immune)									
Anaphylaxis (with hypotension and angioedema)				1					1
Arthralgia (flare of rheumatoid arthritis)					1				1
Colitis*	1	1							2
Pruritus	4		1		1		1		7
Rash	2		2						4
Uveitis	1								1
Specific treatment- related adverse events (non-immune)									
Abdominal Pain	1								1
Anorexia	1		1						2
Chills					1				1
Dermatitis (radiation)					1				1
Diaphoresis	1								1
Diarrhea*					1				1
Fatigue	1			1	1				3
Headache			1						1

Nausea	1		1		1		1		4
Any non-treatment-related adverse event	30	5	28	3	23	3	11	1	104
Specific non-treatment-related adverse events									
Abdominal pain	2		3		2				7
Anemia		2		1		1			4
Anorexia	2				1				3
Arthralgia					1				1
Ascites			1						1
Bone pain	1		2		1		1		5
Cholecystitis		1							1
Chills					1				1
Chest pain					1		1		2
Constipation			1		1		1		3
Cough	2		2				1		5
Dehydration					2				2
Depression	2				1				3
Dermatitis			1						1
Diarrhea	1		1						2
Dyspepsia							1		1
Dyspnea	2		1	1	1				5
Erythema	1		1						2
Esophagitis	1								1
Fatigue	2		2		1	1			6
Fever					1		1		2
Flank pain	2								2
Gait disturbance	1								1
Gastric hemorrhage	1	1			1				3
GE reflux			1		1				2
Genital edema			1						1
Headache	1		1		1				3

Hematuria (2o urinary tract infection)			1						1
Hemoptysis			1						1
Hoarseness	1								1
Insomnia			2						2
Leukocytosis						1			1
Limb edema			1						1
Nausea	1		1		1		1		4
Neck Swelling							1		1
Nocturia			1						1
Oral Pain	1								1
Peripheral neuropathy							1		1
Pneumonia					1		1		2
Pneumothorax								1	1
Postnasal drip			1						1
Pruritis					1				1
Rash	1								1
Scalp pain	1								1
Sinusitis					1		1		2
Superficial thrombophlebitis	1								1
Throat pain	1								1
Vomiting	1				1				2
Weight loss		1	1						2
Wound infection					1				1
Upper respiratory infection	1								1
Urinary frequency					1				1
Urinary tract infection			1						1

* Diarrhea was defined as a disorder characterized by frequent and watery bowel movements; colitis was defined as a disorder characterized by inflammation of the colon.