

**Supplementary Tables S4. Characteristics of patients with oligometastatic and polymetastatic progression in primary tumor samples.**

No patient received chemotherapy concurrently with the radiation therapy. Adjuvant chemotherapy was initiated following RT only for patients showed progression. **Legend:** two-tailed Student t-test (t-test), two-tailed Fisher's Exact Test (FET), non-parametric Mann Whitney Test (MWT), logrank survival test (Logrank), NSCLC = non small cell lung cancer, SCLC = small cell lung cancer; α=1 brain and 1 lung metastasis from same patient, ∞ = 1 omental and 1 small bowel metastasis from same patient, \*=statistically significant.

<b>Patients (#)</b>	<b>All (N=25)</b>	<b>Oligometastatic Progression (N=18)</b>	<b>Polymetastatic Progression (N=7)</b>	<b>p-value (test)</b>
<b>Median Age (years)</b>	64.4	65.6	62.3	0.32
Range:	(48.7-91.2)	(48.7-91.2)	(53.7-70.2)	(t-test)
<b>Gender</b>	14 (56%)	10 (56%)	4 (57%)	1.00 (FET)
Female (%)	11 (44%)	8 (44%)	3 (43%)	
Male (%)				
<b>Primary Tumor Sites Sampled:</b>	25	18	7	
Bladder	1	1	0	
Breast	3	2	1	
Colorectal	5	4	1	
Head and Neck	2	2	0	
Liver	1	0	1	
Lung, NSCLC*	2	1	1	
Ovarian	1	0	1	
Renal	3	3	0	
Salivary Gland	2	2	0	
Sarcoma	2	1	1	
Small Bowel	2	1	1	
Thymus	1	1	0	
<b>Median # prior and current metastasis(es) at radiation (Range)</b>	1 (1-5)	2 (1-4)	1 (1-5)	0.69 (MWT)
<b>Median # of metastasis(es) at tissue sampling (Range)</b>	0 (0-5)	0 (0-1)	0 (0-5)	0.46 (MWT)
<b>Survival:</b> (alive throughout follow-up)	16 / 25	15 / 18	1 / 7	<b>0.0029*</b> (FET)
<b>Median Follow-up:</b> (months) Range:	15.4 (5.7-43.3)	16.2 (5.7-43.3)	11.5 (8.4-29.5)	<b>0.0025*</b> (Logrank )