

**Supplementary Table**

**Supplementary Table S1.** Anonymized clinical characteristics of interest as reported in patient notes from institutional database.

Patient	CR/PR	Age	Sex	Laterality	Biopsy description of disease	Location (Primary Masses)	HPV Status	Lymph Node	Chemotherapy Type	Radiation regimen	Smoking Habit	Alcohol Consumption
1	PR	52	M	Right Neck	Loc. Adv. Squamous cell	Base of Tongue	P16+	T3 N2c	Level III Cisplatin	70gy 33 fractions	lifetime non smoker	occasional drinker
2	PR	54	M	Left Neck	EBV positive non-keratinizing Nasopharyngeal Carcinoma	Nasopharynx	Unknown	not reported	Level II Cisplatin	70gy 33 fractions	lifetime non smoker	occasional drinker
3	PR	63	M	Right Neck	Squamous cell	Oropharynx	Not reported	Not reported	Not reported R-CHOP	70Gy in 33 fractions	Not reported	Occasional drinker
4	PR	54	M	Right Neck	Squamous cell	Right tonsil	p16+	cT2 N2b	Level II Cisplatin	70gy 33 fractions	30-pack year	occasional drinker
5	CR	59	M	Left Neck	Squamous cell	Left Tonsil	p16+	cT1 N2b	Level II Cisplatin	70gy 33 fractions	non smoker	non-drinker
7	PR	76	M	Left Neck	metastatic Squamous cell	Bilateral Hypopharynx / Supraglottic Base of Tongue	p16+	T2 N2b	Level IIa Carboplatin	70gy 33 fractions	22-pack year (quit 15 years)	non-drinker
8	PR	62	M	Right Neck	Poorly Differentiated Squamous cell	Supraglottic Larynx	Not reported	T2 N2c	Level II Cisplatin	70gy 33 fractions	non smoker	occasional drinker
9	CR	74	F	Right Neck	Squamous cell	Right Tonsil	p16+	cT2 N	Level II/III No chemo	70gy 33 fractions	non smoker	non-drinker

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10	CR	68	M	Left Neck	squamous cell	Left tonsillar Sulcus	p16+	not reported	Level II / III	Cisplatin	70gy	33 fractions	10-pack year	4-5	drinks / week
11	PR	59	M	Left Neck	Squamous cell	Left Tonsil	p16+	N2a	Level II	Cisplatin	70gy	33 fractions	45-pack year (quit in 2015)	1-2	drinks/day
12	PR	57	M	Left Neck	metastatic Squamous cell	unknown primary of the left neck	p16+ and p63+	N2	Level II A	Cisplatin	70gy	33 fractions	10-pack year	occasional	drinker
14	CR	52	M	Left Neck	Squamous cell	unknown primary of the left neck	Not reported	T4bN2c	Not reported	No Chemo	70gy	33 fractions	330 pack/yr	6	per day
16	PR	68	F	Left Neck	Squamous cell	Tonsil	Not reported	T3N2b	Not reported	Cisplatin	69.96Gy	33 fractions	5 pack/year	1	per day
17	CR	62	M	Right Neck	Squamous cell	Base of tongue	Not reported	cT2N1	Level II A	No chemo	70Gy	in 33 fractions	Not reported	Not reported	Not reported
18	PR	61	M	Right Neck	Squamous cell	Right Tonsil	p16+	cT2N2b	Level II and III	Cisplatin	69.96Gy	33 fractions	30-pack year	occasional	drinker
20	CR	70	M	Right Neck	Squamous cell	Right Base of Tongue	p16+	T2 N2a	Level IIa / III	Cisplatin	69.96Gy	33 fractions	15-pack year	6-12	beers / week
22	PR	57	M	Left Neck	Squamous cell	Hypopharynx	not tested	T2 N3	Level II / III	Cisplatin	69.96Gy	33 fractions	80-pack years	10	drinks / day
23	PR	66	M	Right Neck	Squamous cell	Right Tonsil	p16+	T2 N2b	Level II	Cisplatin	69.96Gy	33 fractions	non smoker	occasional	drinker

25	PR	60	M	Left Neck	Metastatic Squamous cell	Left Glossotonsillar Sulcus Base of Tongue	p16+	T4 N2b	Level II	Cetuximab	69.96Gy 33 fractions	6-pack year	occasional drinker
26	PR	40	M	Right Neck	Squamous cell	Right Oropharynx	Not Reported	T4b N2c	Level II	Cisplatin	69.96Gy 33 fractions	non-smoker	non-drinker
27	PR	61	M	Left Neck	Squamous cell	Base of Tongue	p16+	not reported	Level II/III	Cisplatin	69.96Gy 33 fractions	30-pack year	10 drinks / week
28	PR	59	M	Left Neck	Squamous cell	Left Oropharynx	Unclear	T4 N3 M0	Level II	Cisplatin	69.96Gy 33 fractions	non-smoker	non-drinker
29	PR	46	F	Right Neck	Squamous cell	Right Tonsil	p16+	T2/T3 N2	Level II	Cisplatin	69.96Gy 33 fractions	8-pack year (quit 10 yrs ago)	Not reported
30	CR	62	M	Right Neck	squamous cell	Right Base of Tongue	p16+	T2 N2	Level lib	Cisplatin	69.96Gy 33 fractions	20-pack year	6 beers / night
32	PR	58	M	Right Neck	Squamous cell	Glossotonsillar Sulcus	not reported	not reported	Level II	Cisplatin	69.96Gy 33 fractions	10-pack year +ma previously drank heavily (quit 10 yrs ago)	
33	PR	52	M	Left Neck	Squamous cell	Left Base of Tongue (Tonsillar Base)	p16+	not mentioned	Level II/I	Cisplatin	69.96Gy 33 fractions	17-pack year	12-20 beers / weekend for 20 years
34	CR	75	M	Right Neck	squamous cell	Posterior Pharynx	not	mT2 N2a	Level II	No chemo	69.96Gy 33	former smoker	3/ 4 beers / week

						ryn geal	nt io n e d				fracti ons	(qui t for 50 year s)	
35	CR	71	M	Right Nec k	Squamous cell	Right tons illar and Base of tong ue	p16+	T2 N2b	Level IIa	Cisplatin	69.96Gy 33 fracti ons	2nd hand smo ke exp osur e	3-4 glasses of wine / day
37	CR	67	M	Right Nec k	Squamous cell	Ipsilatera l Nas oph aryn x base of tong ue	p16+	T3 N2c	Level II a/b	Cisplatin	69.96Gy 33 fracti ons	2 packs a day (qui t 1986 )	Heavy alcohol use (quit 20 yrs ago)
39	PR	59	M	Right Nec k	Squamous cell	Right Ton sil (Or oph aryn x)	p16+	T2 N2b	Level II	high dose cisplatin (1 cycle + 2 cycles carboplat in	69.96Gy 33 fracti ons	Lifetime non - smo ker	Lifetime non drinker
40	CR	51	M	Right Nec k	squamous cell	BOT	HPV+	T2N3B	Unkno wn	Cisplatin	69.96Gy 33 fracti ons	non smo ker	Socially
41	CR	60	M	Left Neck	Squamous cell	Larynx	Unkow n	Unkow n	Unkow n	No chemo	69.96 Gy in 33 fracti ons	Not repo rted	Not reported
42	PR	64	M	Left Neck	Squamous cell	Base of Ton gue	p16+	T2 N2a	Level IIa	Cisplatin	69.96Gy 33 fracti ons	Ex- smo ker quit in 2016 (50- pac k- year s)	26 ounces of rum + beer
44	PR	61	M	Right Nec k	moderately differ entiat ed Squa mous cell	Right Ton sil	p16+	T1 N2c	Level IIa	Cisplatin	69.96Gy 33 fracti ons	35-pack- year	5-drinks a day (for years)
45	PR	59	M	Left Neck	invasive poorl y differ entiat	Base of Ton gue	p16-	T4 N3	Level II and III	Cisplatin	67.84Gy 32 fracti ons	Heavy smo ker	Binge drinker

						ed Squa mous cell													
											high	dose							
							Left					cisplatin (1 cycle)		20-pack-					
47	PR	57	M	Left Neck	Squamous cell	Glos soto nsill ar Sulc us	p16+	T2 N1	Level IIa		and 1 cycle Carbopla tin (due to tinnitus from cisplatin)	69.96Gy 33 fracti ons		year	marijuana				
														(qui t in 1997 )	50mg/d ay, 8-10 drinks				
							Right												
					poorly	Base								16-pack-					
48	PR	70	M	Right Nec k	differ entiat ed Squa mous cell	of Ton gue (Or oph aryn x)	p16+	T2 N2	Level II A		Carboplatin AUC 6 (	69.96Gy 33 fracti ons		year (qui t in 1980 )	alcoholic drinks				
					poorly	Right		Not						10-pack-					
49	PR	69	M	Right Nec k	differ entiat ed nonke ratniz ing Squa mous cell	Ton sil (Or oph aryn x)	p16+	re P or te d	Level II		cisplatin dose (weekly)	69.96Gy 33 fracti ons		year (qui t in 1987 )	< than 1 glass per week				
50	CR	63	M	Right Nec k	Squamous cell	Right Ton sil	p16+	T2 N1	Level II a - b		Carboplatin AUC 6 (	69.96Gy 33 fracti ons		Lifetime non - once a smo ker	month				
					metastatic			Not											
51	PR	39	M	Right Nec k	nasop haryn geal carcin oma non kerati nizing , undiff erenti ated (EBV positi ve)	Nasophar ynx		re P or te d	Level II a - b		Gemcitabine/ Cisplatin (4 cycles) + Cisplatin low dose (8 cycles)	65.72Gy 31 fracti ons		10-pack- year	non-drinker				
						Right	Not	Not											
52	PR	63	M	Right Nec k	Invasive Squa mous cell	Pirif orm Foss a and		re P or te d	re P or te d	Level II	Cisplatin	69.96Gy 33 fracti ons		45-pack- year (qui t June	several beers / day				

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					with necro sis			te d	de d			year s
62	CR	72	M	Left Neck	Squamous cell carcin oma with basalo id featur es	Left tons il	P16+	Not re p or te d	Not re po rte d	Carboplatin	69.96Gy 33 fracti ons	Lifetime non - 1-3 per month smo ker
63	PR	44	M	Left Neck	Squamous cell carcin oma	Mandibul ar muc osa, left man dibl e	Not re p or te d	T4 N2c	Level I - IV	Cisplatin	69.96Gy 33 fracti ons	Lifetime non - sm ker Minimal consum ption
65	CR	65	M	Left Neck	Squamous cell carcin oma	Base of Ton gue	Not re p or te d	T4a N2	Level IIa /III	Cisplatin	69.96Gy 33 fracti ons	Lifetime non - sm ker 3-4 drinks/ day
66	CR	47	M	Left Neck	Squamous Cell Carci noma	Orophary nx	p16+	T4	Not re po rte d	Cisplatin	69.96Gy 33 fracti ons	Lifetime non - sm ker Not reported
68	PR	61	F	Left Neck	Squamous Cell Carci noma	Nasophar ynx	Not re p or te d	T4	Level II A	No Chemo	69.96Gy 33 fracti ons	Smoker - 40p acks Not reported /yea r
69	CR	56	M	Right Nec k	Squamous Cell Carci noma	Hypophar ynx	Not re p or te d	T4	Level IIa +b	Cisplatin	69.96Gy 33 fracti ons	Smoker - 30p acks Socially /yea r
70	CR	67	M	Right Nec k	Squamous Cell Carci noma	Unknow n pri mary	p16+	T0	N1	Cisplatin	69.96Gy 33 fracti ons	Quit smo king (1pa ck/y Socially ear for 20 yrs)
71	CR	70	M	Right Nec k	Squamous Cell Carci noma	Right BOT	p16+	T4	N1	Cisplatin	69.96Gy 33 fracti ons	Quit smo king (50p ack/ year ) Socially

73	CR	71	M	Right Neck	Squamous Cell Carcinoma	Supraglottic laryngeal	Not reported	T3	N2c	Cisplatin	70Gy	35 fractions	non-smoker	non-alcoholic
74	PR	78	M	Right Neck	Squamous Cell Carcinoma	Right Tonsillar	p16+	T2	N1	Cisplatin	69.96Gy	33 fractions	non-smoker	non-alcoholic
75	CR	68	M	Right Neck	Squamous Cell Carcinoma	Right soft palate	p16+	Not reported	Not reported	Cisplatin	69.96Gy	33 fractions	Smoker (45 pack/year)	non-alcoholic
76	PR	65	M	Right Neck	Squamous Cell Carcinoma	Oropharynx	p16+	T2	N1	Cisplatin	70Gy	35 fractions	Smoker (2 pack/year)	18 glasses per week
77	PR	53	M	Right Neck	Squamous Cell Carcinoma	Oropharynx	Not reported	T0/N3	L11	Cisplatin	70Gy	33 fractions	1/4 pack/day since age of 20 - quit two weeks ago	non-alcoholic
78	PR	36	M	Right Neck	Nasopharyngeal Carcinoma	Not reported	EBV positive	Not reported	Level II A & IIB	Cisplatin (high dose)	70Gy	33 fractions	Ex-smoker (2 packs/year quit 1 year ago)	non-alcoholic
79	PR	55	M	Right neck	Squamous cell carcinoma	Base of tongue	p16+	T4	N2	Cisplatin	70Gy	33 fractions	Non-smoker	non-alcoholic
80	PR	67	M	Left Neck	Squamous cell carcinoma	Unknown primary	Not reported	Not reported	Level IIB	Carboplatin	70Gy	33 fractions	Non-smoker	4 drinks per week