

S2 Table. Clinical information of included studies

Author, target disease	LCT arm					Control arm					OS (LCT arm vs. control arm)		PFS (LCT arm vs. control arm)			
	No.	No. of oligomets.	Site	Target of LCT	Modality of LCT	No.	No. of oligomets.	Site	Control	Median FU	Median (mo)	1/2 year rate	p-value	Median (mo)	1/2 year rate	p-value
He, NSCLC [1]	11	1 (60%); 2 (40%)	Lung 100%	M	Resection of pulmonary mets and/or adj. CTx.	10	N/A	Lung 100%	CTx.	37.5	37 vs. 11.6	100/70% vs. 80/40%	0.026	-	-	-
Iyengar, NSCLC [2]	14	2 (50%); 3-4 (28.6%)	Lung or mediastinum >70%	M	SBRT & CTx.	15	2 (40%); 3-4 (33%)	Lung or mediastinum >70%	CTx.	9.6	Not reached	-	-	9.7 vs. 3.5	1 yr: 35.7% vs. 13.3%	0.01
Sheu, NSCLC [3]	60	Mean 1.28	Brain (~50%)	M and P	Conventional RTx. (76%)	14	Mean 1.23	Brain (~50%)	CTx.	-	-	83.3/58.3 vs. 35.7/0%	< 0.01	-	1 yr: 46.7% vs. 18.2%	< 0.01
Yano, NSCLC [4]	44	-	-	M (recurrence)	Surgery or RTx. And/or CTx.	49	-	-	CTx. or SOC	~4 yr	74 vs. 10.9	77.3/61.4% vs. 46.9/24.5%	< 0.05	-	-	-
Frost, NSCLC [5]	90	1 (85%); 2 (8%)	Brain 57%; bone 10%; lung 9%	M and/or P	Lobectomy, CCRT, SBRT; 79% received CTx.	90	1 (76%); 2 (14%)	Brain 32%; bone 22%; lung 21%	CTx. (96%)	32 vs. 19	60.4 vs. 22.5	92.2/76 vs. 81.9/45.9%	< 0.001	25.1 vs. 8.2	67.8/52.2% vs. 31/8.9%	< 0.001
Gomez, NSCLC [55]	25	0-1 (68%); 2-3 (32%)	Brain 28%; other 72%	M and/or P	RTx. or surgery & standard maintenance	24	0-1 (62%); 2-3 (38%)	Brain 25%; other 75%	Standard maintenance	38.8	41.2 vs. 17	84/68% vs. 62.5/45.8%	0.017	14.2 vs. 4.4	52/28% vs. 20.8/12.5%	0.022
Gray, NSCLC [7]	38	1 (50%); 2-4 (50%)	Brain 100%	P	ATT (surgery or >45Gy RTx. to thorax); brain RTx. & CTx	28	1 (50%); 2-4 (50%)	Brain 100%	CTx and/or Brain RTx.	-	26.4 vs. 10.5	71/54% vs. 46/26%	< 0.001	-	-	-
Hu, NSCLC [8]	143	1-3 (81%); 4-5 (19%)	Brain 44%; Bone 35%	M	Surgery and/or radiotherapy and TKI	88	1-3 (83%); 4-5 (17%)	Bone 42%; lung 33%	CTx. (TKI)	24	34 vs. 21	95.3/72.1% vs. 84.1/40.9%	0.001	15 vs. 10	60.7/18.6% vs. 33.3/10.8%	< 0.001
Song, NSCLC [9]	35	1 (46%); 2 (29%); 3-5 (26%)	Lung 57%; bone 40%; liver 30%	M and/or P	Surgery or RTx. and CTx.	35	1 (23%); 2 (40%); 3-5 (37%)	Lung 60%; bone 54%	CTx.	-	-	51.4/28.6% vs. 31.4/5.7%	0.002	-	-	-
Xu, NSCLC [10]	51	1 (49%); 2-3 (51%)		P and/or M	Surgery or RTx. After TKI CTx.	39	1 (41%); 2-3 (51.3%)		CTx. (TKI)	38	40.9 vs. 30.8		< 0.001	20.6 vs. 13.9	86.3/25.6% vs. 70.5/0%	< 0.001
Ni, NSCLC [11]	34	1-3 (85%); 4-5 (15%)	Lung (40%); liver (23%); adrenal gland (16%)	M and/or P	TKI & MWA	52	1-3 (89%); 4-5 (11%)	Lung (32%); bone (23%); liver (20%)	CTx. (TKI)	36	34.8 vs. 22.7	94.1/67.6% vs. 90.3/46.2%	0.04	16.7 vs. 12.9	88.2/23.5% vs. 61.5/0%	0.02
Shang, NSCLC (postop) [12]	105	1 (73%); 2-5 (27%)	LN (46%); brain (24%); lung (19%)	M and/or P	RTx. or RFA and/or CTx.	47	1 (72%); 2-5 (28%)	LN (72%) lung (32%)	CTx. or BSC	19	19 vs. 20	1yr: 72.4 vs. 72.3%	0.519	10 vs. 7	1 yr: 40.9 vs. 29.8%	0.006

Gore, SCLC (extended) [13]	44	1 (32%); 2-4 (68%)	Adrenal 25%; distant LN 23%; liver 23%	P	PCI and cRTx. (45 Gy/15F)	42	1 (41%); 2-4 (60%)	Distant LN 31%; Bone 26%; Liver 24%	PCI	9	13.8 vs. 15.8	1yr: 50.8 vs. 60.1%	0.21	4.9 vs. 2.9	1 yr: 23.9 vs. 20.5%	0.01
Xu, SCLC (extended) [14]	22	-	-	M and/or P	CTx and RTx	22	-	-	CTx.	36.4	-	72.7/25.2 vs. 18.2/12.7%	0.002	-	40.9/19.3 vs. 9.1/4.8%	0.006
Bouman-Wammes, prostate [15]	43	1 (81%); 2 (14%)	LN 77%; bone 21%	M	SBRT (mostly 30 Gy/3F or 35 Gy/7F)	20	1 (45%); 2 (40%)	LN 65%; Bone 35%	Active surveillance	-	-	-	-	17.3 vs 4.2	72.1/35.8% vs. 22.6/0%	< 0.001
Lan, prostate [16]	35	1 (26%) 2 (37%) 3 (20%)	Bone 100%	P	Prostatectomy & ADT	76	1 (8%) 2 (32%) 3 (30%)	Bone 100%	ADT	35	-	CSS 3/5 yr: 90.8/63.6% vs. 87.9/74.9%	0.773	(PSA-RFS) 32 vs. 17	82.8/62.8% vs. 65.8/38.2%	0.184
Ost, prostate [17]	31	1 (58%); 2 (19%); 3 (22%)	LN 55%; non-nodal 45%	M	SBRT (81%) or resection	31	1 (29%); 2 (32%); 3 (39%)	LN 55%; non-nodal 45%	Active surveillance	3 yr	-	-	-	(ADT-free survival) 21 vs. 13	70.9/45.2% vs. 64.5/32.3%	0.11
Steuber, prostate [18]	165	-	Pelvic LN ~90%	M	PLND or SBRT (≥ 30 Gy/6F) and ADT	494	-	Pelvic LN ~90%	ADT	-	-	CSS 5/10 yr: 98.6/95.6 vs. 95.7/84.8% OS 3/5/10yr: 99.2/98.7/93.2 vs. 98.2/95.4/85.5%	0.03; 0.23	-	-	-
Parker, prostate [19]	410	-	Bone 76%; distant LN 36%	P	RT and ADT	409	-	Bone 76%; distant LN 34%	ADT	37	-	98.8/92.5/82.6% vs. 96.7/87.7/74.8%	0.007	-	89.6/72.8% vs. 86.3/69.6%	0.033
Tsumura, prostate [20]	22	-	Bone or pelvic LN	M	Metastatic RTx., prostate brachy & HTx.	18	-	Bone or pelvic LN	Prostate brachy & HTx.	62.5	-	-	-	-	94.4/88.9% vs. 95.5/73.3%	0.027
Giessen, colorectal [21]	38	1 (95%)	Liver 100%	M	Hepatic resection and CTx.	215	1 (100%)	Liver 100%	CTx.	-	48.0 (95% CI: 42-54) vs. 17.0 (95% CI: 13.9-20.1)	97.4/89.5% vs. 68/37.6%	< 0.001	16.6 vs. 6.5	63.2/36.8% vs. 21.2/5.2%	<0.001
Ruer, colorectal [22]	60	1-3 (48%); 4-6 (30%); 7-9 (22%)	Liver 100%	M	RFA, surgery and/or CTx.	59	1-3 (31%); 4-6 (46%); 7-9 (24%)	Liver 100%	CTx.	9.7 yr	45.6 vs. 40.5	91.7/75% vs. 89.8/74.5% (5 yr: 43.1)	0.01	16.8 vs. 9.9	58.3/35% vs. 40.7/20.3%	0.005

												vs 30.3%)					
Ruo, colorectal [23]	127	1 (68%); 2(26%); 3(6%)	Liver 56%	P	Bowel surgery and CTx.	103	1 (53%); 2(30%); 3(17%)	Liver 41%	CTx. (83.5%)		16 vs. 9	63.8/25% vs. 35.9/6%	< 0.001				
Chen, esophagus [24]	196	-	-	M and P	CCRT (IMRT, 50 Gy/25F to primary; 45Gy/15F to metastases; cisplatin/paclitaxel)	265	-	-	CTx	11.5	16.8 (95% CI: 15.5-18.1) vs 14.8 (95% CI: 13.2-16/4)	72.8/27.2% vs. 63.5/17.5%	0.056	8.7 vs. 7.3	27.6/4.7% vs. 21.9/0.9%	0.002	
Depypere, esophagus [25]	10	-	Lung 50%; adrenal 20%	P	Esophagectomy +/- lung metastectomy	10	-	Liver 50%; brain 30%	CTx.	-	21.4 vs 12.1	80/40% vs. 50/10%	0.042	-	-	-	
Chen, HCC [26]	34	-	Lung 100%	M and/or P	TACE, RFA, resection & sorafenib	34	-	Lung 100%	Sorafenib	8.4	18.4 vs. 7.4	67.6/47% vs. 35.3/23.5%	0.015	TTP: 3.1 vs. 2.3	(TTP) 11.8/0% vs. 0/0%	0.009	
Pan, HCC [37]	46	Mean 2.22 +/- 1.35	LN 100%	M (lymph node)	RFA; and BSC or sorafenib	46	Mean 2.74 +/- 1.37	LN 100%	BSC or sorafenib	14 vs 13.8	13 vs. 7.8	58.3%/11.7% vs. 17.9/0%	0.001	-	-	-	
Morino, bile duct [28]	33	Median 1 (1-3)	Liver 39%; LN 27%; lung 12%	M (recurrence)	Surgery, RT, RFA, TACE and/or CTx.	34	Median 1 (1-3)	Local 35%; liver 29%; LN 21%	CTx. or BSC	12.6	48.6 vs. 14.2	97/84.8% vs. 64.7/20.5%	< 0.001	-	-	-	
Schulz, head and neck [29]	37	1 (70%); 2-3 (16%)	Lung 59%; bone 22%	M	RTx. or resection and/or CTx.	10	1 (100%)	Lung 90%	CTx. or BSC		24 vs. 7	67.6%/51.3% vs. 20%/10%	NA	-	-	-	
Falk, sarcoma [30]	164	-	Lung 51%; liver 7%	M	RTx. (> 50 Gy), RFA, OP removing all mets +/- CTx.	117	-	Lung 69%; liver 7%	CTx. in majority	25.7	-	79.6/63.6% vs. 52.3/36.3%	< 0.0001	-	-	-	
Kagawa, NSCLC [31]	10	-	Abd LN 50%	M	Surgery and RTx and/or ICI	28	-	-	ICI or CTx	-	-	100/71.1% vs. 100/88.9%	NS	-	-	-	
Hsu, KH, NSCLC [32]	17	-	-	p	SBRT or RT (50-70 Gy) & prior TKI	34	-	-	Prior TKI	35.1 (RT) 32.1 (control)	-	-	-	NR vs 14.3	100/76.6 vs. 55.9/28.1%	< 0.001	
Zhao, NSCLC [33]	21	1 (71.4%); 2 (23.8%)	Liver 100%	M	RFA & CTx.	40	1 (65%); 2 (25%)	Liver 100%	CTx	36.4 (RFA) 39.1 (control)	27.7 vs. 17.7	95.5/57.3 vs. 77.8/38.5%	0.152	11 vs 5.2	47.5/9.6 vs. 15/0%	0.001	
Li, NSCLC [34]	32	1 (12.5%); 2 (21.9%); 3(21.9%); 4 (28.1%); 5(15.6%)	Thoracic (37.5%) other (62.5%)	-	¹²⁵ I brachy+CTx	37	1 (16.2%); 2 (10.8%); 3 (27%); 4(35.1%); 5(10.8%)	Thoracic (27%) others (73%)	CTx	23	17.6 vs 11.2	71.6/49.5 vs. 32.3/18.2%	0.042	11.6 vs. 6.3	50.4/23.3 vs. 36.1/9.8%	0.036	

Gauvin, NSCLC [35]	29		Brain (86%)	M and/or P	RT or CCRT (>60 Gy) or R0 surgery	38		Brain (66%)	CTx. And/or palliative RT		26 vs 5	93/54 vs. 31/14%	1E-04	17.5 vs. 3.4	68/33 vs. 18/7%	0.001
Chen, NSCLC [36]	70	1 (75.7%) 2-3 (24.3%)	Brain 100%	M and P	RT	69	1 (59.4%) 2-3 (40.6%)	Brain 100%	CTx	49	33.2 vs. 16.8	82.5/57.8 vs. 59.7/31.7	0.002	-	-	-
Wang, NSCLC [37]	59	1 (47.4%) 2 (33.9%)	Brain (44%), bone (18.6%), lung (29%)	M or P	RT (one site only) & ICI	93	1 (35.5%) 2 (31.2%)	-	ICI	8.1	-	-	-	13.8 vs. 8.9	53.8/44.8 vs. 42.1/32.4	0.035
Wang, NSCLC [38]	25	m3.36	Lung, adrenal gland, Liver, LNs	M and P	¹²⁵ I brachy	28	m3.43	Lung, adrenal gland, Liver, LNs	CTx	13	12.8 vs. 15.2	59.5/23.9 vs. 62.6/22.3%	0.847	-	-	-
Yildirim, prostate [39]	46	M2(1-5)	Bone 72%	M and P	IMRT (86%): M78 Gy & 54 Gy (prostate & pelvis), M30 Gy (bone) and ADT	46	M2(1-5)	Bone 64%	ADT	14.2	24.2 vs. 21.4	75.8/53/28.7 vs. 74.9/36.6/7.6%	0.08	8.5 vs.7.8	30.6/10.2/10.2 vs. 30/7.7/0 %	0.5
Phillips, prostate [40]	36	Mean 2.03	LN 67% bone 33%	M and P	SBRT 24-48 Gy /3-5F	18	Mean 1.66	LN 58% bone 42%	Observation (allow CTx or ADT after 6 mo)	18.8	-	-	-	not reached vs. 5.8	66.2 vs. 42.3%	0.002
Deek, prostate [41]	31	1 (32.3%); 2 (19.4%) 3 (9.7%)	Bone or LN, few visceral	M	SBRT & systemic Tx.	52	1 (28.8%) 2 (15.4%) 3 (7.7%)	Bone or LN, few visceral	Systemic Tx.	30.9	-	93/90.3/60.7 vs. 97.8/76.8/69.5%	0.46	9.7 vs. 4.2	44.8/19.3/12.5 vs. 23.4/12.8/5.9 %	0.07
Boeri, prostate [42]	63(EB RT);191(SLND)	M2 (1-2)	EBRT: pelvic 81% SLND: pelvic 91%	M	1) SLND and/or ADT, 2) EBRT & ADT	74	M2(1-3)	Pelvic 51.4 retroperitoneum 32.4	ADT	46.7	-	3/5yr CSM: 97.1/93.3% (sLND), 92.5/77.1% (RT), 92.5/80% (aDT)	SLND vs ADT (p=S)	-	3/5 yr SSM: 81.1/75.8% (SLND), 74.3/56.0% (RT), 68.3/42,6% (ADT)	SLND vs. ADT, RT vs. ADT (p=S)
Hu, multiple [43]	86	1-2 (66.3%) 3-5 (33.7%)	Bone, brain, lung, liver	M	RT (inc. SBRT, WBRT) & CTx. Or HTx.	156	1-2 (56.4%) 3-5 (43.6%)	Bone, brain, lung, liver	CTx or HTx	36	25 vs. 16	88.3/53.6% vs 72.5/20.8%	0.001	-	-	-
Palma, multiple [44]	66	1 (46%); 2 (29%); 3 (18%)	Lung 43%; bone 35%	M	SBRT and/or CTx., palliative RT	33	1 (36%); 2 (40%); 3 (18%)	Lung 53%; bone 31%	CTx., and/or palliative RTx	51	50 vs. 28	84.3/68.9% vs. 87.6/58.1%	0.006	11.6 vs. 5.4	50.2/35.9 vs. 19/12.5%	0.001
Ji, pancreas [45]	23	-	Liver 100%	P	SBRT (m41Gy,5-	23	-	Liver 100%	CTx	20.9	-	6 mo/1 yr OS:	0.115	-	6 mo/1 yr PFS: 29.4/0% vs.	0.468

					7F)+CTx								58.3/34% vs. 44/16.5%			20.6/5.2%	
Shao, pancreas [46]	50	-	Liver 100%	M and P	M and P surgery+CTx.	50		Liver 100%	Palliative surgery+CTx.		16 vs. 6		63.8/29 vs. 24/2%	0.001	-	-	-
Lan, breast [47]	20 (surgery); 10 (RT, RFA, TACE)	-	Lung, liver, bone	M	Surgery & systemic Tx., other local & systemic Tx	20	-	Lung, liver, bone	Systemic Tx.	65.9	113.7 vs. 59.4 vs. 42.4		100/85.2 (surg); 80/80 (other LT); 85.2/85.2 (control)	0.049	49.6 vs. 13.8 vs. 6.9	80/65 (surg), 60/30 (other LT), 36/20 (control)	0.001 (surgery < control or other local Tx)
Moretto, colorectal [48]	121	-	-	M and/or P	Surgery, RFA, SBRT	191	-	-	-	-	52.6 vs. 28.0		97.8/86.3 vs. 85.9/61%	<0.001	23.9 vs. 10.6	79.2/50.4 vs. 45.1/15.9%	<0.001
Li, esophagus [49]	55	1 (56.4%), 2 (25.5%)	Bone (31%), lung (31%), liver (14.5%)	M	IMRT (M60Gy) and/or CTx	27	1 (51.9%), 2 (22.0%)	Bone (52%), lung (26%), liver (7.4%)	CTx (90%), BSC (10%)	35	14 vs. 7		64.9/22.6 vs. 36.7/13.2	0.016	-	-	-
Shi, esophagus [50]	107	1-3 (62.6%), 4-5 (33.6%)	-	M and P	CCRT (IMRT 50 Gy to primary, 45 for metastases)	107	1-3 (66.4%), 4-5 (33.6%)	-	CTx	42.3	18.8 vs. 16.2		76.9/41.7 vs. 70.2/20.7%	0.003	10 vs. 7.4	41/15.7 vs. 26.3/2.3%	<0.001
Kim, HCC [51]	36	-	Lung 100%	M and P	Surgery, RT and/or CTx.	22	-	Lung 100%	CTx.	27 and 23	-		88.5/66.6 vs. 63.3/31.2%	<0.001	-	58.9/47.0 vs. 21.2/10.6%	0.005
Li W, NPX. [52]	37	-	Liver 100%	M	RFA+CTx.	37	-	Liver 100%	CTx.	15.4	32.5 vs. 18.8		89/61.2 vs. 74.3/37.6%	0.025	-	64.4/25.2 vs. 47.9/14%	0.037
Wright, oropharynx [53]	12	1 (66%) 2 (34%)	Lung (83.3%), bone (16.7%)	M	Surgery, RT (> 60 Gy) or SBRT and/or CTx.	12	2 (28.6%); 3 (35.7%); 4 (28.6%); 5 (7%)	Lung 100%	CTx.	34.3	NR vs. 40.7		100/100 vs. 100/75%	0.004	-	82.4/55.4 vs. 7.4/na	0.001
Liu Y, RCC [54]	40	1-2 (62.5%) 3-5 (37.5%)	-	M	SBRT+TKI	50	-	-	TKI	31	-		CSS: 100/100 vs. 100/79.5%	0.044	26 vs. 17.9	82.9/53.6 vs. 61.1/35.4%	0.049

Abd, abdominal; ADT, androgen deprivation therapy; ATT, aggressive thoracic therapy; BSC, best supportive care; CCRT, concurrent chemoradiotherapy; CSS, cancer specific survival; CTx., chemotherapy; IMRT, intensity modulated radiotherapy; LCT, local consolidation therapy; LN, lymph node; M, metastases; MWA, microwave ablation; NSCLC, non-small cell lung cancer; OP, operation; OS, overall survival; P, primary disease; PCI, prophylactic cranial irradiation; PFS, progression-free survival; PLND, pelvic lymph node dissection; RFA, radiofrequency ablation; RTx., radiotherapy; SBRT, stereotactic body radiotherapy; SCLC, small cell lung cancer; TACE, transarterial chemoradiotherapy; TKI, tyrosine kinase inhibitor; TTP, time to progression; Tx., therapy.