

Supplementary Table 4. Univariable and multivariable analysis of associations between clinicopathologic features using individual US features and cervical LN metastasis

	High-volume central LN metastasis						Lateral LN metastasis					
	Univariable analysis		Preoperative multivariable analysis ^{a)}		Postoperative multivariable analysis ^{b)}		Univariable analysis		Preoperative multivariable analysis ^{a)}		Postoperative multivariable analysis ^{b)}	
	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Age (year)	–	–	0.947 (0.924–0.971)	<0.001	0.937 (0.912–0.963)	<0.001	–	–	0.988 (0.970–1.005)	0.172	0.982 (0.964–1.001)	0.064
Sex	–	–	0.378 (0.205–0.695)	0.002	0.343 (0.181–0.650)	0.001	–	–	0.664 (0.385–1.144)	0.140	0.617 (0.352–1.079)	0.090
Size on US (mm)	–	–	1.049 (0.943–1.168)	0.379	1.045 (0.933–1.169)	0.449	–	–	1.095 (1.006–1.191)	0.036	1.102 (1.010–1.203)	0.029
US features												
Composition												
Predominantly cystic	1		1		1		1		1		1	
Predominantly solid	0.515 (0.050–5.271)	0.576	0.303 (0.028–3.320)	0.328	0.365 (0.031–4.256)	0.421	1.079 (0.166–6.999)	0.936	0.925 (0.129–6.623)	0.938	1.001 (0.133–7.536)	0.999
Solid	0.982 (0.292–3.296)	0.976	0.591 (0.159–2.194)	0.432	0.572 (0.145–2.256)	0.425	1.737 (0.523–5.762)	0.367	1.212 (0.341–4.306)	0.766	1.197 (0.334–4.285)	0.783
Echogenicity												
Hyperechoic or isoechoic	1		1		1		1		1		1	
Hypoechoic	1.867 (0.655–5.325)	0.243	1.695 (0.547–5.257)	0.361	1.729 (0.514–5.812)	0.376	1.225 (0.587–2.554)	0.589	0.874 (0.387–1.973)	0.746	0.742 (0.317–1.736)	0.491
Markedly hypoechoic	1.776 (0.547–5.764)	0.339	1.268 (0.350–4.601)	0.718	1.142 (0.288–4.530)	0.851	1.623 (0.709–3.711)	0.252	0.875 (0.347–2.210)	0.778	0.690 (0.261–1.825)	0.455
Margin												
Circumscribed	1		1		1		1		1		1	
Not circumscribed	2.021 (0.852–4.795)	0.110	1.307 (0.505–3.378)	0.581	1.075 (0.403–2.866)	0.886	3.109 (1.408–6.863)	0.005	1.952 (0.838–4.546)	0.121	1.795 (0.758–4.251)	0.184
Calcification												
None	1		1		1		1		1		1	
Macro- or eggshell calcifications	1.651 (0.913–2.983)	0.097	1.260 (0.669–2.374)	0.473	1.345 (0.702–2.578)	0.372	3.810 (2.114–6.866)	<0.001	3.086 (1.682–5.659)	<0.001	3.199 (1.731–5.914)	<0.001
Micro- or mixed calcifications	0.844 (0.358–1.990)	0.699	0.902 (0.372–2.190)	0.820	1.065 (0.428–2.645)	0.893	3.473 (1.760–6.852)	<0.001	3.659 (1.826–7.332)	<0.001	4.169 (2.047–8.493)	<0.001
Shape												
Parallel	1		1		1		1		1		1	
Taller-than-wide	2.692 (1.509–4.801)	0.001	2.943 (1.569–5.520)	0.001	2.799 (1.463–5.354)	0.002	2.668 (1.688–4.216)	<0.001	2.607 (1.605–4.235)	<0.001	2.603 (1.588–4.265)	<0.001
Pathologic features												
Extrathyroidal extension												
No					1						1	
Yes	–	–	–	–	2.532 (1.197–5.355)	0.015	–	–	–	–	1.551 (0.912–2.637)	0.105
Multifocality												
No					1						1	
Yes	–	–	–	–	2.493 (1.048–5.929)	0.039	–	–	–	–	2.575 (1.328–4.991)	0.005
Bilaterality												
No					1						1	
Yes	–	–	–	–	1.436 (0.607–3.399)	0.410	–	–	–	–	0.876 (0.447–1.717)	0.700

US, ultrasound; LN, lymph node; OR, odds ratio; CI, confidence interval.

^{a)}Preoperative multivariable analyses were adjusted for age, sex, and size on US. ^{b)}Postoperative multivariable analyses were adjusted for age, sex, size on US, and pathologic features including extrathyroidal extension, multifocality, and bilaterality.