

**Table S1.** Demographic and clinicopathologic features of thyroid cancer patients with and without lung metastases.

		All		Lung metastasis				<i>p</i>
		(n=68709)		Absence (n=68100)		Presence (n=609)		
Sex								
	Female ( <i>n</i> ,%)	53072	77.2%	52755	77.5%	317	52.1%	<0.001
	Male ( <i>n</i> ,%)	15637	22.8%	15345	22.5%	292	47.9%	
Race								
	White ( <i>n</i> ,%)	54775	79.7%	54312	79.8%	463	76.0%	0.053
	Black ( <i>n</i> ,%)	4414	6.4%	4372	6.4%	42	6.9%	
	Other ( <i>n</i> ,%)	9520	13.9%	9416	13.8%	104	17.1%	
Marital status								
	Single ( <i>n</i> ,%)	16885	24.6%	16752	24.6%	133	21.8%	<0.001
	Married ( <i>n</i> ,%)	44108	64.2%	43765	64.3%	343	56.3%	
	Divorced( <i>n</i> ,%)	4920	7.2%	4876	7.2%	44	7.2%	
	Widowed ( <i>n</i> ,%)	2796	4.1%	2707	4.0%	89	14.6%	
Age(years)								
	<55 ( <i>n</i> ,%)	45523	66.3%	45346	66.6%	177	29.1%	<0.001
	≥55 ( <i>n</i> ,%)	23186	33.7%	22754	33.4%	432	70.9%	
Histology								
	PTC ( <i>n</i> ,%)	63946	93.1%	63577	93.4%	369	60.6%	<0.001
	MTC ( <i>n</i> ,%)	1068	1.6%	1043	1.5%	25	4.1%	
	FTC ( <i>n</i> ,%)	3293	4.8%	3226	4.7%	67	11.0%	
	ATC ( <i>n</i> ,%)	402	0.6%	254	0.4%	148	24.3%	
Tumor size(mm)								
	≤10 ( <i>n</i> ,%)	25800	37.5%	25771	37.8%	29	4.8%	<0.001
	11-20 ( <i>n</i> ,%)	19803	28.8%	19734	29.0%	69	11.3%	
	21-40 ( <i>n</i> ,%)	15718	22.9%	15558	22.8%	160	26.3%	
	>40 ( <i>n</i> ,%)	7388	10.8%	7037	10.3%	351	57.6%	
Stage								<0.001
	I ( <i>n</i> ,%)	48837	71.1%	48837	71.7%	0	0.0%	<0.001
	II ( <i>n</i> ,%)	4594	6.7%	4515	6.6%	79	13.0%	
	III ( <i>n</i> ,%)	8542	12.4%	8542	12.5%	0	0.0%	
	IV ( <i>n</i> ,%)	4662	6.8%	4133	6.1%	529	86.9%	
	Unknown ( <i>n</i> ,%)	2074	3.0%	2073	3.0%	1	0.2%	
T								<0.001
	T1 ( <i>n</i> ,%)	40106	58.4%	40065	58.8%	41	6.7%	<0.001
	T2 ( <i>n</i> ,%)	11647	17.0%	11603	17.0%	44	7.2%	
	T3 ( <i>n</i> ,%)	14228	20.7%	14068	20.7%	160	26.3%	
	T4 ( <i>n</i> ,%)	2328	3.4%	1976	2.9%	352	57.8%	
	TX ( <i>n</i> ,%)	307	0.4%	298	0.4%	9	1.5%	

N	T0 ( <i>n</i> ,%)	93	0.1%	90	0.1%	3	0.5%	<0.001	
	N0 ( <i>n</i> ,%)	48794	71.0%	48631	71.4%	163	26.8%		
	N1 ( <i>n</i> ,%)	17382	25.3%	16966	24.9%	416	68.3%		
	NX ( <i>n</i> ,%)	2533	3.7%	2503	3.7%	30	4.9%		
Surgery of primary site									
RAI	No ( <i>n</i> ,%)	1158	1.7%	983	1.4%	175	28.7%	<0.001	
	Yes ( <i>n</i> ,%)	67551	98.3%	67117	98.6%	434	71.3%		
	No ( <i>n</i> ,%)	39594	57.6%	39208	57.6%	386	63.4%		0.004
	Yes ( <i>n</i> ,%)	29115	42.4%	28892	42.4%	223	36.6%		
EBRT									
Chemotherapy	No ( <i>n</i> ,%)	67692	98.5%	67282	98.8%	410	67.3%	<0.001	
	Yes ( <i>n</i> ,%)	1017	1.5%	818	1.2%	199	32.7%		
	No ( <i>n</i> ,%)	68246	99.3%	67782	99.5%	464	76.2%		<0.001
	Yes ( <i>n</i> ,%)	463	0.7%	318	0.5%	145	23.8%		

RAI: radioiodine therapy; EBRT: External beam radiotherapy; TNM categories, stage groups, and definitions used by SEER are based on the AJCC 7th Edition.

**Table S2.** Surgical types of primary site in TCLM patients.

Surgical types of primary site	Radioiodine therapy		ALL
	Absence	Presence	
Total thyroidectomy/Subtotal or near total thyroidectomy	169 79.7%	211 95.0%	380 87.6%
Local surgical excision	38 17.9%	10 4.5%	48 11.1%
Unknown	5 2.4%	1 0.5%	6 1.4%