

## Relationship between Preoperative Clinicopathologic Characteristics and Lymph Node Metastasis in Early Gastric Cancer

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### ABSTRACT

**Objective:** To investigate the features of the preoperative clinicopathologic characteristics in correlation with lymph node metastasis. **Methods:** The preoperative clinicopathologic characteristics and lymph node metastasis of 265 patients with early gastric carcinoma were analyzed retrospectively. **Results:** The three clinicopathologic characteristics, maximum cancer diameter >2cm under endoscope, poor differentiation and excavated type were significant high risk independent preoperative clinicopathologic characteristics ( $P<0.05$ ). The patients who had none of the three preoperative clinicopathologic characteristics had no lymph node metastasis, while 27.27% of the patients who had all the three preoperative clinicopathologic characteristics had N<sub>2</sub> lymph node metastasis. **Conclusion:** The three preoperative clinicopathologic characteristics, maximum cancer diameter under endoscope, cell differentiation and gross type were very useful to evaluate the extent of lymph node metastasis.

**Key words:** Stomach neoplasms; Clinicopathologic characteristics; Lymph node metastasis

The post-operative pathologic data were very important to the post-operation treatment and prognosis for early gastric cancer(EGC). Studying the regularity between lymph node metastasis and clinicopathologic characteristics acquired from pre-operation or intraoperation can guide the operations for EGC straightly. Our study investigated the regularity between the clinicopathologic characteristics acquired from pre-operation or intraoperation and lymph node metastasis in order to provide evidence for less invasive operation.

### MATERIALS AND METHODS

#### Patients Information

Two hundred and sixty five cases with EGC

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treated in the Department of Oncologic Surgery at First Affiliated Hospital of China Medical University from 1980 to 2005 were selected. All of the cases had accepted gastroscopy before operation and histopathology inspection to the lymph node after operation. There were 188 male and 77 female with M-F ratio 2.44:1. The mean age was 57±9 years (19-80 years).

#### Surgical Treatment

Distal gastrectomy was conducted for 239 cases, proximate gastrectomy for 9 cases, total gastrectomy for 17cases. D1 lymphadenectomy was performed for 15 cases, D1+(D1+No7) lymphadenectomy for 46 cases and D2 lymphadenectomy for 204 cases.

#### Reference Standard

The tumor location and lymph node metastasis were all referred to Japanese Classification of Gastric Carcinoma<sup>[1]</sup>. Stomach is divided into three portions: upper third stomach(U), middle third stomach(M) and low third stomach(L). “No.” means the lymph node station and “N” means the lymph node group.

## Statistics Analysis

The data were analyzed by spss 14.0 statistics software. Single factor analysis was determined by  $\chi^2$  test. Multi-factor analysis was performed using logistic regression analysis.

## RESULTS

### Independent High Risk Clinicopathologic Characters

### Acquired from Pre-operation or Intraoperation

According to the single factor analysis, we discovered that maximum cancer diameter >2cm, poor differentiation and excavated type were high risk factors to the lymph node metastasis of EGC ( $P<0.05$ ) (Table 1). By multi-factor analysis, it was discovered that all the three clinicopathologic characters were independent high risk clinicopathologic factors which could be acquired from pre-operation or intraoperation ( $P<0.05$ )(Table 2).

Table 1. The relationship between clinicopathologic characters and lymph node metastasis of 265 patients with EGC(cases)

Item	n	Lymph node metastasis		$\chi^2$	P
		(+)	%		
Sex				0.569	>0.05
Male	188	25	13.30		
Female	77	13	16.88		
Age				2.767	>0.05
≤60	163	28	17.18		
≥60	102	10	9.80		
FMH				0.002	>0.05
With	55	8	14.55		
Without	210	30	14.29		
PX				1.421	>0.05
With	107	12	11.21		
Without	158	26	16.46		
Tumor focus number				0.012	>0.05
Single	252	36	14.29		
Multitude	13	2	15.38		
Location				1.797	>0.05
U	11	2	18.18		
M	87	16	18.39		
L	167	20	11.98		
Maximum cancer diameter				8.881	<0.05
≤1 cm	24	0	0		
1~2 cm	20	1	5.00		
2~3 cm	96	12	12.50		
>3 cm	125	25	20.00		
Gross type				9.530	<0.05
Protruded	24	1	4.17		
Superficial	152	16	10.53		
Excavated	89	21	23.60		
Histology differentiation				7.642	<0.05
Well	86	7	8.14		
Moderately	51	4	7.84		
Poor	128	27	21.09		

Family medical history(FMH): There was history of cancer within three generations; previous history(PX): history of gastric diseases, such as gastritis, gastrelcosis, Gastric polyp.