S1 Table. General information of included studies

Author, target disease	Affiliation	Publication year	Patient recruit year	Study type	LCT group compared to control	Total No. of patients	NOS score	Type of oligometastases; Preceding Tx. For primary dz.	Defined No. of oligomets.	Conflicts of interest
He, NSCLC [1]	Sun Yat-sen University, China	2017	2003-2013	R	N/A	21	7	Synchronous and metachronous; OP	≤ 3, in lung	None
Iyengar, NSCLC [2]	Universtity of Texas Southwestern, US	2017	2014-2016	P	RCT	29	8	Synchronous; PR or SD after CTx.	Up to 6 lesions (including primary) in 3 organs	None
Sheu, NSCLC [3]	MDACC, US	2014	1998-2012	R	PSM, balanced except higher age	74	9	Synchronous; no PD after CTx.	≤ 3	None
Yano, NSCLC [4]	Kyushu University, Japan	2010	1994-2004	R	N/A	93	7	Metachronous; surgery	Controllable with surgery or RTx	None
Frost, NSCLC [5]	Charité, Evangelische Lungenklinik, DRK Klinikum Berlin-Mitte, Germany	2018	2000-2016	R	PSM	180	9	Synchronous	1-4 in one organ	None
Gomez, NSCLC [6]	MDACC, London health center, University of Colorado, US & UK	2019	2012-2016	P	RCT	49	9	Synchro and metachronous; CTx.	≤ 3	None
Gray, NSCLC [7]	Harvard Medical School, US	2014	2000-2011	R	Younger age (p=0.027)	66	7	Synchronous	≤ 4, brain only	Industrial
Hu, NSCLC [8]	Shanghai Jiaotong University, China	2019	2010-2016	R	More brain mets, less lung mets. (p < 0.001)	231	7	Synchronous; TKI	≤ 5 in single organ	None

Song, NSCLC [9]	Cancer Hospital of China Medical University, Liaoning Cancer Hospital and Institute .	2020	2005-2019	R	PSM, more peripheral location of mets. (p=0.048)	70	9	Synchronous	≤5	None
Xu, NSCLC [10]	Tongji University,China	2018	2010-2016	R	Lower T and N stage	90	7	Synchronous; PR or SD after TKI	≤5	None
Ni, NSCLC [11]	Shandong First Medical University, China	2020	2015-2018	R	No significant difference	86	7	Synchronous	≤5	None
Shang, NSCLC (postop) [12]	Shandong University, China	2019	2005-2016	R	No significant difference except mets. location	152	7	Synchronous	≤5	None
Gore, SCLC (extended) [13]	57 centers	2017	2010-2015	P	RCT, balanced except age (youner age in LCT, p=0.03)	86	9	Synchronous; PR or CR after CTx.	≤4	Industrial
Xu, SCLC (extended) [14]	Tianjin Medical University, China	2017	2010-2015	R	PSM, more weight loss patient	44	9	Synchronous	In one organ or in single RT portal	None
Bouman-Wammes, prostate [15]	VUMC, Netherland	2017	2009-2015	R	Higher PSA at Dx. (p=0.015), more single mets (p=0.003)	63	7	Metachronous; prostatectomy or RTx.	≤ 3	Industrial
Lan, prostate [16]	Lanzhou General Hospital of Lanzhou Command, China.	2019	2005-2016	R	Lower PSA (p=0.003), cT (p < 0.001), N stage (p=0.015), fewer bone mets (p=0.019)	111	7	Synchronous	≤ 5	None
Ost, prostate [17]	Six insitutions in Belgium	2018	2012-2015	P	RCT	62	9	Metachronous; OP, RTx.	≤ 3	Industrial
Steuber, prostate [18]	Six European and one US center	2019	1993-2014	R	PSM	659	9	Metachronous; biochemical failure post-OP & adjuvant RTx.	≤ 5	None

Parker, prostate [19]	117 centers in UK and Swiss	2018	2013-2016	P	RCT	819	9	Synchronous	≤ 3 (low burden subgroup)	Industrial and government
Tsumura, prostate [20]	Kitasato University, Japan.	2019	2003-2013	R	N/A	40	7	Synchronous	≤ 5	None
Giessen, colorectal [21]	48 German centers	2013	2000-2004	P	More N-, better PS	253	7	Synchronous and metachronous; OP (95%)	1 (~95% of patients)	Industrial
Ruer, colorectal [22]	22 European centers	2017	2002-2007	P	RCT	119	9	Synchronous and metachronous	≤ 9, all resectable or ablatable	None
Ruo, colorectal [23]	MSKCC, US	2003	1996-1999	R	More comorbidity (p=0.04), more liver only and single mets. (p=0.02)	230	7	Synchronous	≤ 3	None
Chen, esophagus [24]	Wuhan univ, Zengzhou Univ, China	2019	2012-2015	R	No significant difference	461	6	Synchronous	≤ 3	None
Depypere, esophagus [25]	University Hospitals Leuven, Belgium	2018	2002-2015	R	N/A	20	7	Synchronous or metachronous; NAC(R)T	3-5 mets in single organ	None
Chen, HCC [26]	Sun Yat-sen University Cancer Center, China.	2018	2013-2016	R	PSM	68	8	Synchronous	≤ 5 in lung	None
Pan, HCC [27]	Sun Yat-sen University Cancer Center, China.	2017	2004-2013	R	PSM	92	9	Synchronous	N/A	None
Morino, bile duct [28]	Kyoto University, Japan.	2020	1996-2015	R	PSM, more ICC (p < 0.001), more local mets. location (p=0.005)	67	9	Metachronous; R0 or R1 resection	≤ 3	None
Schulz, head and neck [29]	Klinikum rechts der Isar, Germany.	2018	2001-2016	R	Intentioned match	47	7	Synchronous and metachronous; OP, CTx., RT;	1 (77%), but ranged up to 10	None

Falk, sarcoma [30]	15 Multicenter, France	2015	2000-2012	R	Smaller primary tumor (p=0.04), more controlled primary (p=0.0003), less lung mets (p=0.006)	281	7	Synchronous and metachronous; OP 93%, R0 62% R1 23%	≤ 5	Industrial
Kagawa, NSCLC [31]	Aichi Cancer Center, Japan	2020	2013-2018	R	No significant difference	38	7	Oligoprogression after ICI (62% was initially stage IV)	≤ 3 in single organ	Industrial
Hsu, KH, NSCLC [32]	National Chung Hsing Univ & Taichung Veterans hospt, Taiwan	2021	2010-2018	R	N/A	51	7	Synchronous; TKI	≤ 5	None
Zhao, NSCLC [33]	NCC Beijing, China	2020	2012-2017	R	No significant difference	61	7	Synchronous and metachronous	≤ 5	Government
Li, NSCLC [34]	Tianjin medical univ, China	2020	2014-2018	R	No significant difference	69	7	Synchronous	≤ 5	Government
Gauvin, NSCLC [35]	Univ of Montreal, Canada	2021	2005-2015	R	N/A	67	7	Synchronous (in 6 months after Dx.)	1 M1b mets or ≤3 cerebral mets	Industrial
Chen, NSCLC [36]	Sun-Yat-Sen Guangzhou, China	2021	2004-2018	R	Less advanced primary, more neurologic symptom	139	7	Synchronous	≤3	Government
Wang, NSCLC [37]	Shandong univ, China	2021	2018-2020	R	No significant difference	152	6	Synchronous and metachronous	≤3	Government
Wang, NSCLC [38]	Zhongda hospt. Southeast Univ, China	2020	2013-2018	R	No significant difference	53	7	Metachronous; failure after first CTx.	≤5	Government
Yildirim, prostate [39]	3 institutions in Turkey	2019	2012-2017	R	PSM	92	9	Synchronous and metachronous; ADT	≤5	None
Phillips, prostate [40]	Johns Hopkins and 2 other centers, US	2020	2016-2018	RCT	RCT	54	9	Metachronous; surgery (83%) RTx (17%)	≤3	Industrial

Deek, prostate [41]	Mayo & Johns Hopkins, US	2021	2013-2019	R	No significant difference	84	7	Metachronous (oligoprogression); ADT (CRPC)	≤5	Government
Boeri, prostate (3 arms) [42]	Mayo clinic, US	2021	2009-2016	R	3 arm study; similar except younger in LCT ($p < 0.001$)	328	7	Metachronous; curative surgery or RTx.	≤ 5	None
Hu X, multiple [43]	Beiging Geriatic hospt & Airforce general hospt, China	2021	2014-2020	R	N/A	242	7	Methachronous	≤ 5	Academic
Palma, multiple (update) [44]	10 institutions in Canada, Netherlands, Scotland, and Australia	2020	2012-2016	P	RCT	99	9	Metachronous; no progression after definitive Tx.	≤ 5	Industrial
Ji, pancreas [45]	Nanjing medical univ, US	2021	2010-2019	R	PSM	46	9	Synchronous	≤ 5	Government
Shao, pancreas [46]	Zhejiang Univ, China	2021	2009-2018	R	No significant difference	100	7	Synchronous	Resectable, liver confined mets.	Government
Lan, breast (3 arms) [47]	NCC Beijing, China	2020	2009-2014	R	N/A	50	7	Metachronous; curative surgery	≤ 3, one organ	None
Moretto, colorectal [48]	Pisa Univ, Italy	2020		R	N/A	312	7	Synchronous and metachronous	≤ 5, no more than 3 organs involved	Industrial
Li J, esophagus [49]	Minyang central hospt, China	2021	2009-2018	R	Lower stage, less metastatic organ No.	82	7	Metachronous; surgery or CRT	≤ 5, ≤ 3 per organ	Academic
Shi Z, esophagus [50]	Wuhan & Henan Univ, China	2021	2012-2017	R	PSM	214	9	Synchronous (in 6 months after Dx.)	≤ 5	Government
Kim K, HCC [51]	Yonsei Univ, US	2021	2008-2015	R	PSM	58	9	Metachrnous (~90%)	1-4	Academic
Li W, NPX [52]	Sun-Yat-Sen Guangzhou, China	2016	2003-2011	R	PSM	74	9	Synchronous and metachronous; CTx.	≤ 3	Government

Wright, oropharynx [53]	Univ Pennsylvenia, US	2021	2008-2017	R	More single mets (no statistics)	24	7	Metachronous; TORS	≤ 5	None
Liu Y, RCC [54]	Sun-Yat-Sen Guangzhou, China	2021	2007-2019	R	Tend to have less No. of lesions and involved organs	90	7	Synchronous and metachronous; nephrectomy	≤ 5	None

ADT, androgen deprivation therapy; CR, complete response; CRT, chemoradiotherapy; CTx., chemotherapy; Dx., diagnosis; ICI, immune-checkpoint inhibitor; LCT, local consolidative therapy; mets., metastasis; N/A, not assessable; NOS, Newcastle-Ottawa scale; NSCLC, non–small cell lung cancer; OP, operation; P, prospective; PD, progressive disease; PR, partial remission; PS, performance status; PSA, prostate specific antigen; PSM, propensity score matching; R, retrospective; RCT, randomized controlled trial; RTx., radiotherapy; SD, stable disease; TKI, tyrosine kinase inhibitor; TORS, transoral robotic surgery.