

SUPPLEMENTAL TABLES

Supplementary Table S1. Dosimetric parameters for radiation planning.

Target Volume or Organ at Risk	Dose Constraint
PTV	V110(%) ≤ 10%
Skin	V12Gy ≤ 50%
2cm longitudinal strip of skin	V12Gy ≤ 10%
Long bones (femur, humerus)	V30Gy ≤ 50%
Femoral or humeral head	V30Gy ≤ 5cc, Dmax ≤ 33Gy
Spinal coord	Dmax < 30Gy
Chest wall	V30Gy ≤ 70cc
Bowel	V32Gy ≤ 5cc
Liver	V15Gy ≤ 700cc
Kidney	V10Gy ≤ 10%

Supplementary Table S2. Association of clinical variables with wound toxicity using logistic regression.

	Odds Ratio	Lower CI	Upper CI	pvalue
Tumor Size				
(Intercept)	0.63	0.19	1.87	0.41
Tumor Size: >10cm vs ≤5cm	1.60	0.33	8.22	0.56
Tumor Size: 5 to 10 cm vs ≤5cm	0.40	0.09	1.79	0.23
Tumor site: lower extremity as reference				
(Intercept)	0.79	0.39	1.55	0.49
Tumor site: Trunk/Girdle vs Lower Extremity	0.00	NA	>100000	0.99
Tumor site: Upper vs Lower Extremity	0.16	0.01	1.00	0.10
Tumor site: Upper extremity as reference				
(Intercept)	0.13	0.01	0.68	0.05
Tumor Site: Trunk/Girdle vs Upper Extremity	0.00	NA	>100000	0.99
Tumor Site: Lower vs Upper Extremity	6.32	1.00	123.94	0.10
V12Gy (cc)				
(Intercept)	0.41	0.14	1.12	0.09
V12Gy (cc)	1.00	1.00	1.01	0.73
D0.5cc (Gy)				
(Intercept)	0.03	0.00	6.27	0.23
D0.5cc (Gy)	1.09	0.92	1.34	0.34
Tumor Depth				
(Intercept)	0.38	0.18	0.74	0.01
Tumor Depth: Superficial vs Deep	2.64	0.62	11.32	0.18
Time from RT to surgery				
(Intercept)	0.36	0.05	2.71	0.32
Time from RT to Surgery	1.01	0.94	1.08	0.79

Supplementary Table S3. Association of tumor size and tumor site with wound toxicity using the likelihood ratio test. *Abbr: Df = degrees of freedom; Resid = residual; Dev = deviance*

Tumor Size	Resid. Df	Resid. Dev	Df	Deviance	pvalue
Null Model	47.00	58.98	NA	NA	NA
Model with Tumor Size	49.00	62.69	-2.00	-3.71	0.16
Tumor site	Resid. Df	Resid. Dev	Df	Deviance	pvalue
Null Model	47.00	52.94	NA	NA	NA
Model with Tumor Site	49.00	62.69	-2.00	-9.75	0.01

Supplementary Table S4. Top 20 germline single nucleotide polymorphisms in miRNA binding sites associated with wound toxicity.

Predictor name	Rank [mean decrease in the Gini impurity]
Lower extremity site	1
miR.99a.promoter	2
IL1.B_rs4848306	3
SHC4_rs1062124	4
rs17599026	5
RAC1_rs9374	6
IL24_rs1150258	7
IL1A_rs1800587	8
ERCC1_rs3212948	9
IL.6_rs12700386	10
IL.6_rs2069840	11
CAMK2G_rs2306327	12
BMP2_rs1980499	13
EREG_rs1460008	14
CD274_rs4143815	15
IL17D_rs7787	16
STAT3_rs3744483	17
BMP4_rs17563	18
IRF5_rs10488631	19
UNGC.41.IL1RAP	20

Supplementary Table S5. Characteristics of 25 patients with matched pre- and post-RT ViewRayMRI available for analysis on a parallel MRI study. *Abbr.: MLS = Myxoid Liposarcoma.*

Patient No.	Histologic Subtype	Pre Vol (mm³)	Post Vol (mm³)	Change in Volume (cm³)	Time Interval (pre- vs post-treatment scan)
1	Non-MLS	31860.35	46325.68	14.47	17
2	MLS	230796.75	167255.58	-63.54	17
3	Non-MLS	257019.04	275390.63	18.37	20
4	Non-MLS	248051.82	196289.89	-51.76	17
5	MLS	51417.65	29419.48	-22.00	17
6	Non-MLS	56058.53	57612.30	1.55	35
7	Non-MLS	45550.11	41175.01	-4.38	28
8	Non-MLS	5601.76	11039.97	5.44	24
9	Non-MLS	32424.81	50722.54	18.30	21
10	Non-MLS	139471.65	327887.18	188.42	17
11	Non-MLS	102221.97	59411.41	-42.81	17
12	MLS	276326.42	209227.92	-67.10	17
13	Non-MLS	324676.51	347290.04	22.61	16
14	Non-MLS	5806.21	7196.43	1.39	24
15	MLS	220717.67	138285.88	-82.43	17
16	Non-MLS	250457.76	307342.53	56.88	17
17	Non-MLS	131069.00	175576.45	44.51	25
18	MLS	553961.28	561116.81	7.16	21
19	Non-MLS	14065.74	4293.32	-9.77	28
20	Non-MLS	1060424.80	1032928.47	-27.50	24
21	Non-MLS	53588.87	72937.01	19.35	22
22	MLS	68018.50	36575.02	-31.44	17
23	Non-MLS	197296.14	272399.90	75.10	17
24	Non-MLS	190971.08	227586.98	36.62	29
25	Non-MLS	577574.55	619403.78	41.83	28