

THE ROLE OF LYMPH NODE AND LYMPHATIC VESSEL INVASION IN SUBCLASSIFICATION OF PT1 GASTRIC CANCER

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Where I come from!





Introduction Material & Methods Results Conclusion

- Early gastric cancer (EGC) is defined as to be confined to the mucosa or submucosa regardless of lymph node status^{1,2}.
- It has an excellent prognosis with a 5-year survival rate¹.
- Incidence metastasis: EGC

{	T1a (mucosa) – 0 - 5%
	T1b (submucosa) – 10 - 20%

1 - [Kunisaki C, Makino H, Akiyama H, Otsuka Y, Ono HA, Kosaka T, Takagawa R, Nagahori Y, Takahashi M, Kito F, Shimada H.](#) 2008 Clinical significance of the metastatic lymph-node ratio in early gastric cancer. *J Gastrointest Surg.* Mar;12:542-549.

2 - [Fujimoto A, Ishikawa Y, Akishima-Fukasawa Y, Ito K, Akasaka Y, Tamai S, Maehara T, Kiguchi H, Ogata K, Nishimura C, Miki K, Ishii T.](#) 2007 Significance of lymphatic invasion on regional lymph node metastasis in early gastric cancer using LYVE-1 immunohistochemical analysis. *Am J Clin Pathol.* Jan;127:82-88.

4 - [Okabayashi T, Kobayashi M, Nishimori I, Sugimoto T, Namikawa T, Onishi S, Hanazaki K.](#) 2008. Clinicopathological features and medical management of early gastric cancer. *Am J Surg.* Feb:229-322.



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- Lymph node metastasis is one of the most important factors in the prognosis of early EGC^{4,6}.
- Few retrospective studies have reported that lymphatic vessel invasion is also an important prognostic factor^{5,7}.
- Objective study: Clinicopathological / surgical factors - EGC

4 - [Park YD, Chung YJ, Chung HY, Yu W, Bae HI, Jeon SW, Cho CM, Tak WY, Kweon YO](#). Factors related to lymph node metastasis and the feasibility of endoscopic mucosal resection for treating poorly differentiated adenocarcinoma of the stomach. *Endoscopy*. 2008 Jan:7-10.

5 - [Hyung WJ, Cheong JH, Kim J, Chen J, Choi SH, Noh SH](#). 2004. Application of minimally invasive treatment for early gastric cancer. *J Surg Oncol*. Mar: 181-5;

6 - [Yokota T, Kunii Y, Teshima S, Yamada Y, Saito T, Takahashi M, Kikuchi S, Yamauchi H](#). Significant prognostic factors in patients with node-negative gastric cancer. *Int Surg*. 1999 Oct-Dec; 331-336.

7 - [Liu C, Zhang R, Lu Y, Li H, Lu P, Yao F, Jin F, Xu H, Wang S, Chen J](#). 2008. Prognostic role of lymphatic vessel invasion in early gastric cancer: A retrospective study of 188 cases. *Surg Oncol*. *In press*



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- Clinicopathological / prognostic outcomes.
- 1982 and 2007 subclassification of pT category – IUCC 5th⁸
- 227 patients submitted under gastrectomy for EGC.
- SPSS 17.0
- Multivariate - Cox regression model.
- Survival rates - Kaplan-Meir product method.
- $p < 0,05$ was considered statistically significant



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	Surgery	
	n	%
Partial Gastrectomy	157	69,1
Total Gastrectomy	65	28,6
Degastrectomy	5	2,2



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Clinicopathological characteristics of EGC

	Tis/T1a (n=112)	T1b (n=115)	p Value
Age (years)	60,3	62	0,397
Gender			0,497
Male (n=141)	67 (47,5%)	74 (52,5,5%)	
Female (n=66)	45 (52,3%)	41 (47,7%)	
Mean nº of tLN	9 (5-9)	9 (6-15)	0,948
Tumor location			0,117
Upper (n=3)	3 (25%)	9 (75%)	
Middle (n=33)	12 (36,4%)	21 (63,6%)	
Lower (n=156)	82 (52,6%)	74 (47,4%)	
Diameter			0,432
<5cm (n=194)	96 (49,5%)	98 (50,5%)	
6-10cm (n=23)	8 (34,8%)	15 (65,2%)	
LN invasion			<0,001
L0 (n=163)	105 (64,4%)	58 (35,6%)	
L1 (n=64)	7 (10,9%)	57 (89,1%)	
Vessel invasion			<0,001
V0 (n=189)	105 (55,6%)	84 (44,4%)	
V1 (n=23)	1 (4,3%)	22 (95,7%)	
V2 (n=2)	1 (50%)	1 (50%)	
Histological type			0,038
G1+G2 (n=126)	67 (53,2%)	59 (46,8%)	
G3+G4 (n=88)	34 (38,6%)	54 (61,4%)	



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	Tis/T1a	T1b	
	(n=112)	(n=115)	p Value
TNM classification			0,001
T1N0M0 (n=201)	110 (54,7%)	91 (45,3%)	
T1N1M0 (n=23)	2 (8,7%)	21 (91,3%)	
T1N1M1 (n=1)	0	1	
T1N2M0 (n=1)	0	1	
T1N3M1 (n=1)	0	1	

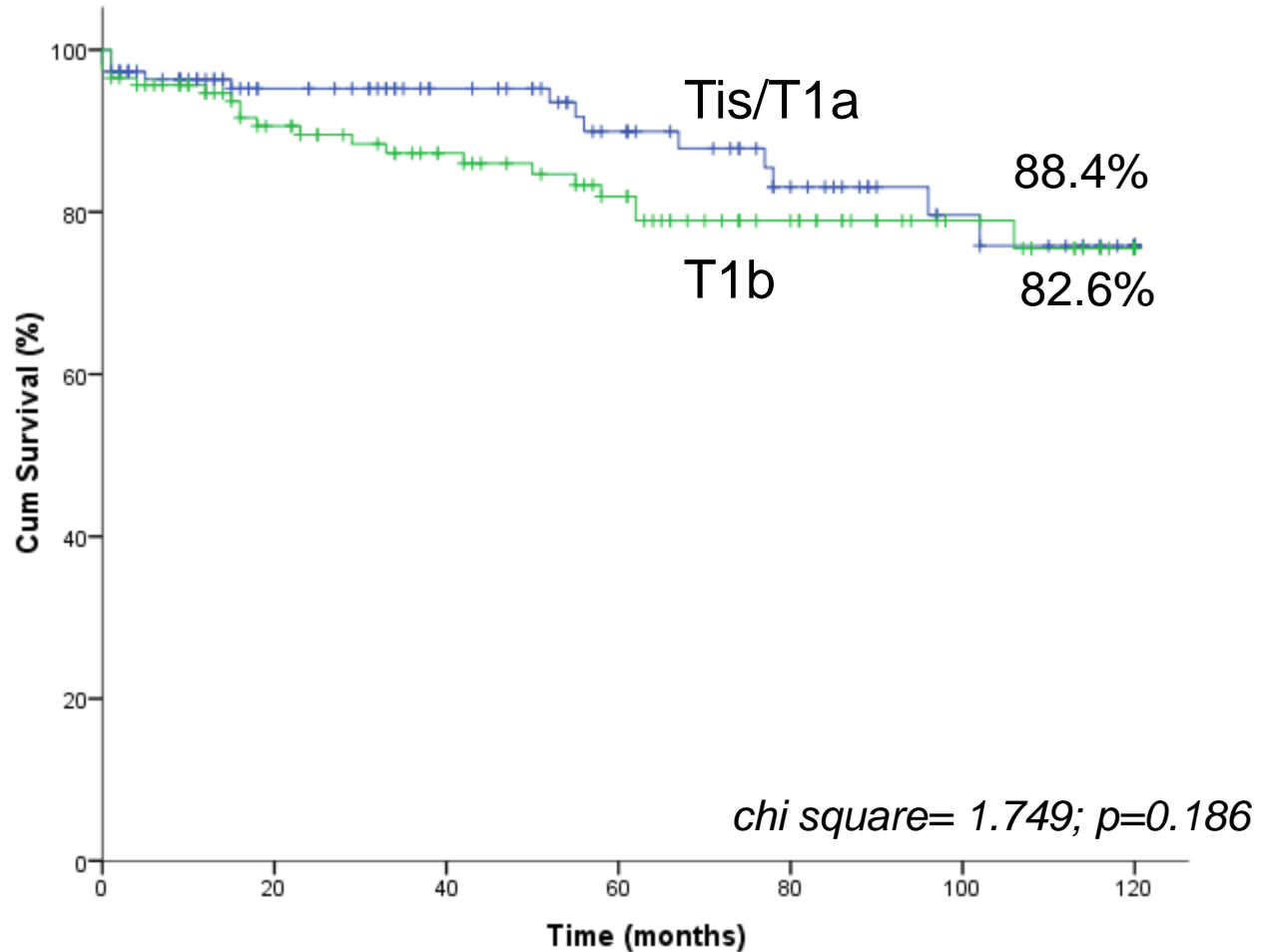


Multivariate analysis

Characteristics	Odds ratio (95% confidence interval)	<i>p</i> value
Gender		
Male/Female	1.169 (0.511–2.235)	0.940
Age	1.813 (1.056–3.522)	0.726
Tumor location	0.245 (0.177–2.165)	0.855
Tumor size (cm)	1.048 (0.874–1.257)	0.523
Histologic grade		
Diff. vs undiff	0.769 (0.540–1.063)	0.169
Infiltrated depth (T)		
(Tis/T1a/T1b)	0.828 (0.511–1.685)	0.906
Lymphatic vessel invasion		
(L0/L1)	1.882 (0.588–5.404)	0.257
pN category	3.191 (1.029–4.879)	0.015



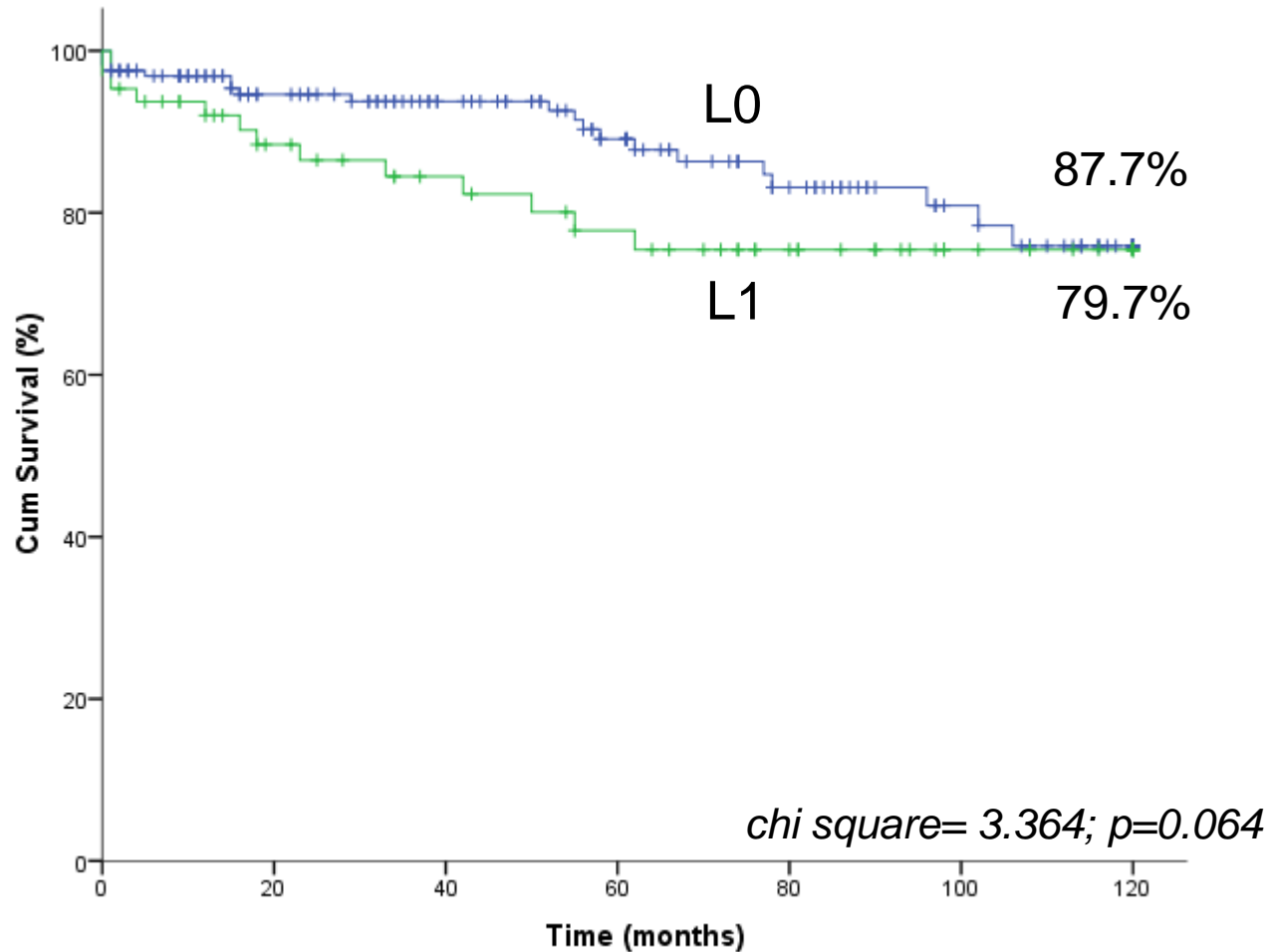
T Survival





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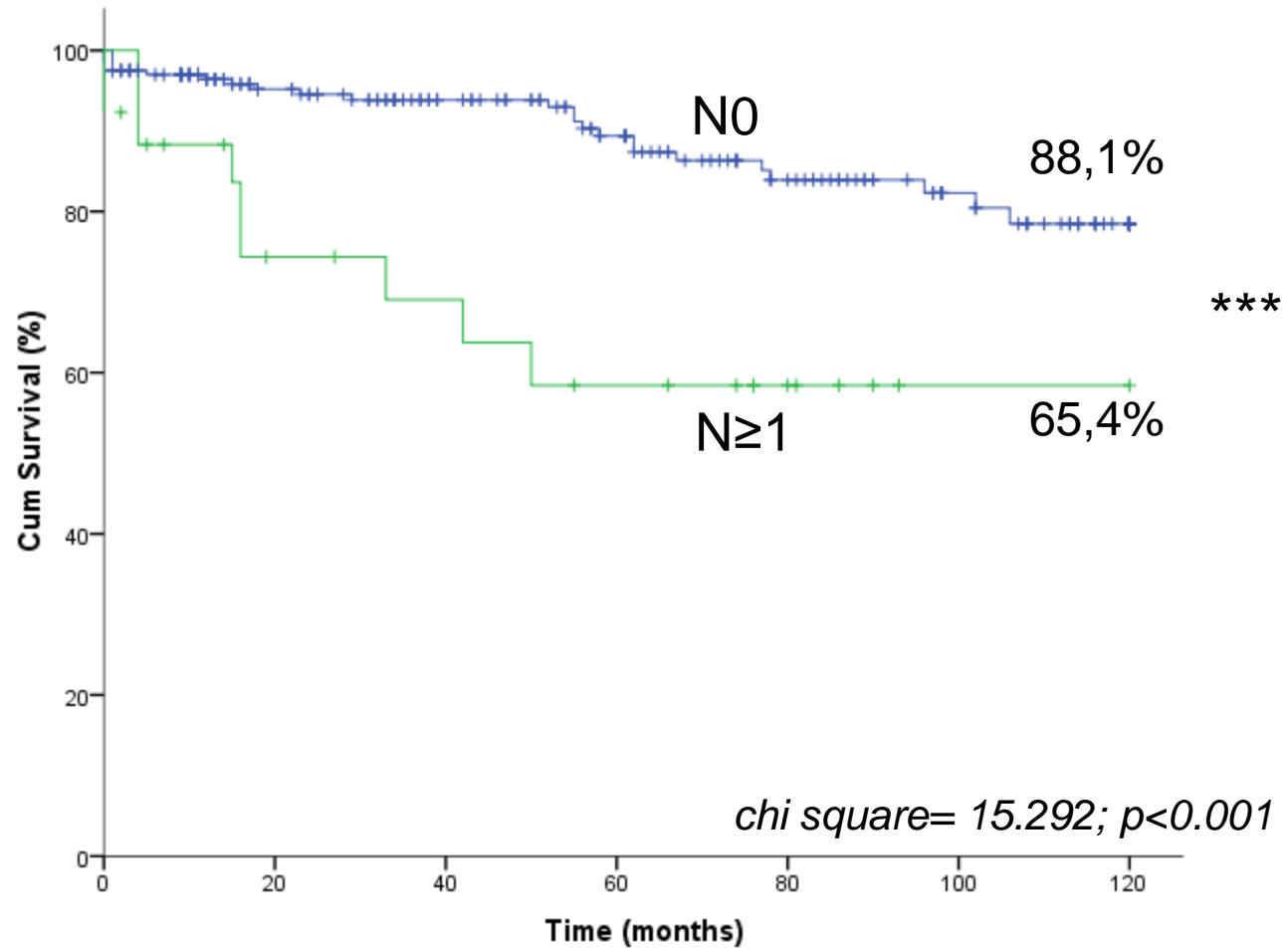
L Vessel Invasion





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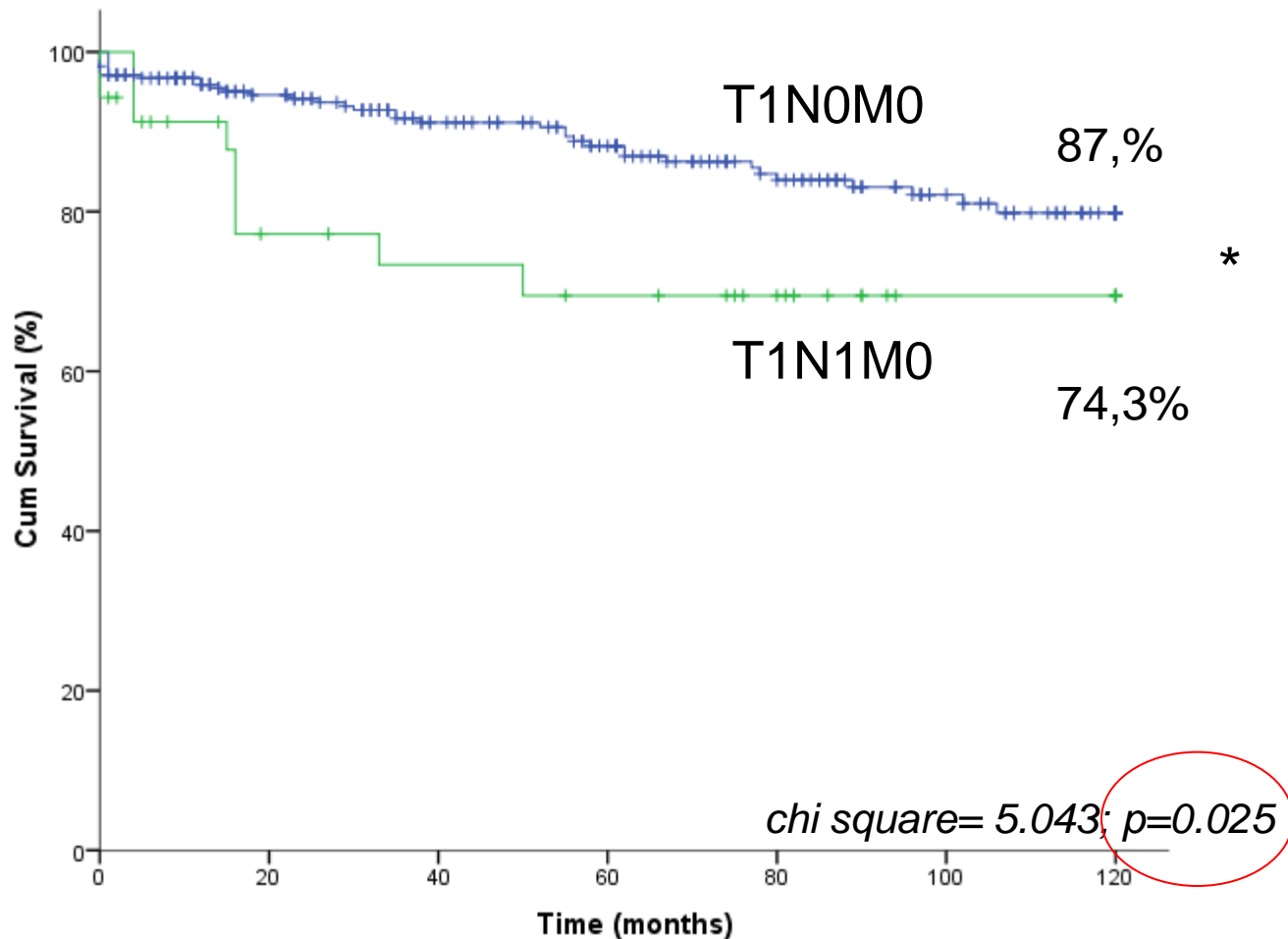
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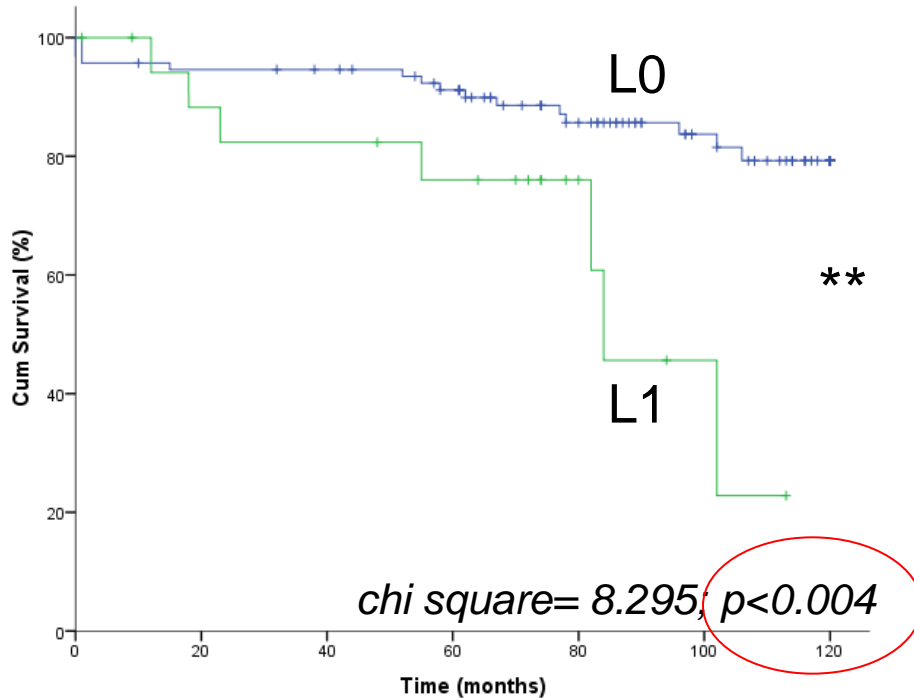




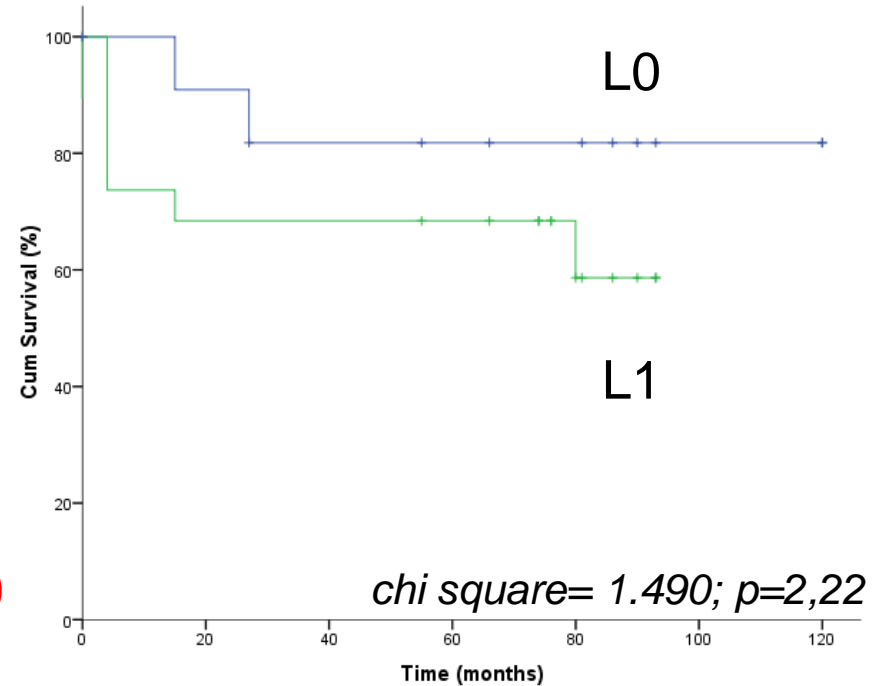
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TNM Survival





T1N0M0



T1N1M0



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- Lymph node (+) was an independent prognostic factor for pTis, pT1a and pT1b gastric cancers.
- Lymphatic vessel invasion seems to influence the survival rate in T1N0M0 but not in T1N1M0

7 - [Liu C, Zhang R, Lu Y, Li H, Lu P, Yao F, Jin F, Xu H, Wang S, Chen J.](#) 2008. Prognostic role of lymphatic vessel invasion in early gastric cancer: A retrospective study of 188 cases. *Surg Oncol.* *In press*