Supplementary

Table S1 Distribution of Node-RADS scores across stations

Max Node-RADS	0–2, n (%)	3, n (%)	4, n (%)	5, n (%)	3–5, n (%)
Lymph nodes stations					
4R	143 (48.2)	32 (10.8)	41 (13.8)	81 (27.3)	154 (51.8)
7	147 (49.5)	36 (12.1)	51 (17.2)	63 (21.2)	150 (50.5)
2R	170 (57.2)	42 (14.1)	38 (12.8)	47 (15.8)	127 (42.8)
4L	211 (71.0)	25 (8.4)	31 (10.4)	30 (10.1)	86 (29.0)
6	218 (73.4)	30 (10.1)	17 (5.7)	32 (10.8)	49 (26.6)
8	230 (77.4)	17 (5.7)	23 (7.7)	27 (9.1)	67 (22.6)
Ipsilateral supraclavicular	230 (77.4)	43 (14.5)	14 (4.7)	10 (3.4)	67 (22.6)
3	240 (80.8)	34 (11.5)	10 (3.4)	13 (4.4)	57 (19.2)
5	242 (81.5)	13 (4.4)	19 (6.4)	23 (7.7)	55 (18.5)
Contralateral supraclavicular	275 (92.6)	18 (6.1)	2 (0.7)	2 (0.7)	22 (7.4)
2L	285 (95.9)	8 (2.7)	1 (0.3)	3 (1.0)	12 (4.1)
Contralateral hilum	286 (96.3)	9 (3.0)	1 (0.3)	1 (0.3)	11 (3.7)

Node-RADS, Node Reporting and Data System

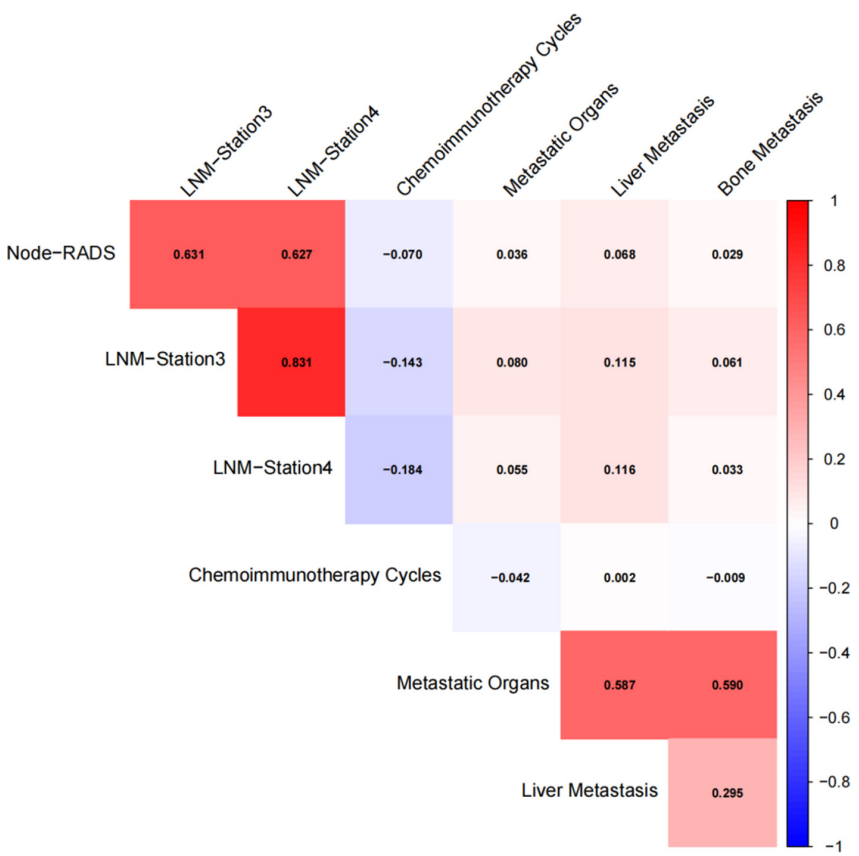

Figure S1 Correlation matrix of key variables. Node-RADS, Node Reporting and Data System; LNM-Station, the number of positive lymph node stations involved.

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Table S2 Multicollinearity assessment of prognostic model variables

Variables	Clinical-NR4 model			Clinical-NR3 model			Clinical-cN model		
	GVIF	adjusted VIF	Tolerance	GVIF	adjusted VIF	Tolerance	GVIF	adjusted VIF	Tolerance
Max Node-RADS	2.085	1.076	0.480	1.925	1.068	0.520	-		-
LNM-Station4	2.015	1.419	0.496	–		–	–		–
LNM-Station3	–		–	1.820	1.349	0.550	–		–
Performance status	1.178	1.028	0.849	1.159	1.025	0.863	1.114	1.017	0.898
Liver metastasis	1.620	1.273	0.617	2.054	1.433	0.487	1.573	1.254	0.636
Bone metastasis	1.611	1.269	0.621	–		–	1.604	1.266	0.624
Brain metastasis	–		–	1.630	1.277	0.614	–		–
Metastatic organs number	2.298	1.516	0.435	2.472	1.572	0.404	2.285	1.512	0.438
Thoracic radiotherapy	1.126	1.061	0.888	1.114	1.055	0.898	1.107	1.052	0.904
Chemoimmunotherapy cycles	1.072	1.035	0.933	1.064	1.031	0.940	1.020	1.01	0.981
Max GVIF	2.298	1.516	–	2.472	1.572	–	2.285	1.512	–

Node-RADS, Node Reporting and Data System; LNM-Station, the number of positive lymph node stations involved; GVIF, generalized variance inflation factor.

Table S3 Bootstrap internal validation results

Model	Apparent C-index (95% CI)	Corrected C-index (95% CI)
Clinical-NR3 Model	0.748 (0.712–0.784)	0.690 (0.611–0.769)
Clinical-NR4 Model	0.759 (0.724–0.793)	0.703 (0.627–0.779)
cN Model	0.726 (0.690–0.762)	0.636 (0.511–0.761)

C-index, concordance index; CI, confidence interval.

Table S4 cNRI of Node-RADS models compared with Clinical-cN model

Model Comparison	Time point	cNRI (95% CI)
Clinical-NR4 *vs.* Clinical-cN	12 months	0.500 (0.401–0.600)
Clinical-NR4 *vs.* Clinical-cN	24 months	0.502 (0.408–0.601)
Clinical-NR4 *vs.* Clinical-cN	36 months	0.503 (0.411–0.594)
Clinical-NR3 *vs.* Clinical-cN	12 months	0.480 (0.392–0.578)
Clinical-NR3 *vs.* Clinical-cN	24 months	0.481 (0.397–0.581)
Clinical-NR3 *vs.* Clinical-cN	36 months	0.483 (0.396–0.582)

cNRI, Continuous Net Reclassification Improvement; CI: confidence interval.

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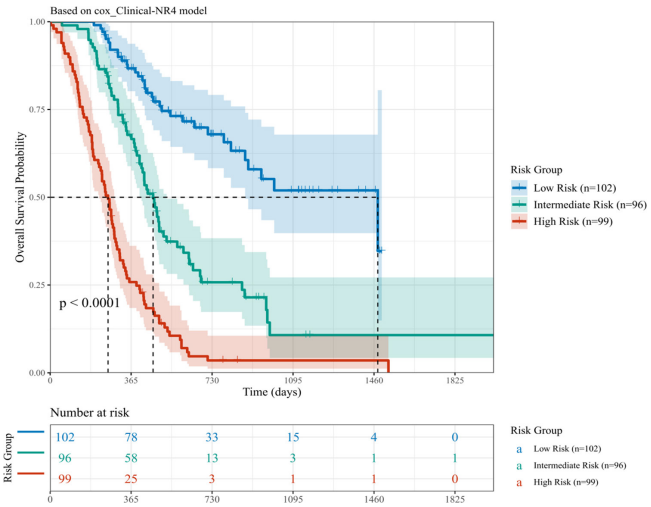

Figure S2 Kaplan-Meier curves by Clinical-NR4 risk tertiles.

Table S5 Sensitivity analyses addressing treatment-related biases

Model	Analysis scenario	C-index (95% CI)	P value (*vs.* Clinical-cN)
Clinical-NR4	Original	0.759 (0.724–0.793)	0.009
	Restricted cycles (≥2)	0.751 (0.713–0.789)	0.015
	Landmark (6 months)	0.725 (0.683–0.767)	0.015
	Categorized cycles	0.747 (0.712–0.783)	0.002
Clinical-cN	Original	0.726 (0.690–0.762)	–
	Restricted cycles (≥2)	0.718 (0.678–0.758)	–
	Landmark (6 months)	0.684 (0.639–0.729)	–
	Categorized cycles	0.703 (0.666–0.741)	–
Clinical-NR3	Original	0.748 (0.712–0.784)	0.059
	Restricted cycles (≥2)	0.742 (0.702–0.782)	0.072
	Landmark (6 months)	0.702 (0.657–0.747)	0.278
	Categorized cycles	0.735 (0.698–0.772)	0.016

C-index, Harrell's concordance index; CI, confidence interval.

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