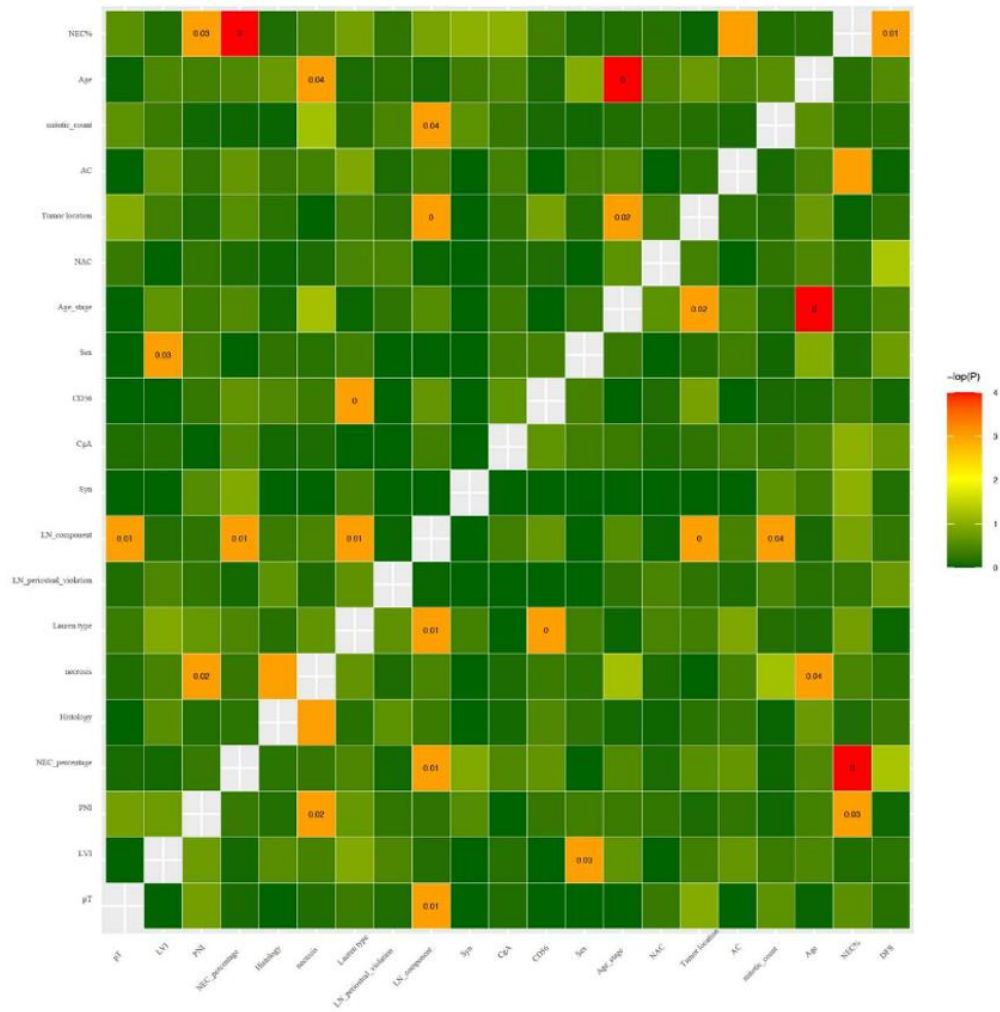
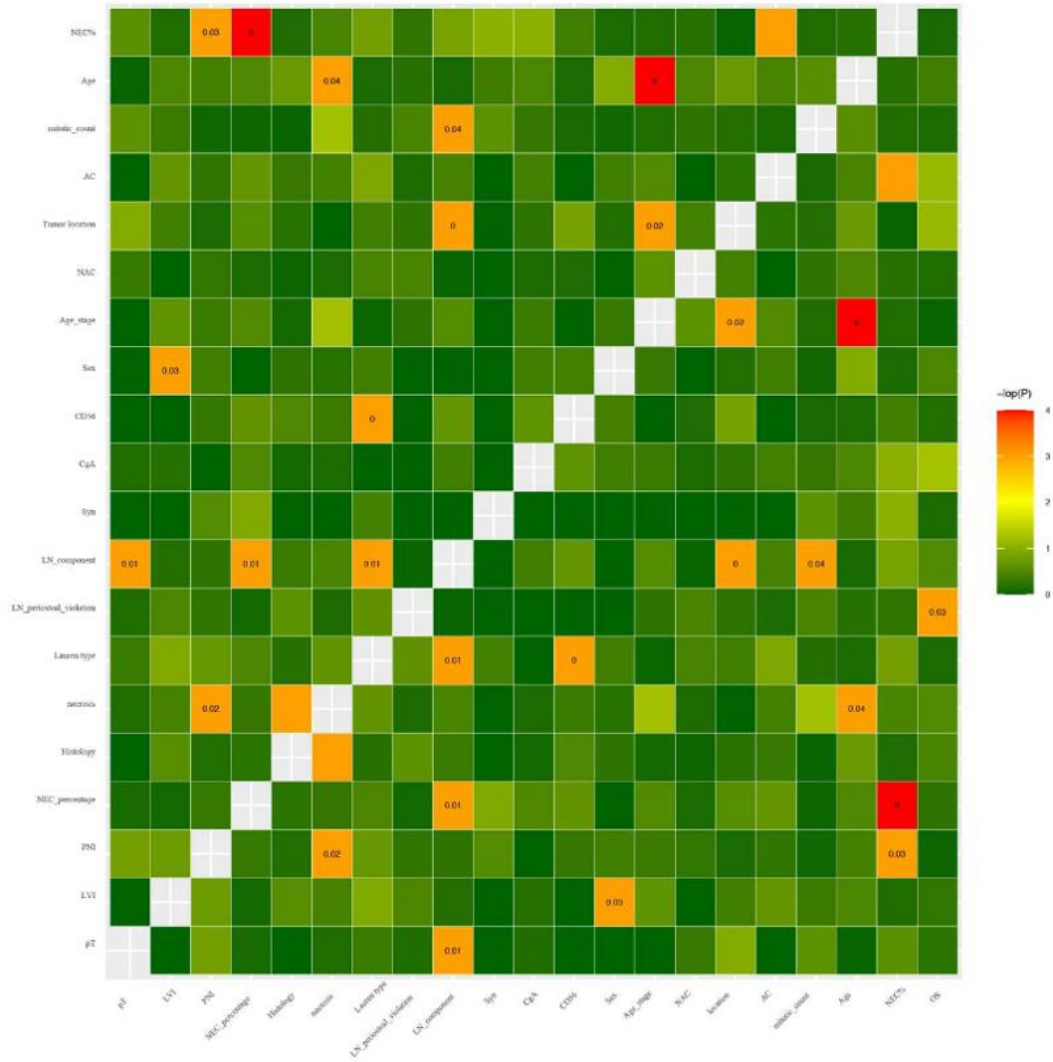


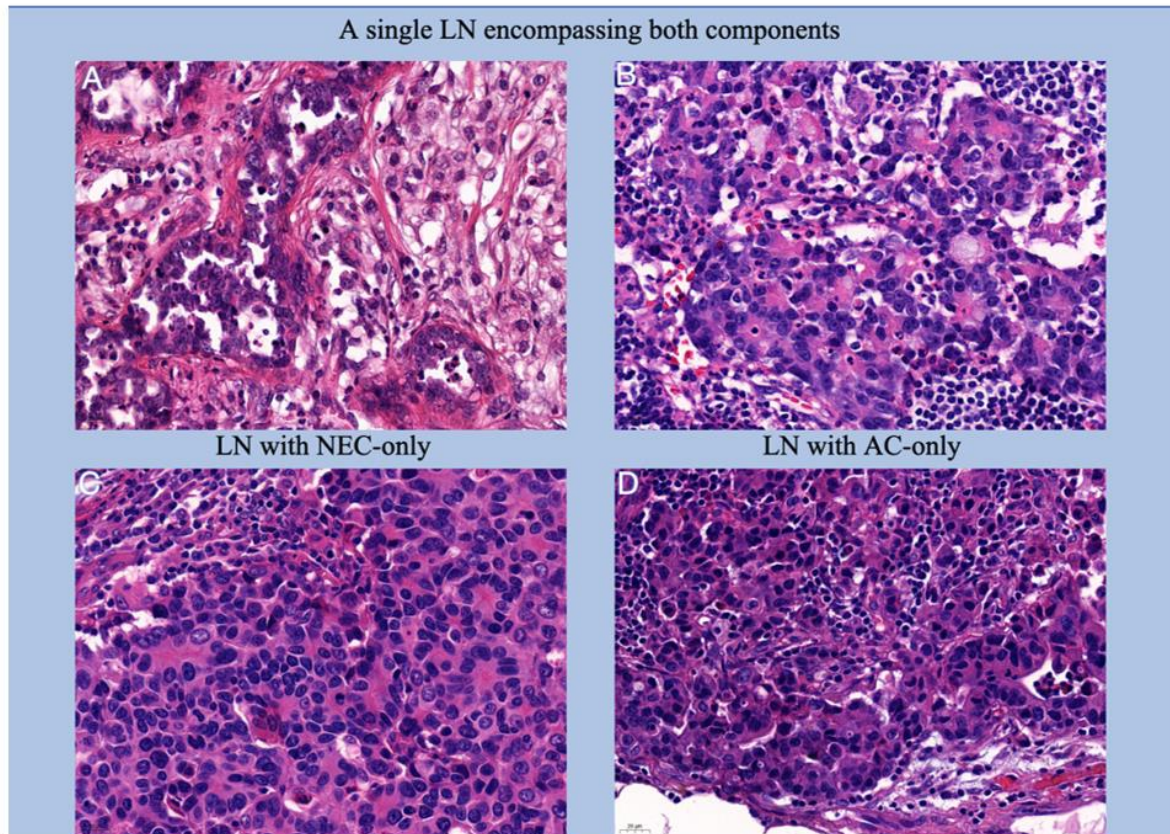
**Supplementary Figure 1 Flow-chart of enrolled patients.** NEC: Neuroendocrine carcinoma; AC: Adenocarcinoma; LN: Lymph node; G-MANEC: Gastric mixed-adenoneuroendocrine carcinoma.



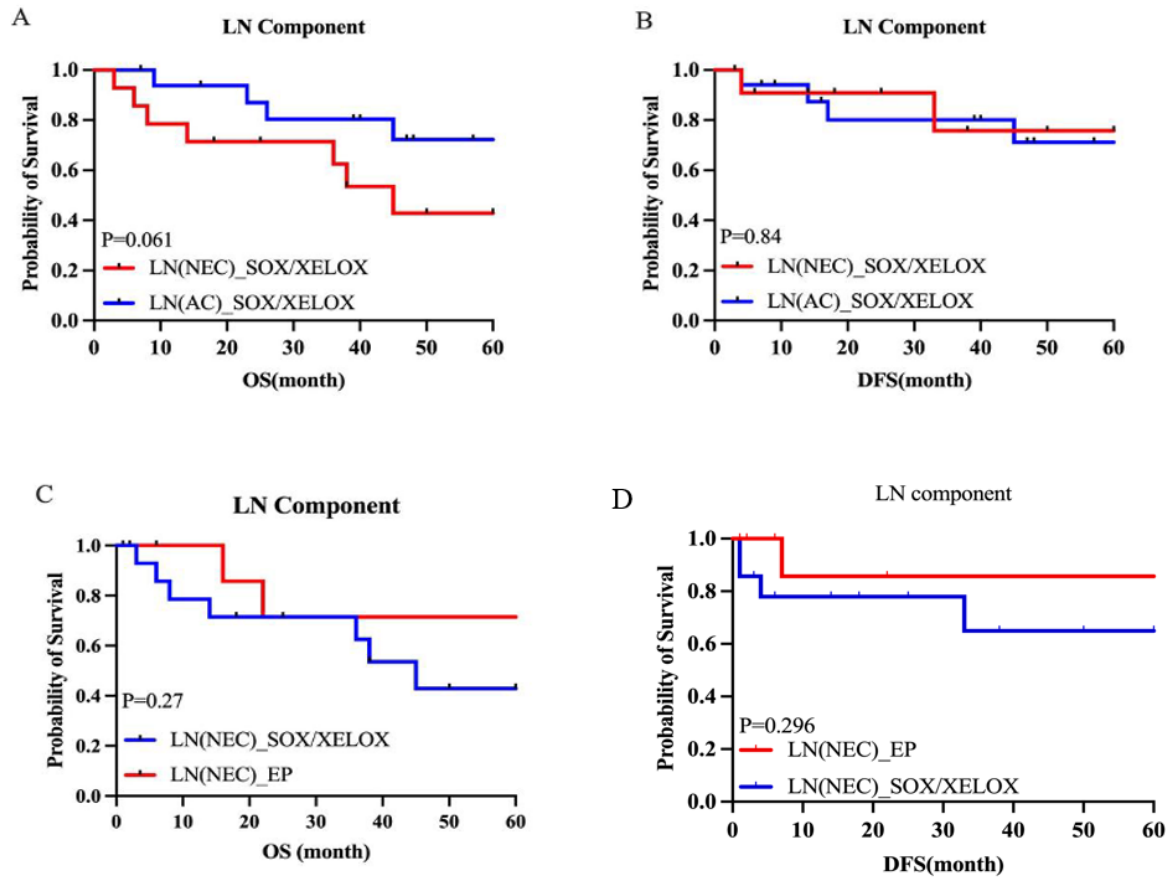
**Supplementary Figure 2 correlation heatmap show clinical pathological features and disease-free survival.** NEC% as a categorical variable (1%-29%, 30%-70%, 71%-99%); Age: Continuous variable; Age stage: Categorical variable ( $\leq 45$  years, 45-70years,  $\geq 70$ years); NAC: Neoadjuvant chemotherapy; AC: Adjuvant chemotherapy.



**Supplementary Figure 3** correlation heatmap show clinical pathological features and overall survival. NEC% as a categorical variable (1%-29%, 30%-70%, 71%-99%); Age: Continuous variable; Age stage: Categorical variable ( $\leq 45$  years, 45-70years,  $\geq 70$ years); NAC: Neoadjuvant chemotherapy; AC: Adjuvant chemotherapy.



**Supplementary Figure 4 High-resolution (40x) microscopic revealing lymph node metastasis in mixed adenoneuroendocrine gastric cancer.** A and B: Pathologic graphs for the components of lymph node metastasis (single lymph node encompassing both components); C: Pathologic graphs for the components of lymph node metastasis (lymph node with neuroendocrine carcinoma); D: Pathologic graphs for the components of lymph node metastasis (lymph node with adenocarcinoma); Scale bar, 20  $\mu$ m. NEC: Neuroendocrine carcinoma; AC: Adenocarcinoma; LN: Lymph node.



Supplementary Figure 5 Survival analysis of EP *vs* SOX/XELOX regimens for different lymph node metastatic components.

**Supplementary Table 1 Clinicopathological characteristics of patients with lymph node metastases composed of neuroendocrine carcinoma in G-ANEC, receiving adjuvant chemotherapy regimens of EP and either SOX/XELOX**

Parameters	EP	SOX/XELOX	<i>P</i> values
pT stage			0.803
pT1-2 stage	1	1	
pT3-4 stage	9	13	
LVI			0.118
-	0	3	
+	10	11	
PNI			0.521
-	3	6	
+	7	8	
NEC percentage (%)			0.014
1-29	1	1	
30-70	2	11	
71-99	7	2	
Histology			0.48
Small cell	4	6	
Large cell	5	8	
Both	1	0	

Necrosis			0.349
No	5	4	
Yes	5	9	
Lauren type			0.734
Intestinal type	7	8	
Diffuse type	1	3	
Mixed type	2	3	
LN periosteal violation			0.673
No	3	5	
Yes	7	8	
Age (year)			0.459
45-69	9	11	
≥ 70	1	3	
With NAC			0.932
No	8	11	
Yes	2	3	
Location			0.324
EGJ	6	11	
Non-EGJ	4	3	
With AC			0.388

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No	0	0
Yes	10	14

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NEC: Neuroendocrine carcinoma; AC: Adenocarcinoma; pT: Postoperative pathological tumour; LVI: Lymphatic invasion; PNI: Perineural invasion; LN: Lymph node; Syn: Synaptophysin; CgA: Chromogranin A; CD56: Cluster of differentiation 56; NAC: Neoadjuvant chemotherapy; EGJ: Esophagogastric junction.