

Supplementary Table 1: Estimated Uniform Dose in Gy(RBE) to organs at risk

Organ at Risk	PSRS	5XSRS	2.5XSRS	PSRS vs 5XSRS p-value	PSRS vs 2.5XSRS p-value	5XSRS vs 2.5XSRS p-value
Right ocular globe	0.00	0.10	0.09	0.012*	0.012*	0.12
Left ocular globe	0.08	0.14	0.11	0.19	0.15	0.058
Right optic nerve	3.35	4.08	4.20	0.021*	0.021*	0.44
Left optic nerve	4.04	4.56	4.47	0.051	0.086	0.51
Optic chiasm	4.23	5.06	4.85	0.086	0.11	0.44
Temporal lobes	7.80	7.39	7.29	0.21	0.17	0.86
Hypothalamus	0.94	2.47	2.39	0.011*	0.0077*	0.86
Brainstem	4.86	5.13	4.94	0.44	0.44	0.68
Right cochlea	0.00	1.69	1.64	0.0077*	0.0077*	0.77
Left cochlea	0.09	1.38	1.30	0.0077*	0.0077*	0.44

Abbreviations

PSRS = Proton stereotactic radiosurgery;

2.5XSRS, 5XSRS = volumetric-modulated arc therapy SRS using 2.5mm and 5mm multileaf collimators, respectively;

*p-value \leq 0.05 considered significant

Supplementary Table 2: Numerical values for estimated incidence of secondary tumors for all 9 cases according to stereotactic radiosurgery treatment modality expressed as cases of secondary tumors per 10,000 patient-years. Abbreviations: PSRS = Proton stereotactic radiosurgery; 2.5XSRS, 5XSRS = volumetric-modulated arc therapy SRS using 2.5mm and 5mm multileaf collimators, respectively;

*p-value ≤ 0.05 considered significant

Cases per 10,000 patient-years	Case	PSRS	5XSRS	2.5XSRS
	1	3.39	8.39	8.46
	2	5.32	15.04	15.48
	3	6.97	17.26	16.42
	4	6.58	13.38	12.42
	5	4.77	8.68	10.18
	6	5.83	10.68	11.69
	7	4.45	14.05	11.57
	8	5.94	15.60	14.31
	9	4.27	13.27	13.41

p=.008 p=.77

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