

Figure S1 Study flow chart. PSM, propensity score matching; PC, parathyroid carcinoma; LND, lymph node dissection.

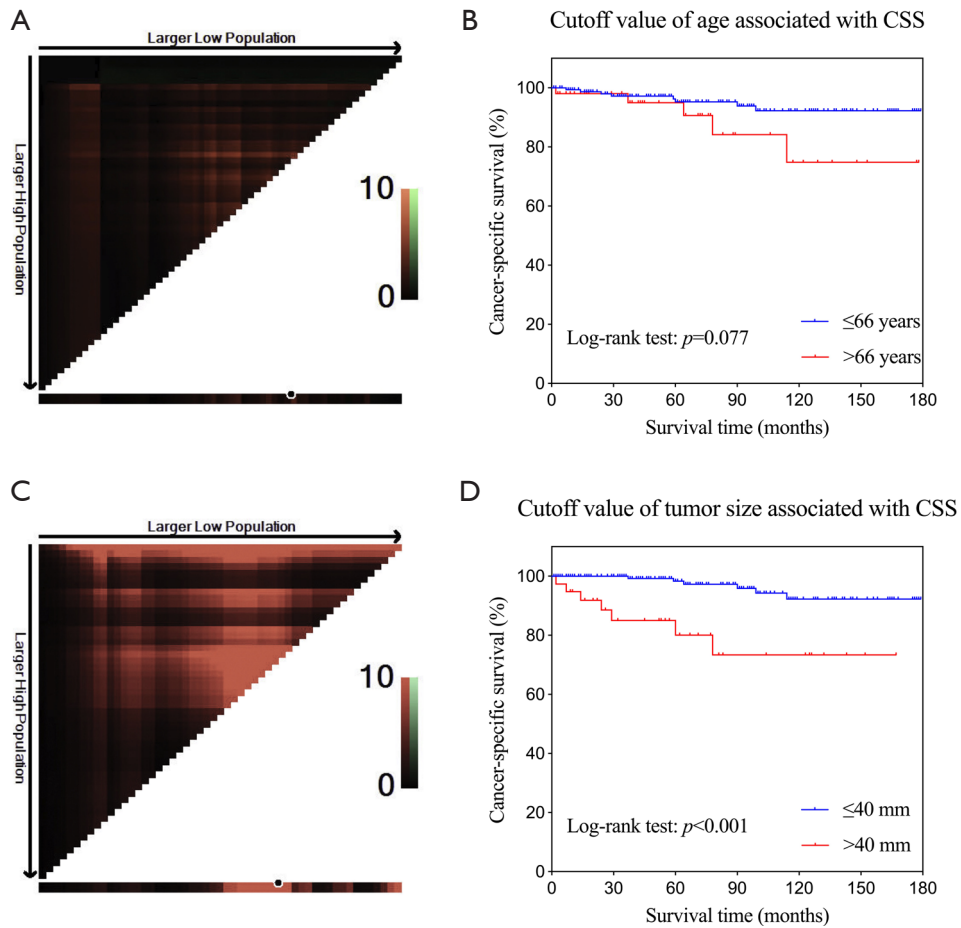


Figure S2 X-tile program to determine the age and tumor size cutoff values. (A) The optimal cutoff value of age was highlighted by the black circle; (B) CSSs were different between the two groups ($P=0.077$); (C) the optimal cutoff value of tumor size was highlighted by the black circle; (D) CSSs were significantly different between the two groups ($P<0.001$). CSS, cancer-specific survival.

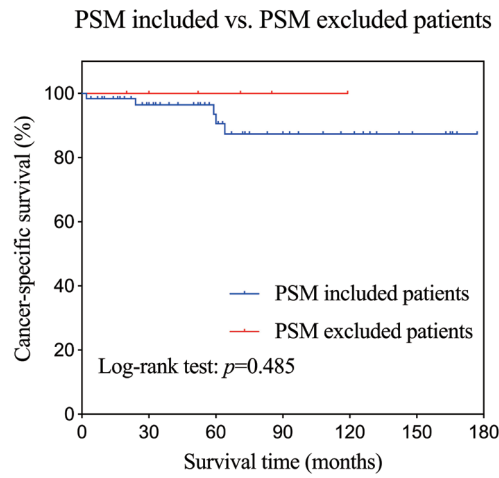


Figure S3 Comparisons of CSS curves in LND treated patients included in and excluded from the PSM cohort. CSS, cancer-specific survival; LND, lymph node dissection; PSM, propensity score matching.

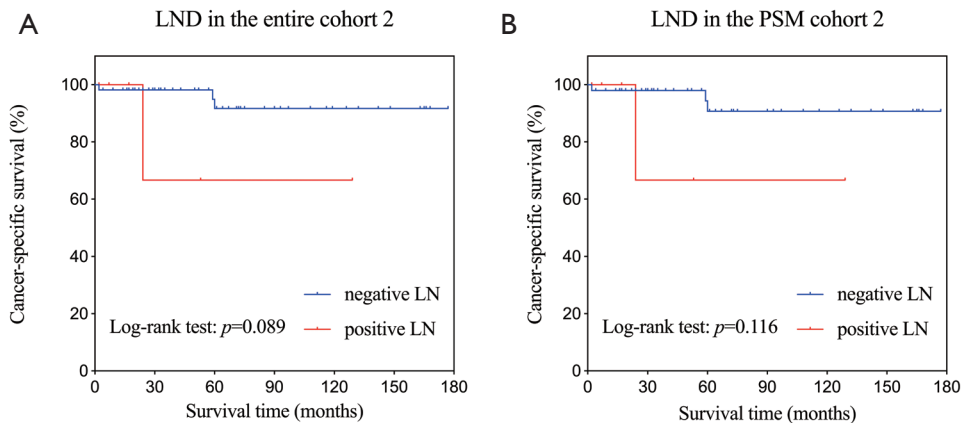


Figure S4 Comparisons of CSS curves in LND treated patients with positive lymph node (LN) and patients with negative LN in the entire cohort 2 (A) and in the PSM cohort 2 (B). CSS, cancer-specific survival; LND, lymph node dissection; PSM, propensity score matching.

Table S1 Comparisons of demographical data, clinicopathological characteristics, treatment information and survival data in LND-treated patients included in and excluded from the PSM cohort

Variables	PSM included patients (n=63)	PSM excluded patients (n=6)	P value
Age (years)			0.327
≤66	48 (76.2)	6 (100.0)	
>66	15 (23.8)	0	
Sex			>0.99
Female	29 (46.0)	3 (50.0)	
Male	34 (54.0)	3 (50.0)	
Race			0.335
White	49 (77.8)	6 (100.0)	
African American + others	14 (22.2)	0	
Year of diagnosis			0.672
2004–2013	39 (61.9)	3 (50.0)	
2014–2018	24 (38.1)	3 (50.0)	
Tumor size (mm)			>0.99
≤40	49 (77.8)	5 (83.3)	
>40	14 (22.2)	1 (16.7)	
Grade			>0.99
Grade I	4 (6.3)	0	
Grade II–IV + unknown/blank	59 (93.7)	6 (100.0)	
Stage			0.375
Localized + regional	59 (93.7)	5 (83.3)	
Distant	4 (6.3)	1 (16.7)	
Primary surgery			0.672
Radical surgery	24 (38.1)	3 (50.0)	
Others	39 (61.9)	3 (50.0)	
Lymph node status			>0.99
Positive	6 (9.5)	0	
Negative + unknown	57 (90.5)	6 (100.0)	
Radiotherapy			0.112
Yes	12 (19.0)	3 (50.0)	
Others	51 (81.0)	3 (50.0)	
Survival status			0.586
Alive	50 (79.4)	6 (100.0)	
Dead from PC and other causes	13 (20.6)	0	
Survival time (months)	60.0 (2.0–177.0)	61.5 (20.0–119.0)	0.966
CSS (log-rank test), %			0.827
5-year survival	90.6	100.0	
10-year survival	87.4	100.0	

Data are expressed as number (percentage) or median (range). LND, lymph node dissection; PSM, propensity score matching; PC, parathyroid carcinoma; CSS, cancer-specific survival.