

Supplementary Table 1. Cox regression analysis for overall cohort

	Overall Cohort							
	Cox Univariate Analysis				Cox Multivariate Analysis			
	HR	95% CI		p-value	HR	95% CI		p-value
Age at Diagnosis								
Per year increase	1.01	1.01	1.02	0.000	1.02	1.01	1.02	0.000
Gender								
Male	1.00	Reference			1.00	Reference		
Female	0.86	0.78	0.95	0.002	0.88	0.77	0.99	0.034
Charlson Comorbidity Score								
0	1.00	Reference			1.00	Reference		
1	1.14	1.06	1.24	0.001	1.12	1.02	1.24	0.017
≥ 2	1.29	1.11	1.49	0.001	1.35	1.13	1.61	0.001
Grade								
Well-Differentiated	1.00	Reference			1.00	Reference		
Moderately-Differentiated	1.33	1.12	1.59	0.002	1.40	1.14	1.74	0.002
Poorly-Differentiated	1.58	1.32	1.88	0.000	1.61	1.30	1.98	0.000
Undifferentiated	1.61	1.18	2.19	0.002	1.73	1.19	2.53	0.004
Histology								
Adenocarcinoma	1.00	Reference			1.00	Reference		
SCC	0.92	0.84	1.00	0.059	1.10	0.97	1.24	0.155
LVSI								
Negative	1.00	Reference			1.00	Reference		
Positive	1.84	1.61	2.09	0.000	1.23	1.05	1.43	0.009
Unknown	1.05	0.97	1.13	0.226	1.10	1.00	1.21	0.046
Margin Status								
Negative Margins	1.00	Reference			1.00	Reference		
Positive Margins	2.22	1.90	2.60	0.000	1.63	1.36	1.96	0.000
Pathologic T-Stage								
T0	1.00	Reference			1.00	Reference		
T1	1.08	0.95	1.23	0.244	0.99	0.86	1.15	0.919
T2	1.31	1.16	1.49	0.000	1.12	0.97	1.29	0.116
T3	1.87	1.68	2.08	0.000	1.40	1.24	1.59	0.000
T4	2.76	2.05	3.72	0.000	1.43	0.99	2.06	0.057
Pathologic N-Stage								
ypN0	1.00	Reference			1.00	Reference		
N1	1.68	1.55	1.81	0.000	1.49	1.36	1.64	0.000
N2	2.00	1.74	2.30	0.000	1.76	1.50	2.07	0.000
N3	2.87	2.32	3.56	0.000	2.44	1.91	3.11	0.000
Chemotherapy Regimen								
Neoadjuvant	1.00	Reference			1.00	Reference		
Neoadjuvant + Adjuvant	0.95	0.84	1.07	0.383	0.77	0.66	0.89	0.000
Radiation Dose								
Per 1 cGy increase	1.00	1.00	1.00	0.823				

CI, confidence interval; SCC, squamous cell carcinoma; LVSI, lymphovascular space invasion; cGy, centigray.