

**Supplementary Table 4.** Cox regression analysis for the cNO subgroups

	cNO/pN+								cNO/pNO							
	Cox Univariate Analysis				Cox Multivariate Analysis				Cox Univariate Analysis				Cox Multivariate Analysis			
	HR	95% CI		p-value	HR	95% CI		p-value	HR	95% CI		p-value	HR	95% CI		p-value
Age at Diagnosis, years																
Per 1-year increase	1.01	1.00	1.02	0.189	1.01	1.00	1.03	0.111	1.03	1.02	1.04	0.000	1.03	1.02	1.04	0.000
Gender																
Male	1.00	Reference							1.00	Reference			1.00	Reference		
Female	1.24	0.92	1.67	0.150					0.81	0.65	1.01	0.056	0.76	0.59	0.99	0.044
Charlson Comorbidity Score																
0	1.00	Reference							1.00	Reference						
1	1.16	0.89	1.50	0.275					1.36	1.13	1.63	0.001	1.31	1.07	1.62	0.011
≥ 2	1.38	0.88	2.15	0.161					1.36	0.98	1.88	0.068	1.56	1.09	2.23	0.016
Grade																
Well-Differentiated	1.00	Reference			1.00	Reference			1.00	Reference			1.00	Reference		
Moderately-Differentiated	1.37	0.76	2.48	0.298	1.38	0.74	2.58	0.318	1.78	1.18	2.69	0.006	1.78	1.17	2.72	0.008
Poorly-Differentiated	1.54	0.85	2.77	0.153	1.47	0.79	2.74	0.228	1.98	1.31	2.98	0.001	1.95	1.28	2.98	0.002
Undifferentiated	1.93	0.79	4.73	0.150	1.95	0.78	4.88	0.152	1.85	0.91	3.77	0.088	1.56	0.70	3.52	0.278
Histology																
Adenocarcinoma	1.00	Reference							1.00	Reference			1.00	Reference		
SCC	1.02	0.71	1.45	0.933					1.14	0.93	1.40	0.218	1.24	0.96	1.60	0.095
LVSI																
Negative	1.00	Reference			1.00	Reference			1.00	Reference						
Positive	2.17	1.54	3.07	0.000	1.99	1.34	2.95	0.001	1.04	0.67	1.63	0.850				
Unknown	1.39	1.05	1.83	0.022	1.60	1.15	2.21	0.005	1.01	0.85	1.19	0.945				
Margin Status																
Negative Margins	1.00	Reference			1.00	Reference			1.00	Reference			1.00	Reference		
Positive Margins	2.07	1.45	2.94	0.000	2.07	1.41	3.06	0.000	1.91	1.21	3.02	0.005	1.79	1.07	2.99	0.027
Pathologic T-Stage																
ypT0	1.00	Reference							1.00	Reference			1.00	Reference		
ypT1	1.05	0.60	1.84	0.873					0.99	0.77	1.26	0.917	0.97	0.74	1.28	0.839
ypT2	0.82	0.47	1.42	0.479					1.26	0.99	1.61	0.065	1.09	0.82	1.44	0.557

ypT3	1.18	0.73	1.91	0.504		1.44	1.15	1.80	0.002	1.31	1.01	1.69	0.040			
ypT4	2.02	0.88	4.66	0.099		1.97	0.87	4.49	0.105	1.24	0.45	3.43	0.673			
Pathologic N-Stage																
ypN1	1.00	Reference			1.00	Reference										
ypN2	1.42	1.05	1.92	0.022	1.53	1.06	2.20	0.023								
ypN3	1.52	0.87	2.65	0.144	2.04	1.11	3.74	0.022								
Chemotherapy Regimen																
Neoadjuvant	1.00	Reference			1.00	Reference			1.00	Reference						
Neoadjuvant + Adjuvant	0.76	0.56	1.03	0.078	0.76	0.54	1.06	0.105	0.76	0.47	1.22	0.255	0.73	0.41	1.30	0.280
Radiation Dose, Gy																
Per 0.01-Gy increase	1.00	1.00	1.00	0.356					1.00	1.00	1.00	0.009				

HR, hazard ratio; CI, confidence interval; SCC, squamous cell carcinoma; LVSI, lymphovascular space invasion; Gy, gray.