



Fig. E-1  
Five-year local failure rate of whole cohort (n = 98) was  $31.8\% \pm 10.7\%$  for those who underwent surgery only compared with  $30\% \pm 15\%$  for those who received additional postoperative radiation therapy (PORT) compared with  $63.8\% \pm 9.8\%$  for those who received radical radiation therapy only as the local treatment modality.

**TABLE E-1 Baseline Clinical and Tumor Characteristics of Whole Cohort (N = 158)**

Patients Characteristic	Value
Age	
Median (range) (yr)	15 (1-55)
≤15 yr*	83 (53%)
>15 yr*	75 (47%)
Sex*	
Male	113 (72%)
Female	45 (28%)
Symptoms*	
Swelling	149 (94%)
Pain	133 (84%)
Systemic symptoms*	44 (28%)
Symptom duration	
Median (range) (mo)	5 (0.5-40)
≤4 mo*	75 (47%)
>4 mo*	83 (53%)
Regional lymphadenopathy*	27 (17%)
Tumor diameter (n = 135)	
Median (range) (cm)	9 (1.8-26)
≤8 cm*	66 (49%)
>8 cm*	69 (51%)
Tumor site (n = 144)*	
Femur	57 (40%)
Tibia	30 (21%)
Fibula	16 (11%)
Humerus	21 (15%)
Radius	3 (2%)
Ulna	4 (3%)
Short bones	13 (9%)
Tumor origin (n = 158)*	
Skeletal	144 (91%)
Soft tissue	14 (9%)
Hemoglobin level (n = 154)	
Median (range) (g/dL)	11.2 (5.2-16.6)
≤10 g/dL*	42 (27%)
>10/dL*	112 (73%)
WBC (n = 154)	
Median (range) ( $\times 10^9/L$ )	8.7 (1.5-28.7)
≤ $11 \times 10^9/L$ *	116 (75%)
> $11 \times 10^9/L$ *	38 (25%)
LDH level (n = 128)	461 (99-4180)
Median (range) (U/L)	
≤500 U/L	69 (54%)
>500 U/L	59 (46%)

*continued*

<b>TABLE E-1 (continued)</b>	
Patients Characteristic	Value
Serum albumin level (n = 151)	
Median (range) (g/dL)	4.3 (2.2-5.5)
≤3.4 g/dL*	16
>3.4 g/dL*	135
Metastasis*	
No	89 (56%)
Yes	69 (44%)
Local treatment (n = 98)*	
Surgery only	35 (36%)
Surgery + radiation therapy	22 (22%)
Radical radiation therapy only	41 (42%)
Response to neoadjuvant chemotherapy*	
Complete remission or partial response	107 (68%)
Stable or progressive disease	43 (27%)
Not evaluated	8 (5%)

\*The values are given as the number of patients with the percentage in parentheses.

**TABLE E-2 Univariate Analysis for Local Control Rate**

Variable	No.	Entire Group (N = 98)			Group with Localized Disease (N = 68)			
		HR	95% CI	P Value*	No.	HR	95% CI	P Value*
Age		0.55	0.25-1.18	0.12		0.6	0.24-1.52	0.28
≤15 yr	50				33			
>15 yr	48				35			
Sex		0.93	0.44-1.99	0.86		0.79	0.31-2.02	0.62
Male	67				46			
Female	31				22			
Systemic symptoms		1.06	0.43-2.62	0.9		0.72	0.17-3.13	0.66
No	74				57			
Yes	24				11			
Symptom duration		1.19	0.57-2.48	0.65		1.23	0.5-3.04	0.66
≤4 mo	47				33			
>4 mo	51				35			
Tumor site		0.88	0.36-2.17	0.79		1.23	0.41-3.73	0.71
Lower limb	65				46			
Upper limb	22				13			
Tumor location		0.74	0.18-3.11	0.68		0.71	0.09-5.3	0.74
Long bone	80				55			
Short bone	7				4			
Tumor diameter		1.46	0.65-3.28	0.36		1.15	0.42-3.18	0.79
≤8 cm	49				37			
>8 cm	37				24			
Hemoglobin level		0.62	0.28-1.37	0.24		0.72	0.24-2.2	0.6
≤10 g/dL	25				14			
>10 g/dL	71				53			
WBC		1.98	0.91-4.29	0.08		3.09	1.19-8	<b>0.02</b>
≤11 × 10 <sup>9</sup> /L	73				52			
>11 × 10 <sup>9</sup> /L	23				15			
Albumin level		0.65	0.15-2.77	0.56		0.38	0.05-2.92	0.35
≤3.4 g/dL	6				3			
>3.4 g/dL	87				61			
LDH level		1.63	0.72-3.67	0.24		0.99	0.31-3.1	0.98
≤500 U/L	55				41			
>500 U/L	28				17			
Metastasis		1.4	0.65-3.02	0.39				
No	68							
Yes	30							
Local treatment		3.46	1.6-7.46	<b>0.002</b>		2.5	1.01-6.16	<b>0.05</b>
Surgery with/without postop. radiation therapy	57				49			
Radical radiation therapy only	41				19			

\*Significant p values are in bold.

**TABLE E-3 Univariate Analysis of Event-Free Survival and Overall Survival Rates in Group with Localized Disease (N = 89)**

Variable	Event-Free Survival				Overall Survival			
	5 Year Estimate (%)	HR	95% CI	P Value*	5 Year Estimate (%)	HR	95% CI	P Value*
Age		0.86	0.47-1.56	0.62		0.66	0.28-1.57	0.35
≤15 yr (n = 45)	31.8				51.1			
>15 yr (n = 44)	41.6				67			
Sex		0.69	0.36-1.3	0.25		0.4	0.15-1.09	0.07
Male (n = 61)	37				50.8			
Female (n = 28)	39				70.7			
Systemic symptoms		1.32	0.61-2.85	0.48		1.34	0.45-3.95	0.6
No (n = 75)	38				57.5			
Yes (n = 14)	25.1				66.6			
Symptom duration		1.44	0.79-2.63	0.24		1.3	0.56-3	0.54
≤4 mo (n = 41)	43.7				68			
>4 mo (n = 48)	29.6				40.8			
Tumor site		0.47	0.17-1.33	0.16		0.79	0.23-2.68	0.71
Lower limb (n = 64)	28.4				52.5			
Upper limb (n = 16)	56.8				68.8			
Tumor origin		0.17	0.02-1.23	0.08		0.35	0.05-2.57	0.3
Skeletal (n = 80)	31.9				54			
Soft tissue (n = 9)	80				80			
Tumor type		0.88	0.27-2.78	0.8		1.26	0.29-5.4	0.76
Long bone (n = 73)	30.8				53.6			
Short bone (n = 7)	50				62.5			
Tumor diameter		1.11	0.56-2.18	0.77		1.26	0.49-3.26	0.64
≤8 cm (n = 42)	45.3				59.7			
>8 cm (n = 35)	34.3				56.4			
Hemoglobin level		1.02	0.47-2.2	0.95		1.48	0.44-4.99	0.53
≤10 g/dL (n = 19)	36.8				57.7			
>10 g/dL (n = 68)	36.8				56.7			
WBC		2.51	1.32-4.75	<b>0.005</b>		2.32	0.98-5.51	0.06
≤11 × 10 <sup>9</sup> /L (n = 69)	46.8				67			
>11 × 10 <sup>9</sup> /L (n = 18)	6.9				26.6			
LDH level		1.65	0.83-3.28	0.15		0.85	0.27-2.67	0.78
≤500 U/L (n = 43)	42.3				60.9			
>500 U/L (n = 30)	32.3				68.3			
Albumin level		0.6	0.14-2.51	0.49		NA†		
≤3.4 g/dL (n = 5)	0							
>3.4 g/dL (n = 79)	37.7							
Local treatment		1.36	0.66-2.8	0.5		0.76	0.25-2.38	0.64
Surgery with/without postop. radiation therapy (n = 49)	44.6				64.1			
Radical radiation therapy only (n = 19)	36				69.1			

\*Significant p values are in bold. †NA = not applicable, as no patient in the localized group with a serum albumin level of ≤3.4 g/dL died.