

## 1 Supplementary Table 1: Multivariable logistic regression

Variable	Only cases with lymph node dissection (N=748)		Only lymphovascular space invasion positive cases (N=124)	
	HR (95% CI)	P value	HR (95% CI)	P value
<b>Age</b>				
< 50	Referent		Referent	
50-69	1.60 (0.85-3.02)	0.14	1.71 (0.21-13.84)	0.62
≥70	5.06 (2.64-9.67)	<0.001	2.24 (0.22-22.90)	0.50
<b>Adjuvant treatment</b>				
No adjuvant treatment	Referent		Referent	
Chemotherapy only	0.46 (0.26-0.81)	0.01	0.56 (0.16-2.05)	0.38
Radiation only	0.77 (0.49-1.21)	0.25	1.42 (0.45-4.52)	0.55
Chemoradiation	1.35 (0.63-2.89)	0.45	0.27 (0.49-1.48)	0.13
<b>Lymphovascular space invasion</b>				
-	Referent		--	
+	2.64 (1.36-5.14)	0.004	--	
Unknown	0.96 (0.29-3.26)	0.95	--	
<b>Tumor size</b>				
< 2cm	Referent		--	
≥2 cm	2.17 (0.68-6.94)	0.19	--	
Unknown	1.49 (0.45-4.95)	0.52	--	
<b>Lymph node dissection</b>				
No			Referent	
Yes			0.75 (0.30-1.85)	0.53
<b>Comorbidity score</b>				
0	Referent		Referent	
1	0.96 (0.60-1.54)	0.86	0.78 (0.27-2.25)*	0.65
≥2	1.07 (0.39-2.93)	0.90	0.78 (0.27-2.25)*	
<b>Facility</b>				
Non-academic	Referent		Referent	
Academic	1.10 (0.75-1.59)	0.63	0.43 (0.14-1.36)	0.15
<b>Year of diagnosis</b>				
2004-2009	Referent		--	
2010-2016	0.77 (0.24-2.48)	0.66	--	

2 \* Comorbidity score of 1 and ≥2 was combined for the “lymphovascular space invasion  
3 positive only cases” model due to low sample size.

4