

# 胃癌学会全国登録解析結果報告 —2011年EMR/ESD症例—

## 1. 登録施設 計162施設

### 北海道

独立行政法人国立病院機構・北海道がんセンター 市立函館病院 日鋼記念病院 国家公務員共済組合連合会 斗南病院 北海道大学病院  
KKR札幌医療センター 恵佑会札幌病院 釧路労災病院 溪和会江別病院

### 東北

青森県立中央病院 三沢市立三沢病院 弘前大学大学院医学研究科 岩手医科大学 岩手県立中央病院 大館市立総合病院 秋田赤十字病院 大崎市民病院  
東北大学病院 宮城県立がんセンター 東北労災病院 独立行政法人国立病院機構・仙台医療センター 坂総合病院 石巻赤十字病院 仙台厚生病院  
財団法人三友堂病院 福島県立医科大学 寿泉堂総合病院

### 北陸

済生会新潟第二病院 新潟臨港病院 市立砺波総合病院 石川県立中央病院 金沢大学附属病院 福井県立病院 国立病院機構 敦賀医療センター  
福井赤十字病院

### 関東

前橋赤十字病院 群馬県済生会前橋病院 群馬大学大学院 しらかわ診療所・群馬消化器内視鏡医療センター JCHO群馬中央病院 川口市立医療センター  
社会医療法人財団石心会 埼玉石心会病院 上尾中央総合病院 上福岡総合病院 獨協医科大学埼玉医療センター 栃木県立がんセンター 獨協医科大学病院  
国立病院機構 宇都宮病院 独立行政法人国立病院機構・霞ヶ浦医療センター 友愛記念病院 北茨城市民病院 独立行政法人国立病院機構・千葉医療センター  
千葉大学医学部附属病院 国立がん研究センター東病院 柏厚生総合病院 千葉徳州会病院 医療法人社団 誠馨会 千葉メディカルセンター  
日本医科大学武蔵小杉病院 北里大学 横浜市立大学附属市民総合医療センター 横浜市立市民病院がんセンター  
独立行政法人国立病院機構 横浜医療センター 菊名記念病院 日本大学病院 三井記念病院 国立がん研究センター中央病院 東京慈恵会医科大学 日本医科大学  
東京大学医学部附属病院 がん・感染症センター 都立駒込病院 東京女子医科大学東医療センター 東京都立墨東病院 がん研有明病院 東京医科大学病院  
慶應義塾大学病院 国立国際医療研究センター 日本大学医学部附属板橋病院 杏林大学医学部附属病院 公立昭和病院 医療法人財団順和会 山王病院

## 甲信

社会医療法人財団慈泉会 相澤病院 長野市民病院 J A 長野厚生連佐久総合病院・佐久医療センター 飯田市立病院 篠ノ井総合病院

## 東海

沼津市立病院 聖隷浜松病院 浜松医科大学 静岡県立総合病院 愛知県がんセンター中央病院 愛知医科大学病院 四日市市立四日市病院

## 近畿

滋賀医科大学 滋賀県立総合病院 市立長浜病院 田附興風会医学研究所北野病院 大阪市立総合医療センター 大阪府済生会野江病院 大阪国際がんセンター 箕面市立病院 市立吹田市民病院 松下記念病院 市立ひらかた病院 大阪中央病院 市立貝塚病院 NTT西日本大阪病院 高槻赤十字病院 京都府立医科大学附属病院 京都大学医学部附属病院 天理よろづ相談所病院 社会福祉法人恩賜財団 済生会中和病院 和歌山県立医科大学 兵庫医科大学病院 市立伊丹病院 社会医療法人財団聖フランシスコ会・姫路聖マリア病院 兵庫県立がんセンター 加古川中央市民病院 神戸大学医学部附属病院 赤穂市民病院 一般財団法人甲南会 甲南病院

## 中国

鳥取大学医学部附属病院 島根県立中央病院 松江市立病院 岡山大学病院 津山中央病院 水島協同病院 薬師寺慈恵病院 岡山労災病院 チクバ外科・胃腸科・肛門科病院 川崎医科大学 国立病院機構・福山医療センター 広島大学病院 広島記念病院 広島市立広島市民病院 一般財団法人防府消化器病センター防府胃腸病院 川崎医科大学附属総合医療センター

## 四国

三豊総合病院 四国がんセンター 徳島赤十字病院 高知赤十字病院

## 九州

国立病院機構九州がんセンター 福岡大学筑紫病院 社会医療法人財団池友会福岡和白病院 福岡山王病院 社会医療法人社団至誠会 木村病院 佐賀大学医学部附属病院 長崎大学病院 佐世保市総合医療センター 熊本地域医療センター 熊本大学 独立行政法人地域医療機能推進機構・人吉医療センター 大分県厚生連 鶴見病院 天心堂へつぎ病院 大分医療センター 大分大学 古賀総合病院 鹿児島大学病院 鹿児島共済会南風病院 公益社団法人出水郡医師会 広域医療センター

## 沖縄

琉球大学医学部附属病院 社会医療法人敬愛会中頭病院

2. 症例数 8,681 例

### 3. 対象症例

登録対象は 2011 年 1 月から 12 月末までの胃がん EMR/ESD 症例

### 4. 解析方法

5 年生存率は、Kaplan-Meier 法により推定した。解析ソフトウェアは SPSS Ver. 20.0 を用いた。

### 5. 表中の略語の説明

direct death	: direct death within 30 postoperative days
primary disease	: cause of death primary disease
local rec.	: local recurrence
lymph node.	: lymph node recurrence
peritoneal	: peritoneal recurrence
liver rec.	: liver recurrence
R	: recurrence of unknown site
unknown	: cause of death unknown

All Patients		
Age	mean±SD	71.3 ±9.133
	-39	26 (0.3%)
	40-59	834 (9.6%)
	60-79	6,160 (71.0%)
	80-	1,661 (19.1%)
Sex	Male	6,529 (75.2%)
	Female	2,151 (24.8%)
	Unknown	1 (0.0%)
Prior endoscopic treatment	-	8,449 (97.3%)
	+	222 (2.6%)
	Unknown	10 (0.1%)
Stomach condition	Normal stomach	8,322 (95.9%)
	Remnant stomach	295 (3.4%)
	Gastric tube	62 (0.7%)
	Unknown	2 (0.0%)
Tumor location	U	1,408 (16.2%)
	M	3,375 (38.9%)
	L	3,877 (44.7%)
	Unknown	11 (0.1%)
	Data unavailable	10 (0.1%)
Cross-sectional parts	Less	3,616 (41.7%)
	Gre	1,686 (19.4%)
	Ant	1,542 (17.8%)
	Post	1,805 (20.8%)
	Unknown	32 (0.4%)
Macroscopic type	Depressed type	4,528 (52.2%)
	Elevated type	3,290 (37.9%)
	Mixed type	831 (9.6%)
	Others	6 (0.1%)
	Unknown	25 (0.3%)
	Data unavailable	1 (0.0%)
Method of endoscopic resection	ESD	8,500 (97.9%)
	EMR	174 (2.0%)
	Others	7 (0.1%)
En-bloc or piecemeal resection	En-bloc resection	8,556 (98.6%)
	Piecemeal resection	113 (1.3%)
	Unknown	12 (0.1%)
Bleeding requiring emergency surgery	Presence	68 (0.8%)
	Absence	8,610 (99.2%)
	Unknown	3 (0.0%)
Perforation requiring emergency surgery	Presence	28 (0.3%)
	Absence	8,648 (99.6%)
	Unknown	5 (0.1%)
Histological type	pap	202 (2.3%)
	tub1	6,815 (78.5%)
	tub2	1,246 (14.4%)
	por	177 (2.0%)
	sig	173 (2.0%)
	muc	5 (0.1%)
	Others	41 (0.5%)
	Inconclusive	6 (0.1%)
	Unknown	16 (0.2%)

Depth of tumor invasion	M	7,412 (85.4%)
	SM1	591 (6.8%)
	SM2 or deeper than SM2	636 (7.3%)
	Others	9 (0.1%)
	Inconclusive	18 (0.2%)
	Unknown	14 (0.2%)
	Data unavailable	1 (0.0%)
Lymphatic invasion(ly)	-	8,202 (94.5%)
	+	425 (4.9%)
	Inconclusive	27 (0.3%)
	Unknown	27 (0.3%)
Venous invasion(v)	-	8,387 (96.6%)
	+	247 (2.8%)
	Inconclusive	22 (0.3%)
	Unknown	25 (0.3%)
UL	-	7,438 (85.7%)
	+	847 (9.8%)
	Inconclusive	68 (0.8%)
	Unknown	327 (3.8%)
	Data unavailable	1 (0.0%)
Horizontal margin	HM0	8,209 (94.6%)
	HM1	204 (2.3%)
	HMX	267 (3.1%)
	Data unavailable	1 (0.0%)
Vertical margin	VM0	8,348 (96.2%)
	VM1	175 (2.0%)
	VMX	157 (1.8%)
	Data unavailable	1 (0.0%)
En-bloc resection with tumor-free margins	En-bloc resection with tumor-free margins	8,010 (92.3%)
	Positive or inconclusive resected margins	671 (7.7%)
Curability	Curative resection	4,566 (52.6%)
	Curative resection for expanded indication	2,422 (27.9%)
	Non-curative resection	1,693 (19.5%)
Subsequent treatment for non-curative resection	No additional treatment	1,034 (61.2%)
	Surgery	603 (35.5%)
	Endoscopic resection	19 (1.1%)
	Endoscopic ablation	26 (1.5%)
	Others	6 (0.4%)
	Unknown	5 (0.3%)
<i>H. pylori</i> infection	-	1,830 (21.1%)
	+	3,982 (45.9%)
	Unknown	2,869 (33.0%)
Eradication therapy in <i>H. pylori</i> -positive cases	Not performed	984 (24.7%)
	Performed	2,686 (67.5%)
	Unknown	312 (7.8%)
<b>Total</b>		<b>8,681 (100.0%)</b>

Methods of endoscopic resection		ESD		EMR	
Age	mean±SD	71.3 ±9.130		73.7 ±8.836	
	-39	26 (0.3%)		0 (0.0%)	
	40-59	825 (9.7%)		9 (5.2%)	
	60-79	6,039 (71.0%)		117 (67.2%)	
	80-	1,610 (18.9%)		48 (27.6%)	
Sex	Male	6,401 (75.3%)		124 (71.3%)	
	Female	2,098 (24.7%)		50 (28.7%)	
	Unknown	1 (0.0%)		0 (0.0%)	
Prior endoscopic treatment	-	8,278 (97.4%)		166 (95.4%)	
	+	212 (2.5%)		8 (4.6%)	
	Unknown	10 (0.1%)		0 (0.0%)	
Stomach condition	Normal stomach	8,164 (96.0%)		152 (87.4%)	
	Remnant stomach	274 (3.2%)		20 (11.5%)	
	Gastric tube	60 (0.7%)		2 (1.1%)	
	Unknown	2 (0.0%)		0 (0.0%)	
Tumor location	U	1,362 (16.0%)		45 (25.9%)	
	M	3,308 (38.9%)		64 (36.8%)	
	L	3,809 (44.8%)		65 (37.4%)	
	Unknown	11 (0.1%)		0 (0.0%)	
	Data unavailable	10 (0.1%)		0 (0.0%)	
Cross-sectional parts	Less	3,558 (41.9%)		55 (31.6%)	
	Gre	1,630 (19.2%)		55 (31.6%)	
	Ant	1,517 (17.8%)		22 (12.6%)	
	Post	1,768 (20.8%)		37 (21.3%)	
	Unknown	27 (0.3%)		5 (2.9%)	
Macroscopic type	Depressed type	4,493 (52.9%)		35 (20.1%)	
	Elevated type	3,166 (37.2%)		118 (67.8%)	
	Mixed type	821 (9.7%)		10 (5.7%)	
	Others	5 (0.1%)		1 (0.6%)	
	Unknown	15 (0.2%)		9 (5.2%)	
	Data unavailable	0 (0.0%)		1 (0.6%)	
En-bloc or piecemeal resection	En-bloc resection	8,413 (99.0%)		139 (79.9%)	
	Piecemeal resection	79 (0.9%)		33 (19.0%)	
	Unknown	8 (0.1%)		2 (1.1%)	
Bleeding requiring emergency surgery	Presence	68 (0.8%)		0 (0.0%)	
	Absence	8,429 (99.2%)		174 (100.0%)	
	Unknown	3 (0.0%)		0 (0.0%)	
Perforation requiring emergency surgery	Presence	28 (0.3%)		0 (0.0%)	
	Absence	8,467 (99.6%)		174 (100.0%)	
	Unknown	5 (0.1%)		0 (0.0%)	
Histological type	pap	184 (2.2%)		18 (10.3%)	
	tub1	6,675 (78.5%)		134 (77.0%)	
	tub2	1,231 (14.5%)		14 (8.0%)	
	por	176 (2.1%)		1 (0.6%)	
	sig	171 (2.0%)		2 (1.1%)	
	muc	5 (0.1%)		0 (0.0%)	
	Others	38 (0.4%)		3 (1.7%)	
	Inconclusive	6 (0.1%)		0 (0.0%)	
	Unknown	14 (0.2%)		2 (1.1%)	

		ESD		EMR	
Depth of tumor invasion	M	7,259 (85.4%)		148 (85.1%)	
	SM1	579 (6.8%)		12 (6.9%)	
	SM2 or deeper than SM2	627 (7.4%)		9 (5.2%)	
	Others	7 (0.1%)		1 (0.6%)	
	Inconclusive	16 (0.2%)		2 (1.1%)	
	Unknown	12 (0.1%)		1 (0.6%)	
	Data unavailable	0 (0.0%)		1 (0.6%)	
Lymphatic invasion(ly)	-	8,035 (94.5%)		161 (92.5%)	
	+	419 (4.9%)		5 (2.9%)	
	Inconclusive	25 (0.3%)		2 (1.1%)	
	Unknown	21 (0.2%)		6 (3.4%)	
Venous invasion(v)	-	8,222 (96.7%)		158 (90.8%)	
	+	239 (2.8%)		8 (4.6%)	
	Inconclusive	20 (0.2%)		2 (1.1%)	
	Unknown	19 (0.2%)		6 (3.4%)	
UL	-	7,300 (85.9%)		133 (76.4%)	
	+	841 (9.9%)		6 (3.4%)	
	Inconclusive	66 (0.8%)		2 (1.1%)	
	Unknown	292 (3.4%)		33 (19.0%)	
	Data unavailable	1 (0.0%)		0 (0.0%)	
Horizontal margin	HM0	8,102 (95.3%)		101 (58.0%)	
	HM1	177 (2.1%)		27 (15.5%)	
	HMX	220 (2.6%)		46 (26.4%)	
	Data unavailable	1 (0.0%)		0 (0.0%)	
Vertical margin	VM0	8,196 (96.4%)		147 (84.5%)	
	VMI	167 (2.0%)		7 (4.0%)	
	VMX	136 (1.6%)		20 (11.5%)	
	Data unavailable	1 (0.0%)		0 (0.0%)	
En-bloc resection with tumor-free margins	En-bloc resection with tumor-free margins	7,909 (93.0%)		98 (56.3%)	
	Positive or inconclusive resected margins	591 (7.0%)		76 (43.7%)	
Curability	Curative resection	4,503 (53.0%)		61 (35.1%)	
	Curative resection for expanded indication	2,404 (28.3%)		18 (10.3%)	
	Non-curative resection	1,593 (18.7%)		95 (54.6%)	
Subsequent treatment for non-curative resection	No additional treatment	951 (59.7%)		78 (82.1%)	
	Surgery	592 (37.2%)		11 (11.6%)	
	Endoscopic resection	16 (1.0%)		3 (3.2%)	
	Endoscopic ablation	23 (1.4%)		3 (3.2%)	
	Others	6 (0.4%)		0 (0.0%)	
	Unknown	5 (0.3%)		0 (0.0%)	
<i>H. pylori</i> infection	-	1,805 (21.2%)		23 (13.2%)	
	+	3,929 (46.2%)		53 (30.5%)	
	Unknown	2,766 (32.5%)		98 (56.3%)	
Eradication therapy in <i>H. pylori</i> -positive cases	Not performed	972 (24.7%)		12 (22.6%)	
	Performed	2,647 (67.4%)		39 (73.6%)	
	Unknown	310 (7.9%)		2 (3.8%)	
Total		8,500 (100.0%)		174 (100.0%)	

## Survival curve of patients

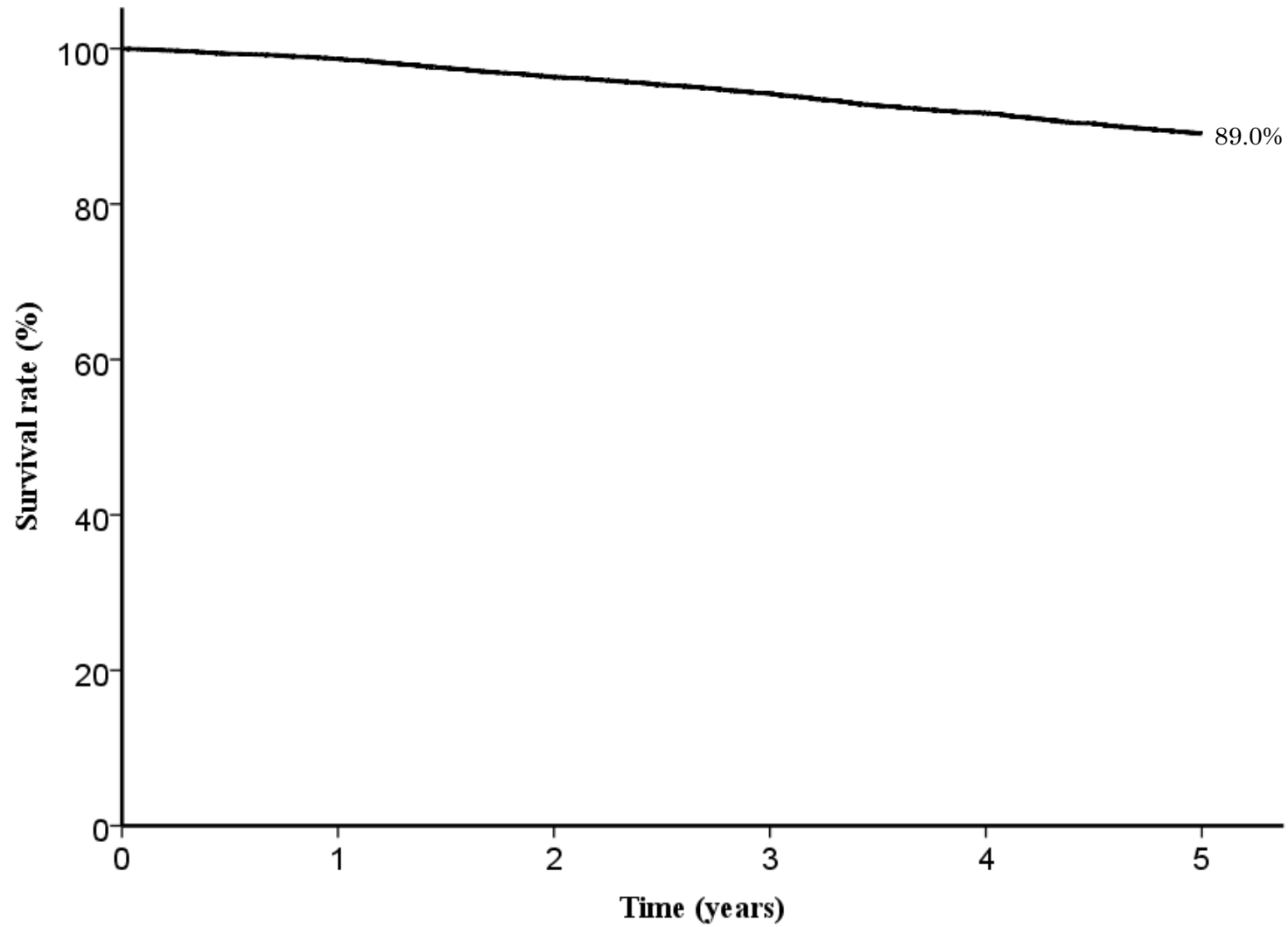


Fig. 1. Five year survival rates for all patients

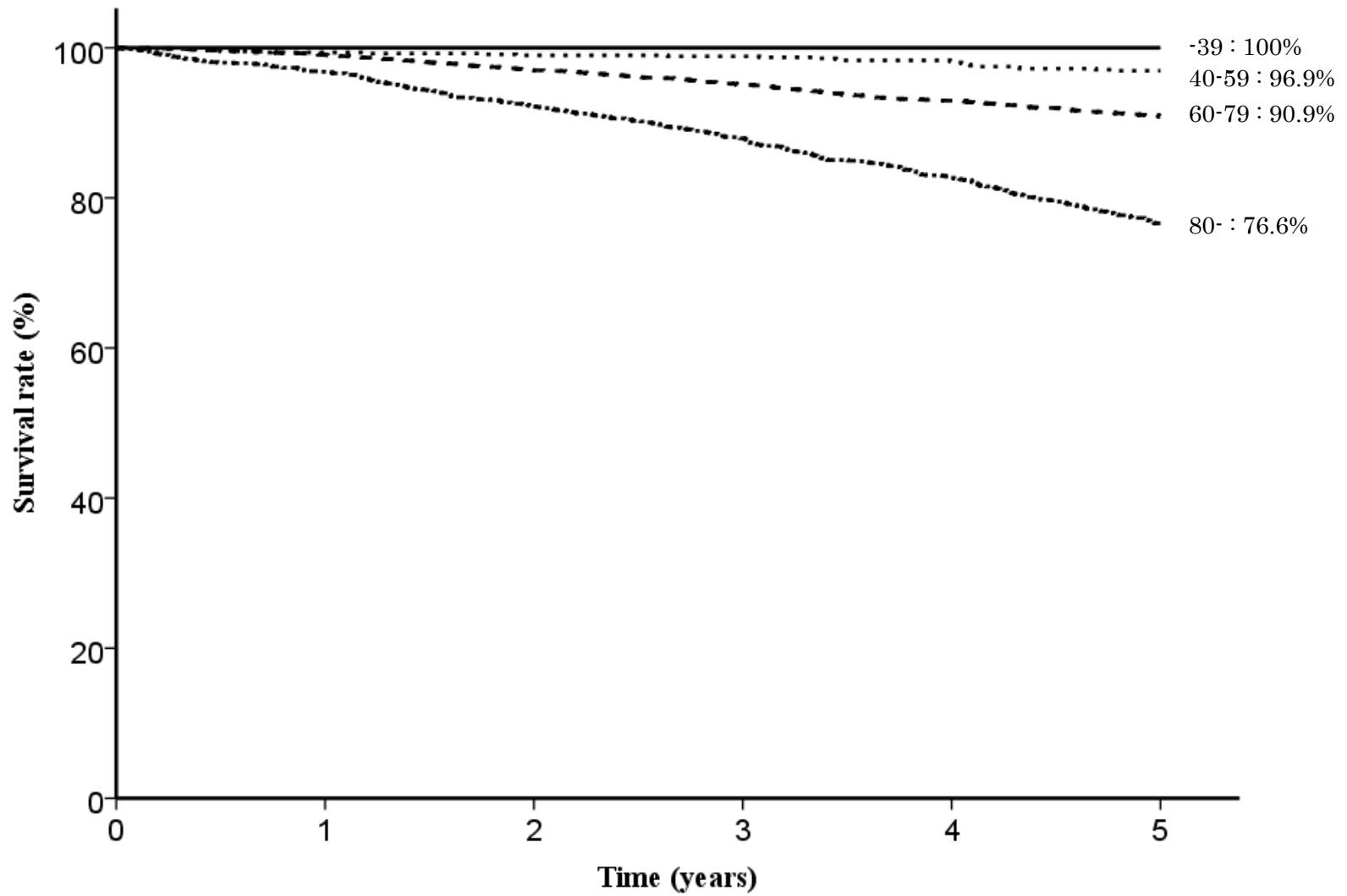


Fig. 2. Five year survival rates stratified by age

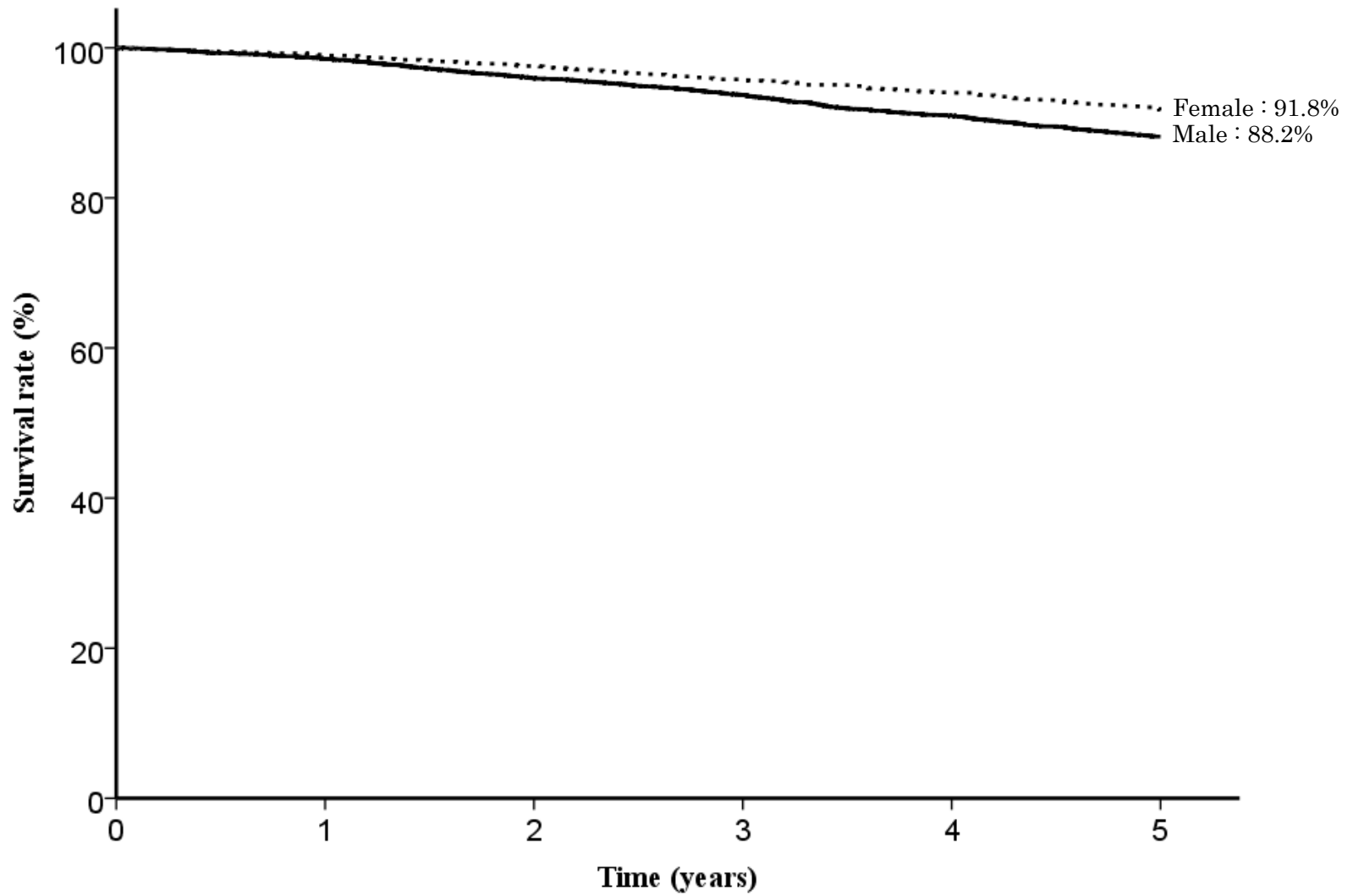


Fig. 3. Five year survival rates stratified by sex



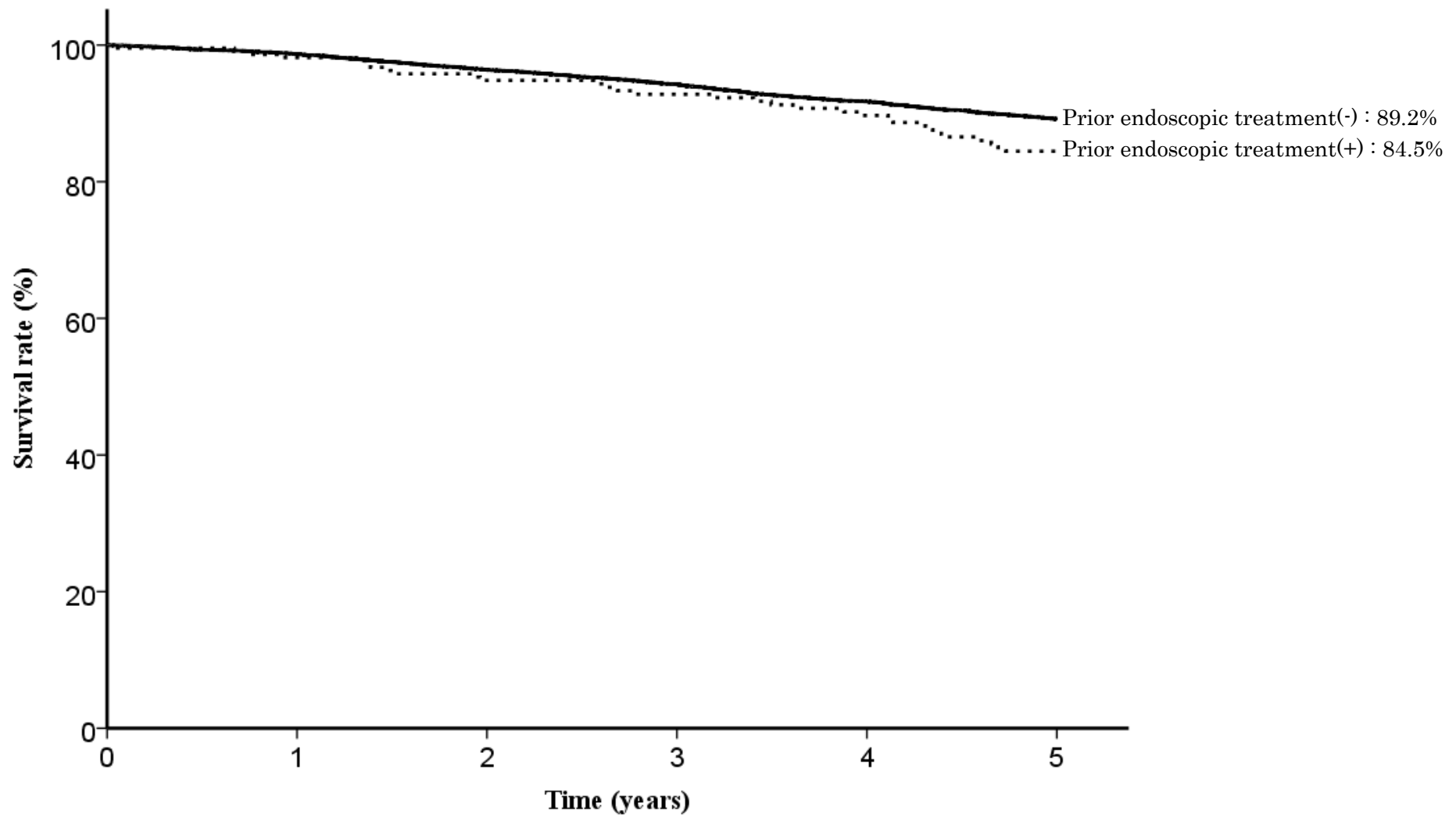


Fig. 4. Five year survival rates stratified by prior endoscopic treatment

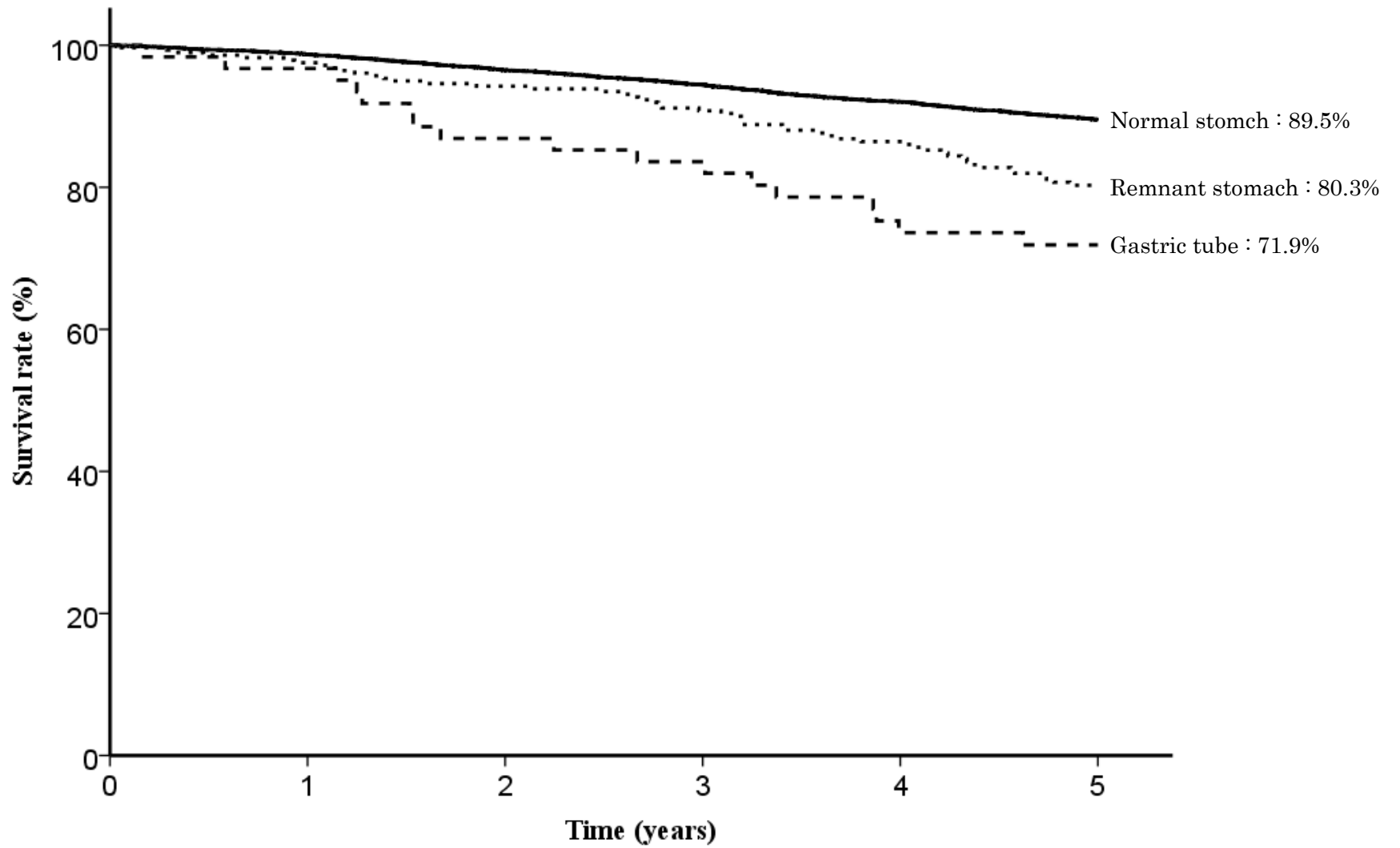


Fig. 5. Five year survival rates stratified by stomach condition

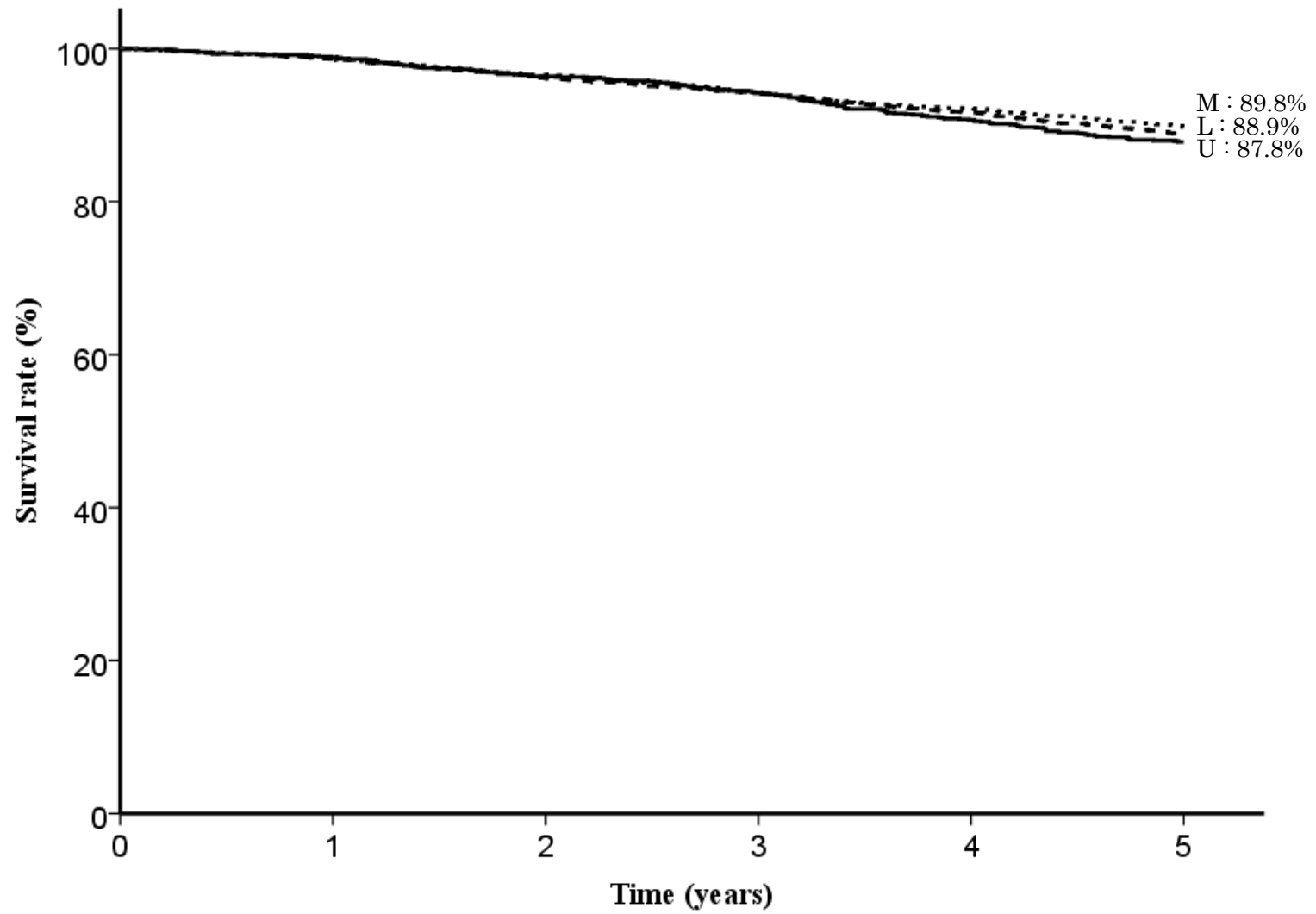


Fig. 6. Five year survival rates stratified by tumor location

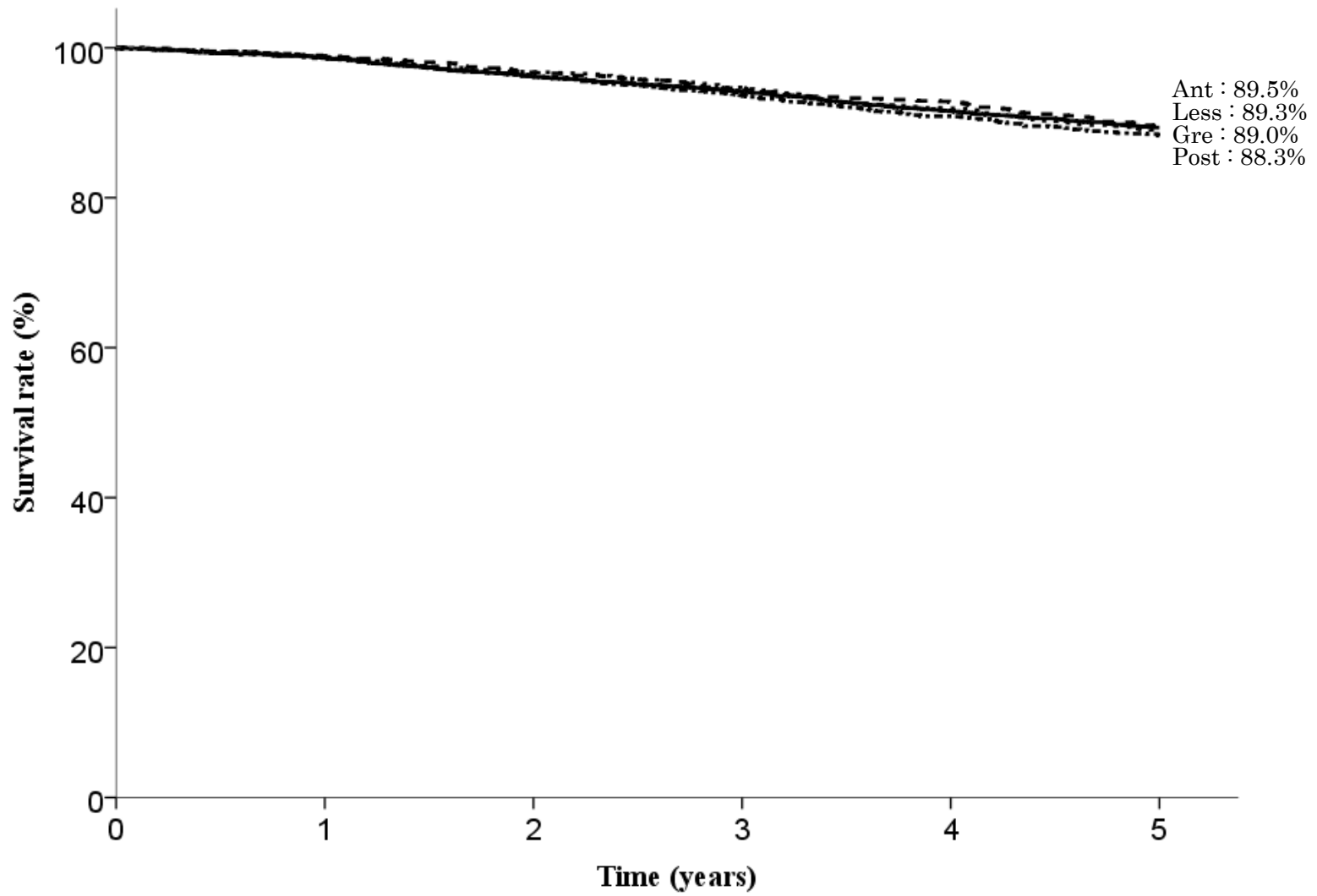


Fig. 7. Five year survival rates stratified by cross-sectional parts

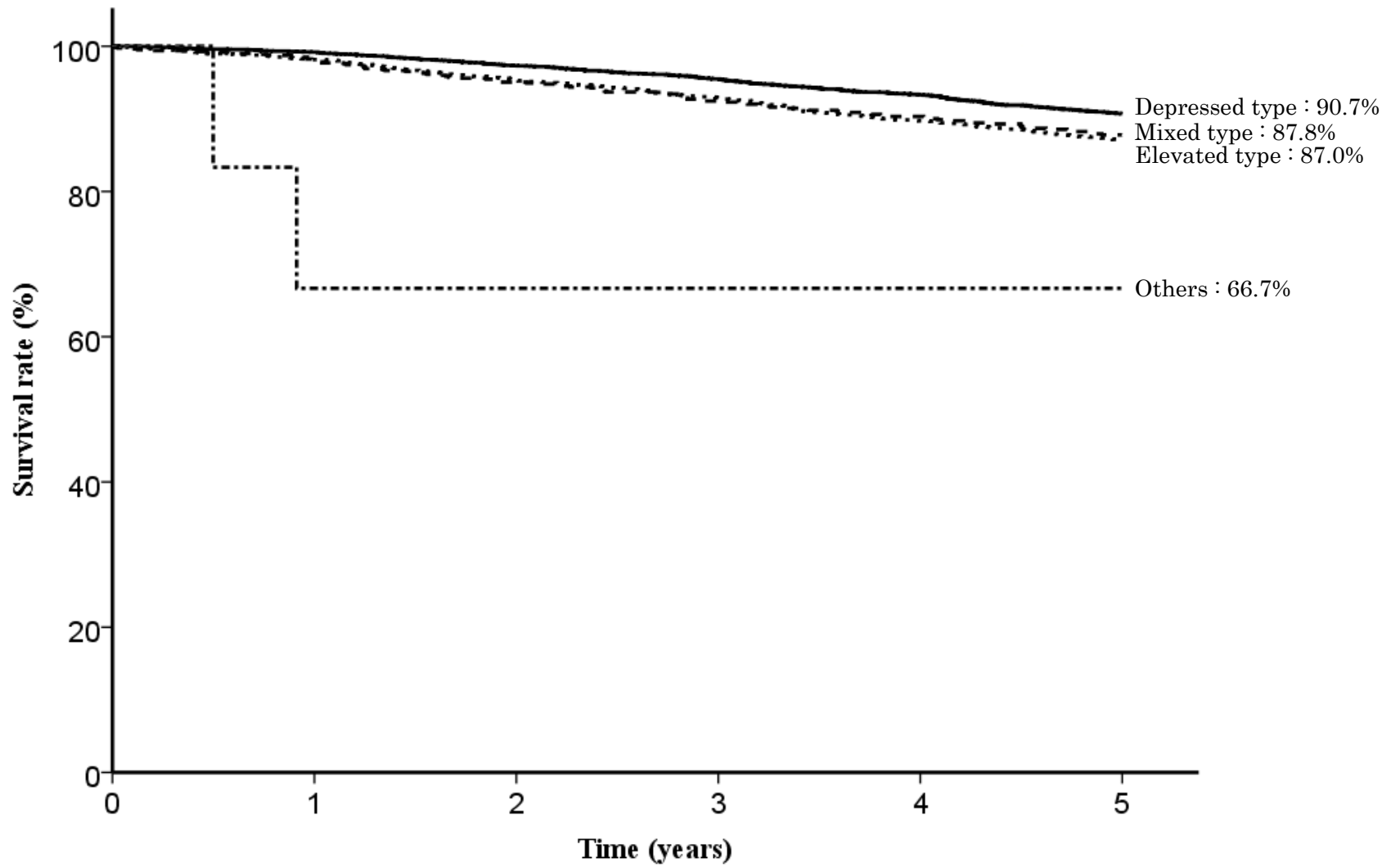


Fig. 8. Five year survival rates stratified by macroscopic type

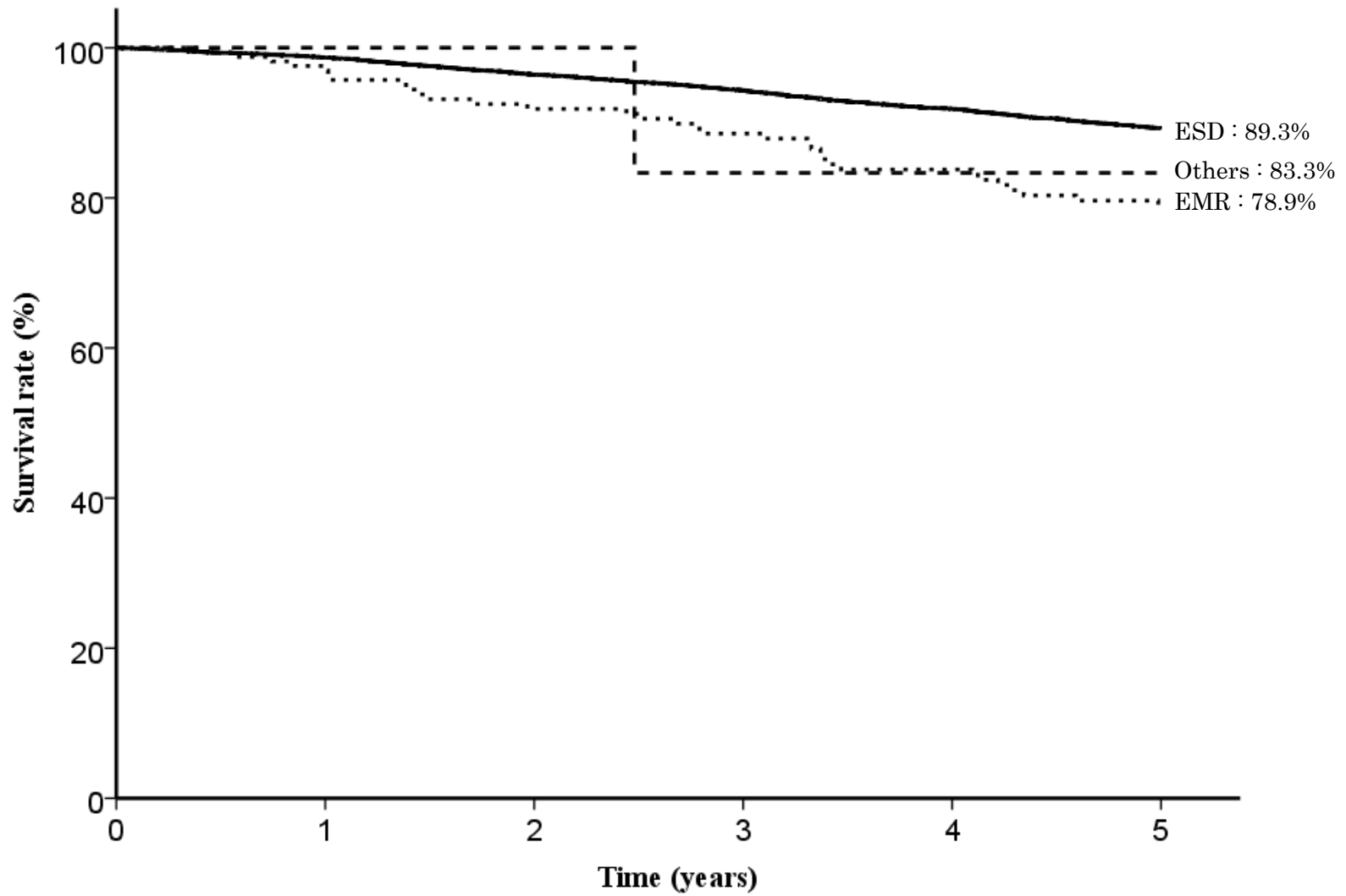


Fig. 9. Five year survival rates stratified by method of endoscopic resection

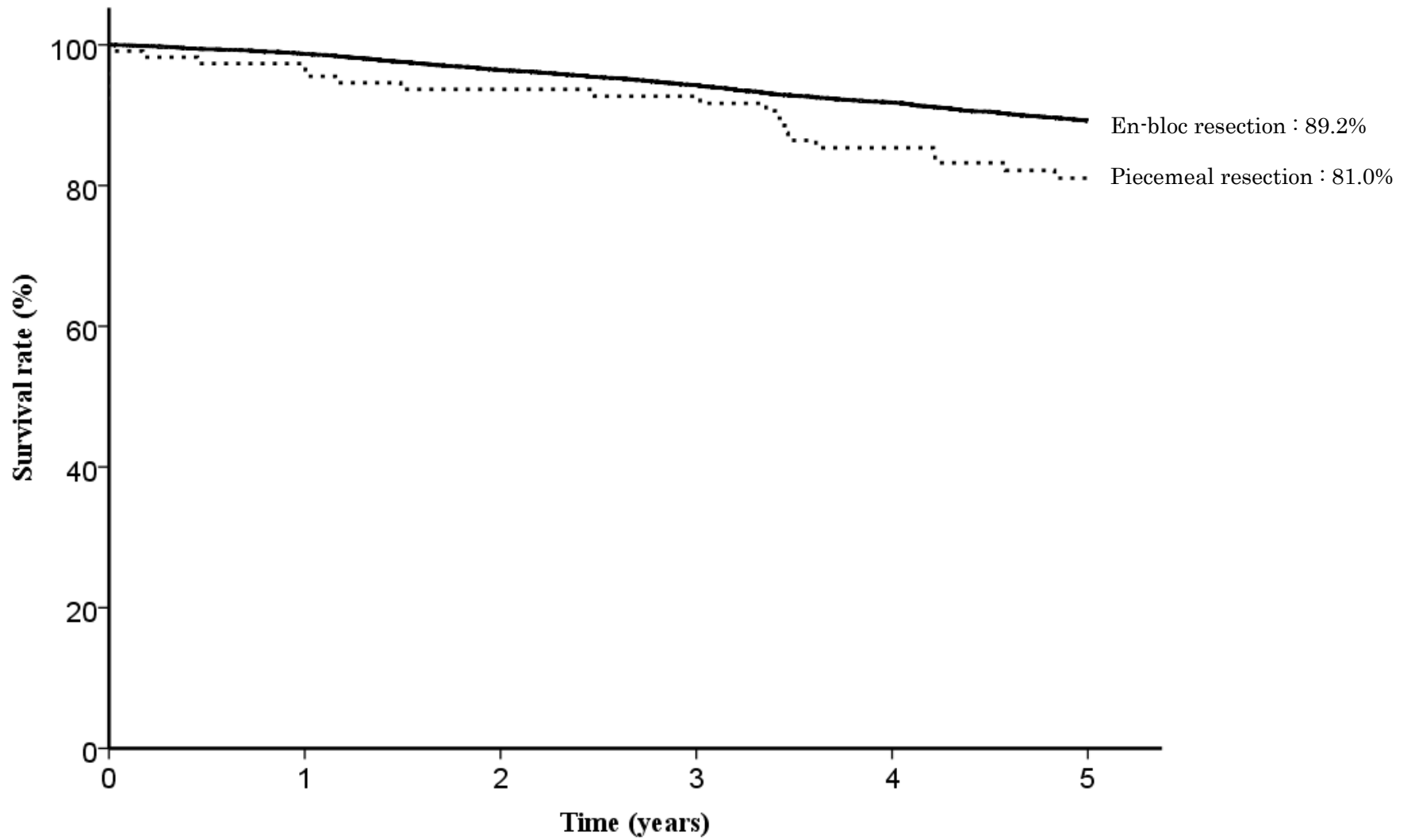


Fig. 10. Five year survival rates stratified by en-bloc or piecemeal resection

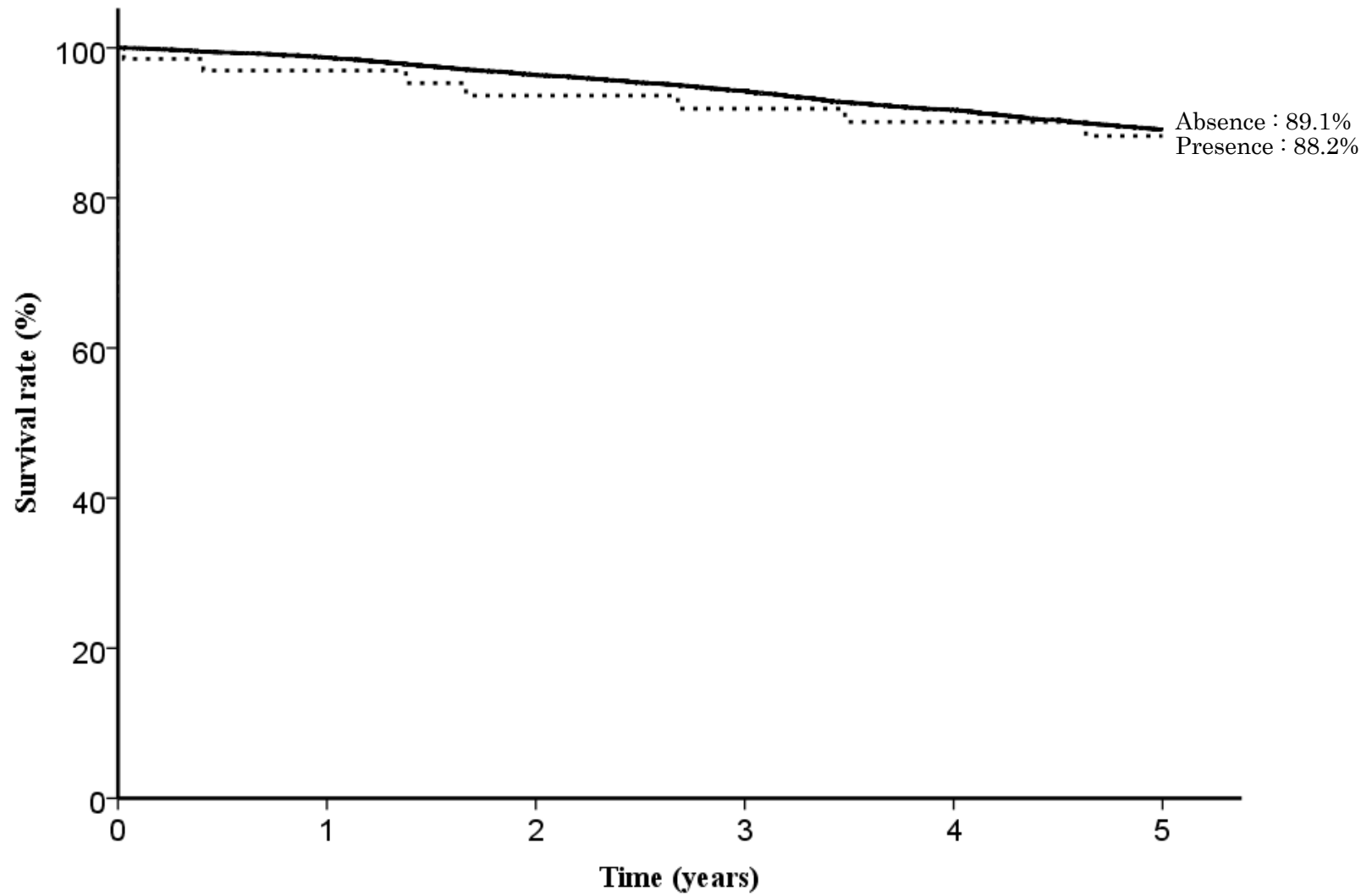


Fig. 11. Five year survival rates stratified by bleeding requiring emergency surgery



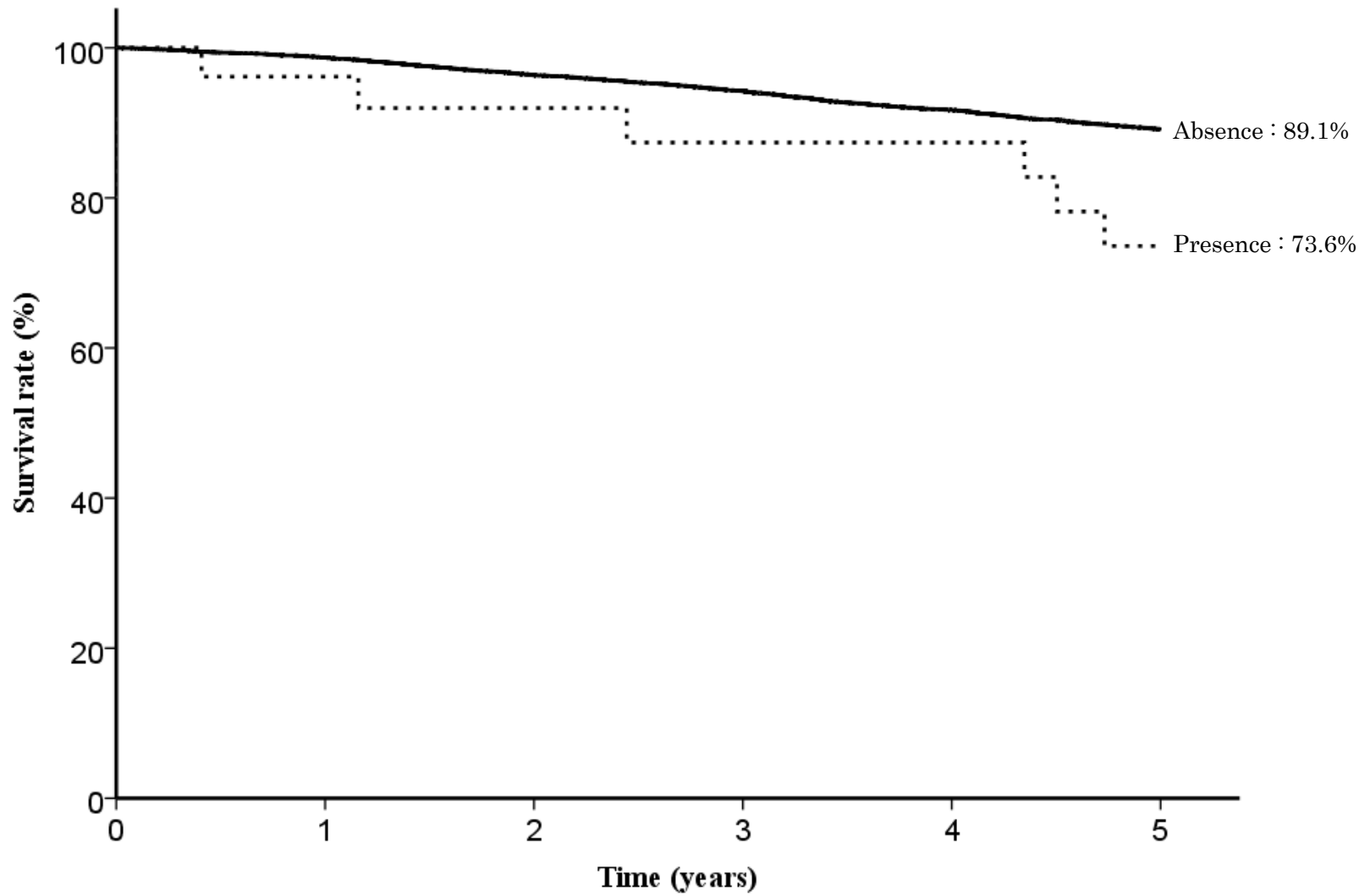


Fig. 12. Five year survival rates stratified by perforation requiring emergency surgery

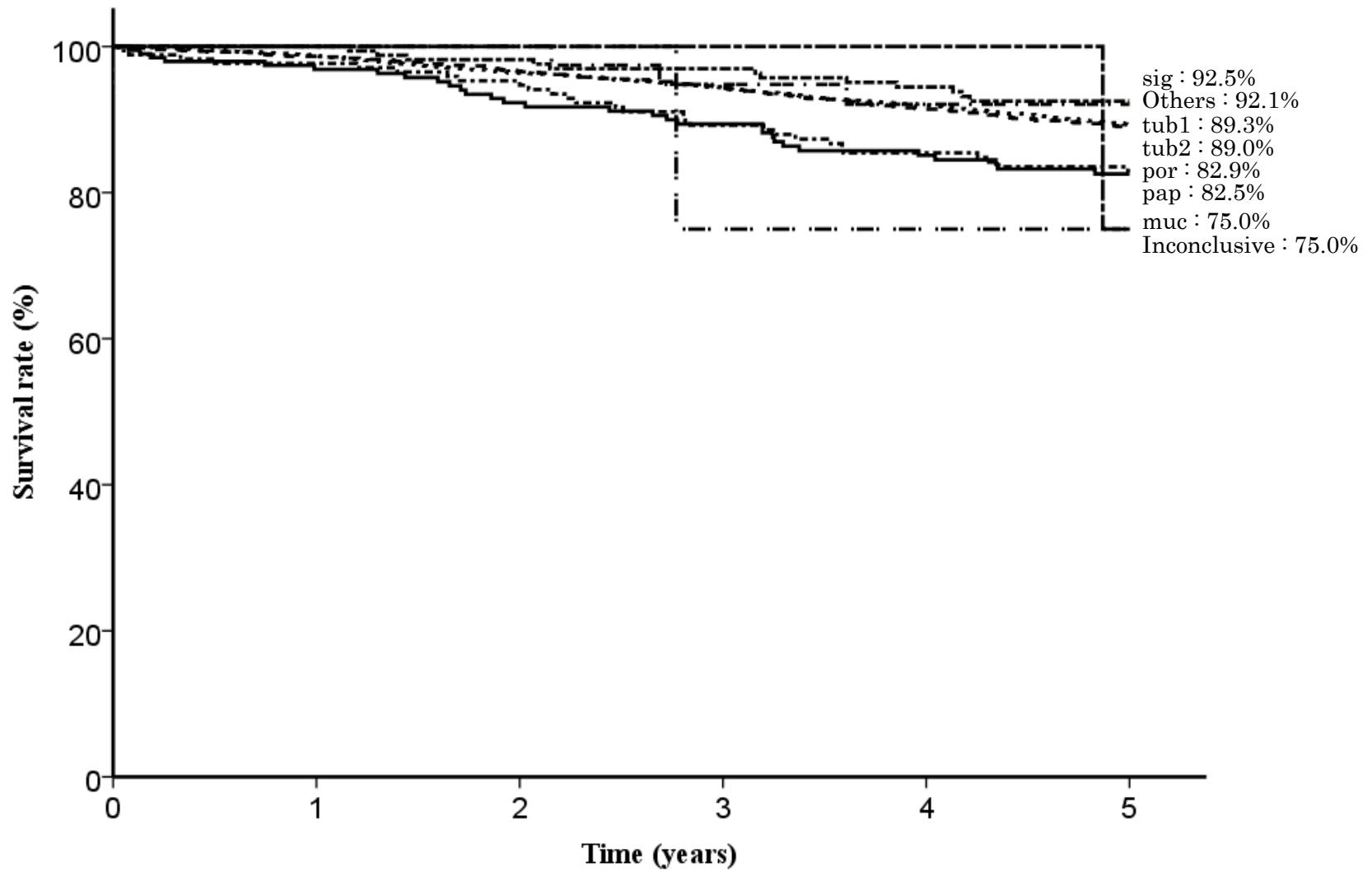


Fig. 13. Five year survival rates stratified by histological type

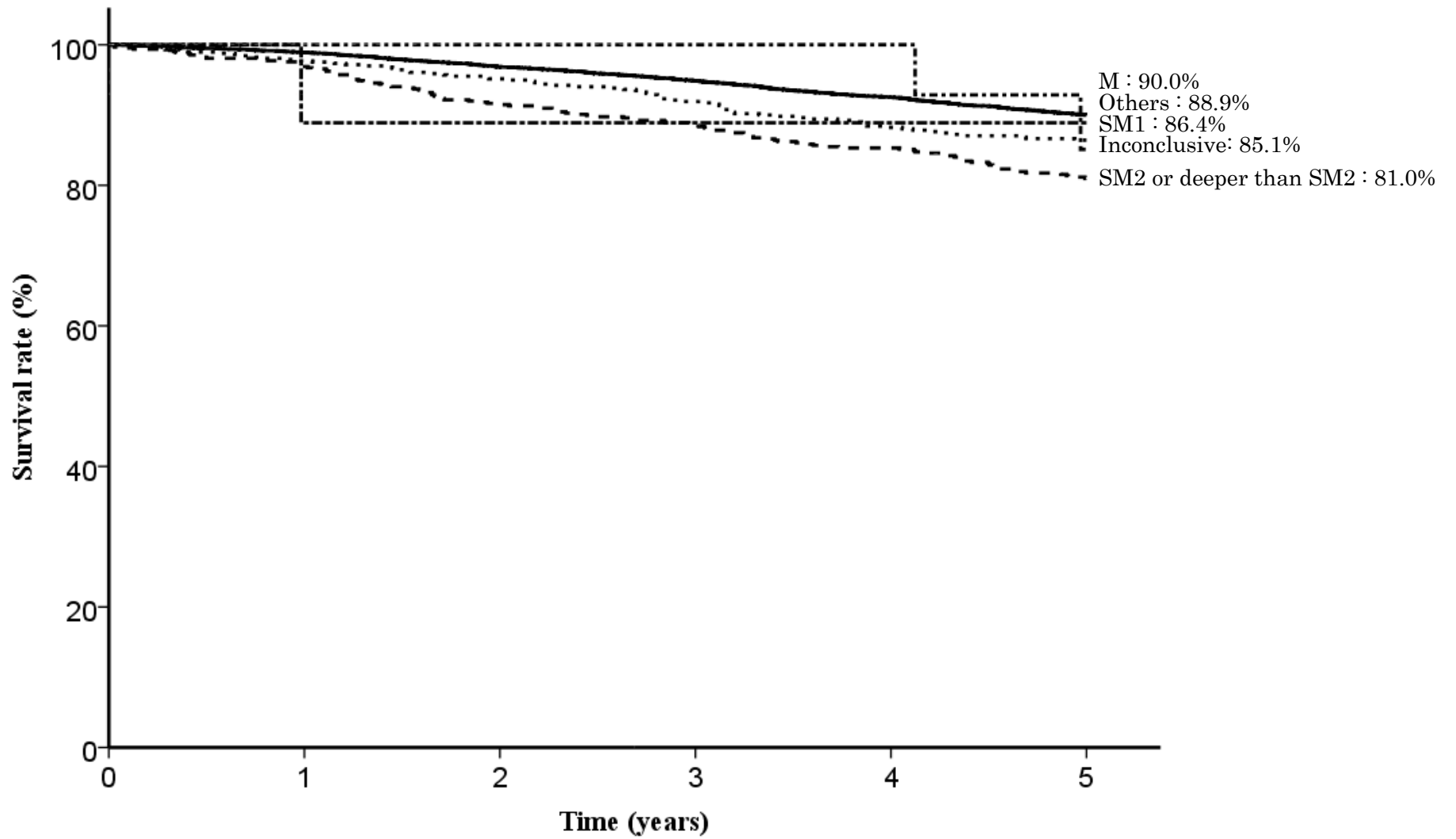


Fig. 14. Five year survival rates stratified by depth of tumor invasion

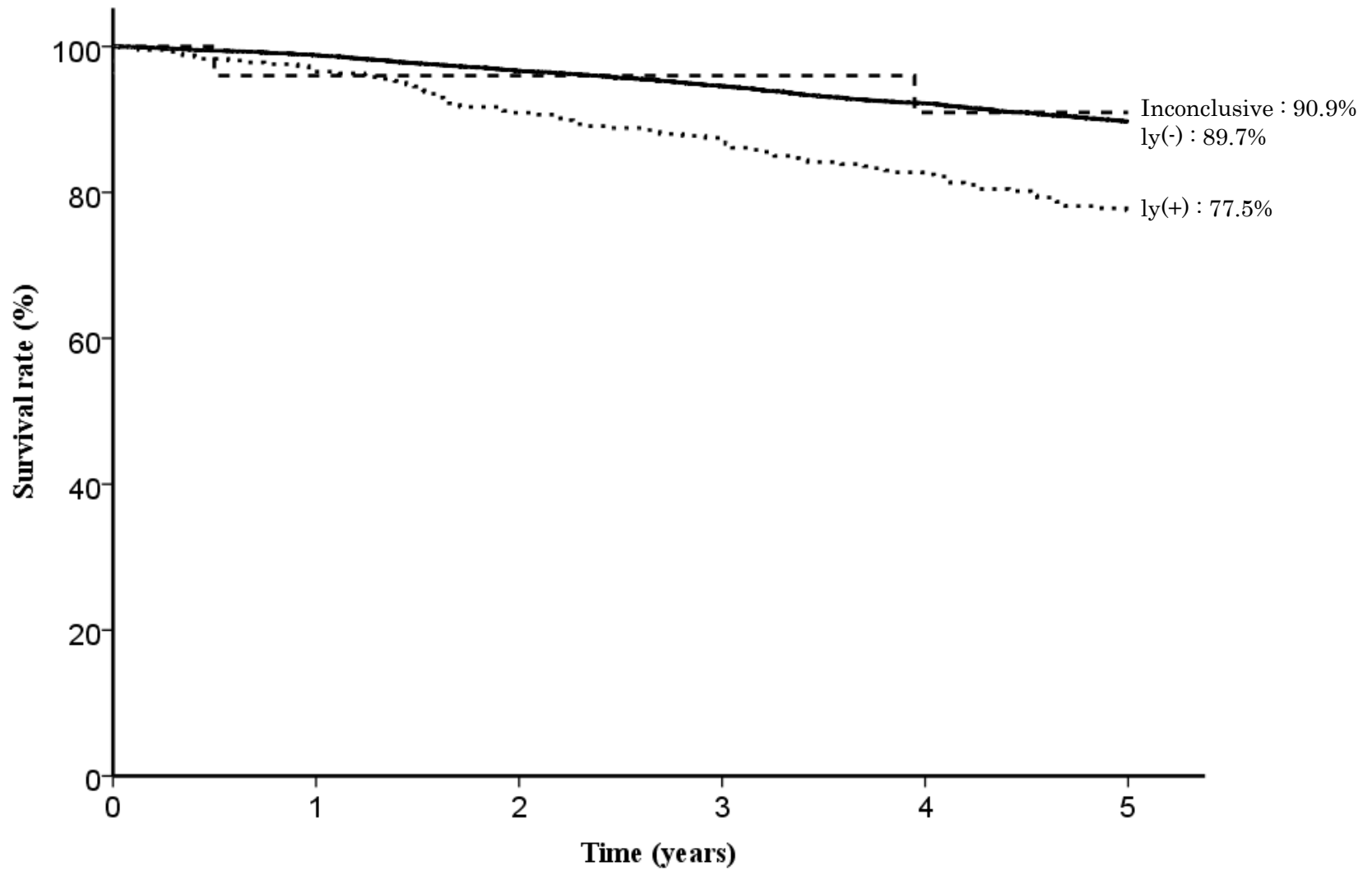


Fig. 15. Five year survival rates stratified by lymphatic invasion

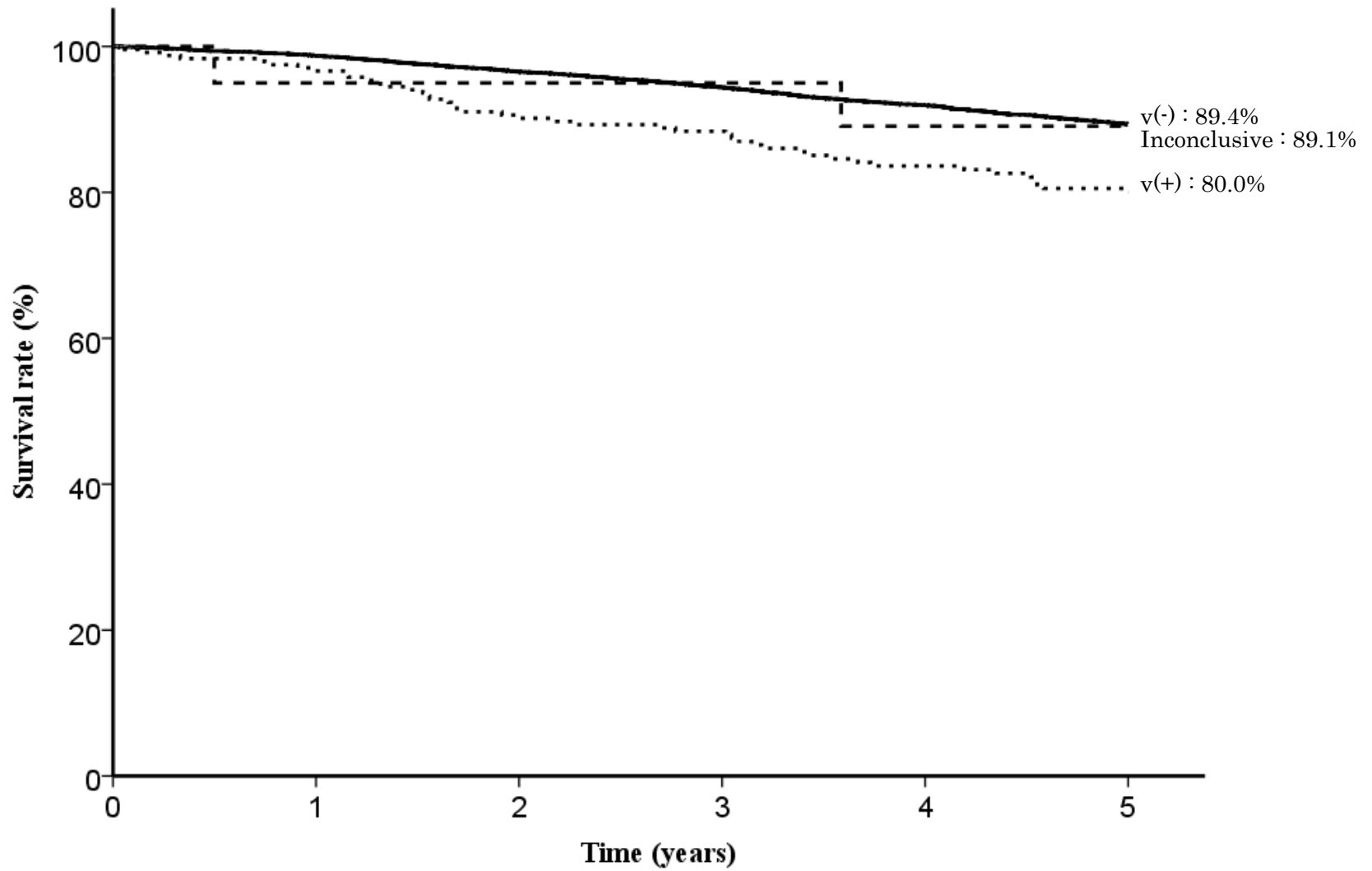


Fig. 16. Five year survival rates stratified by venous invasion

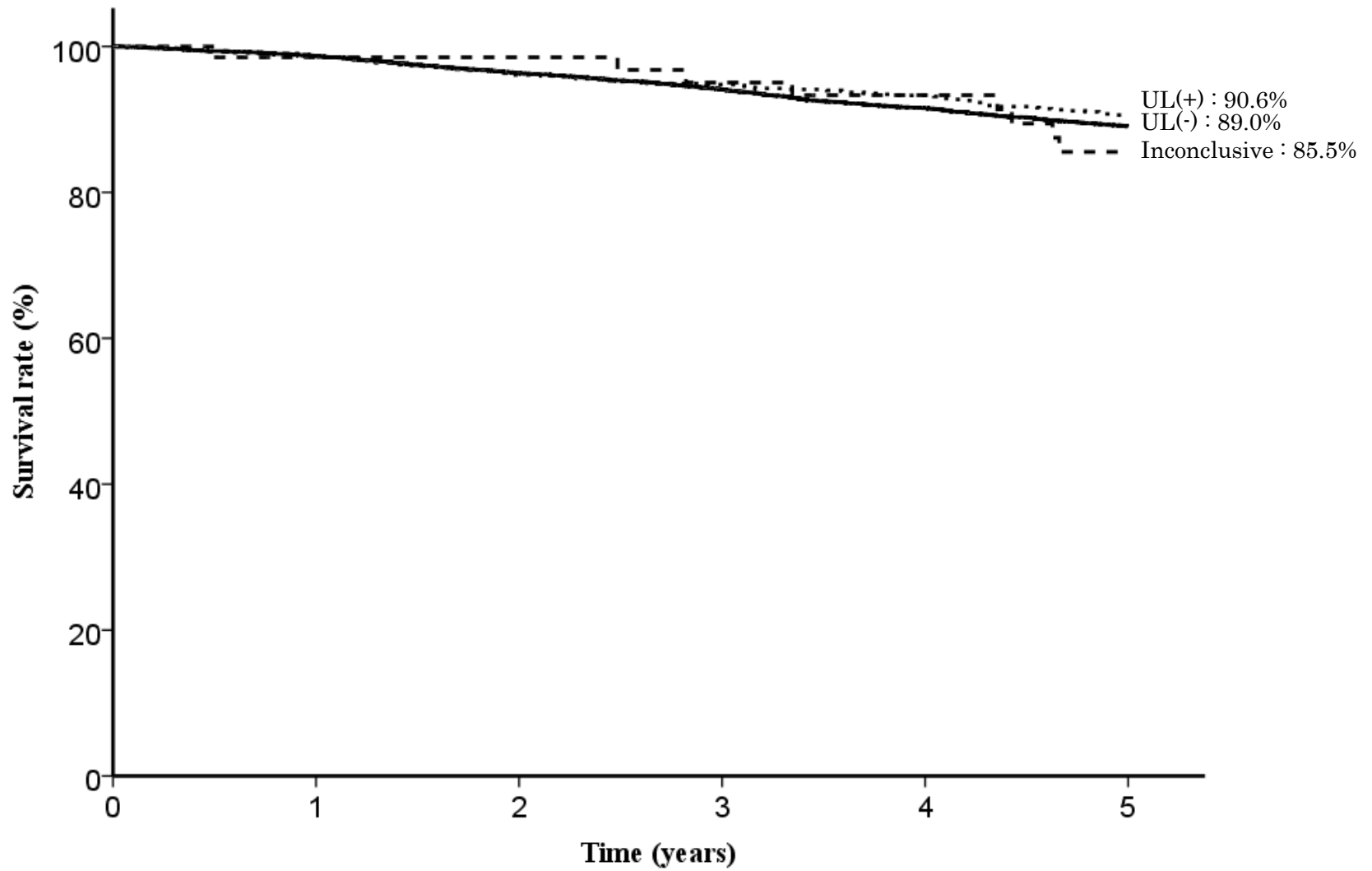


Fig. 17. Five year survival rates stratified by UL

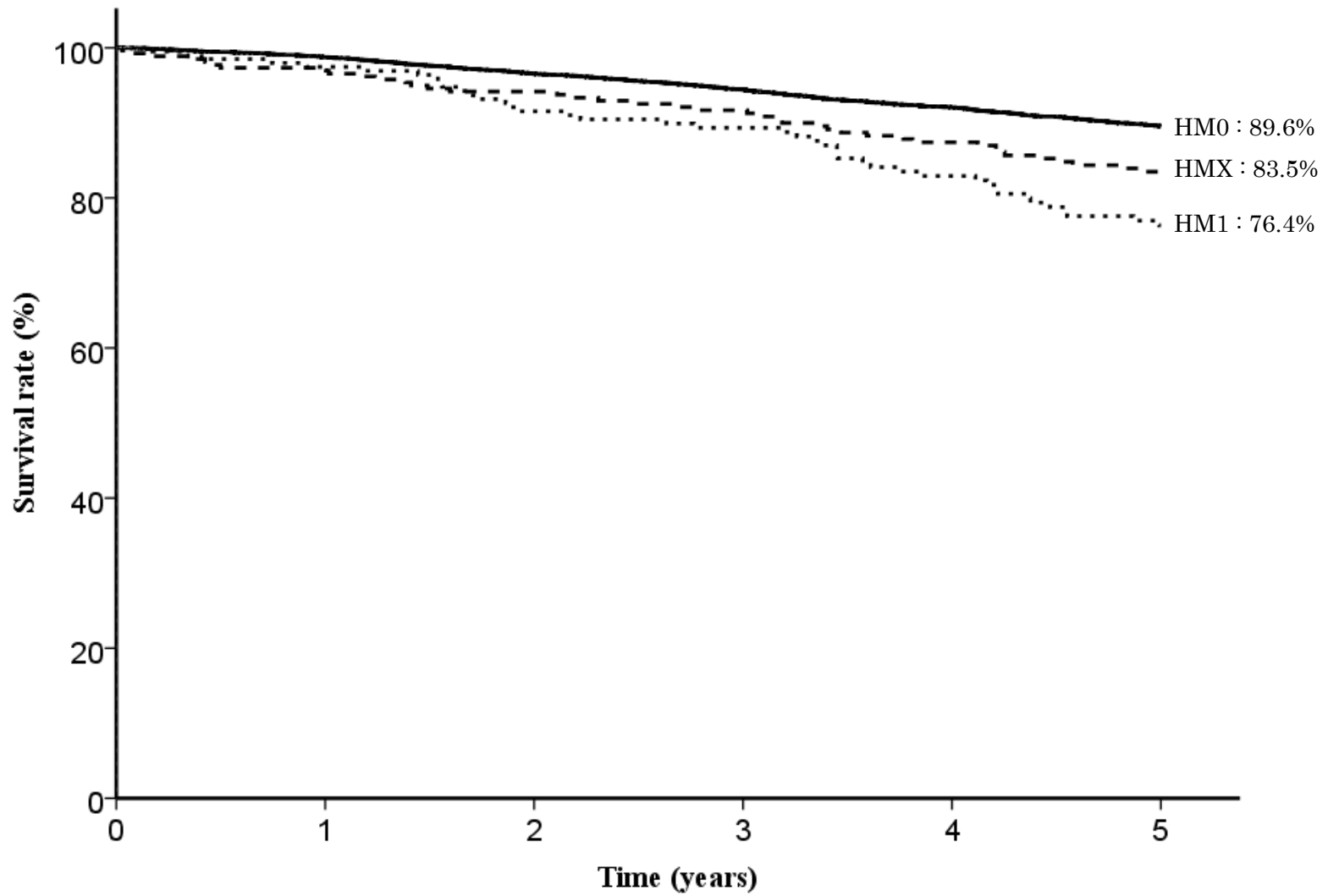


Fig. 18. Five year survival rates stratified by horizontal margin

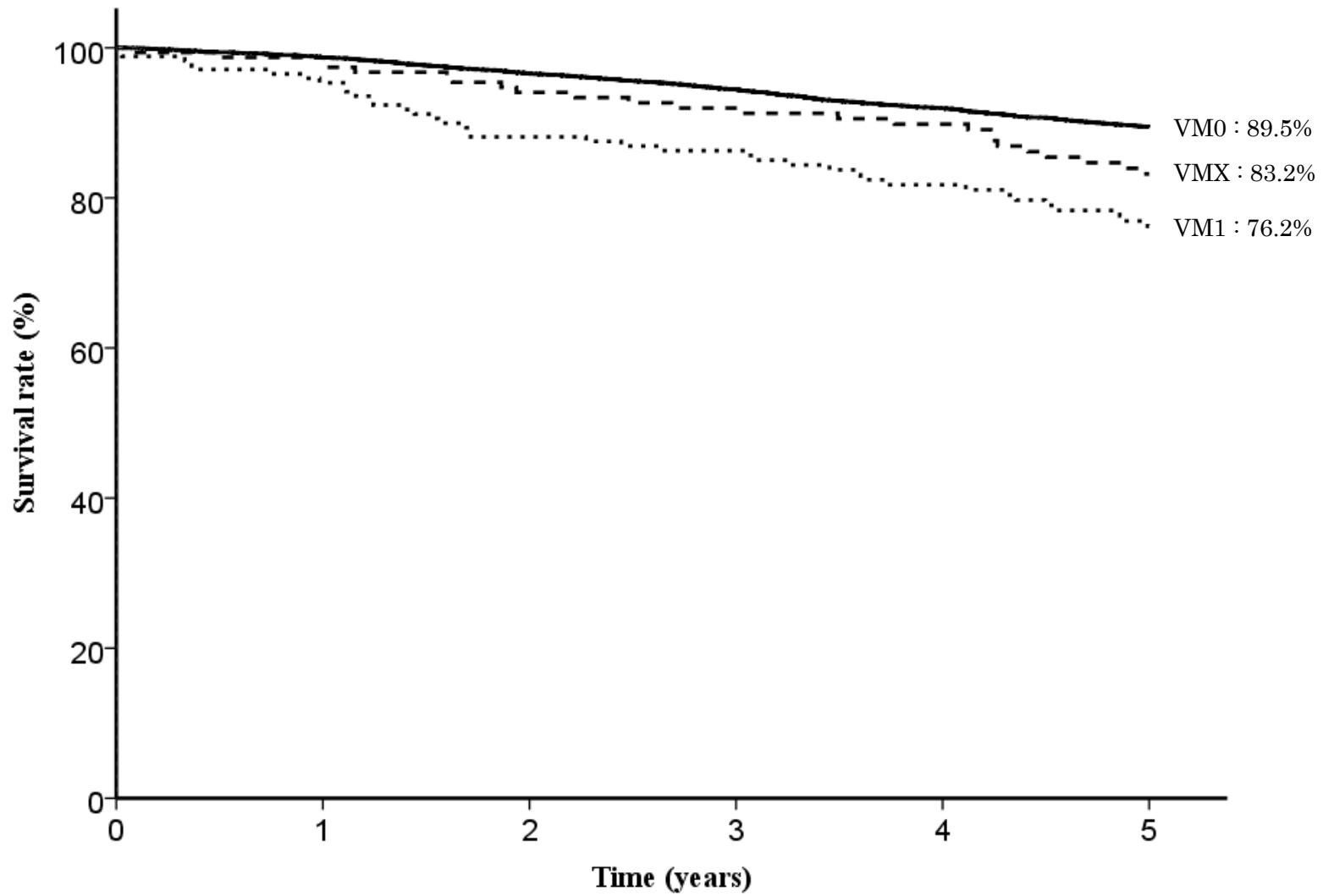


Fig. 19. Five year survival rates stratified by vertical margin



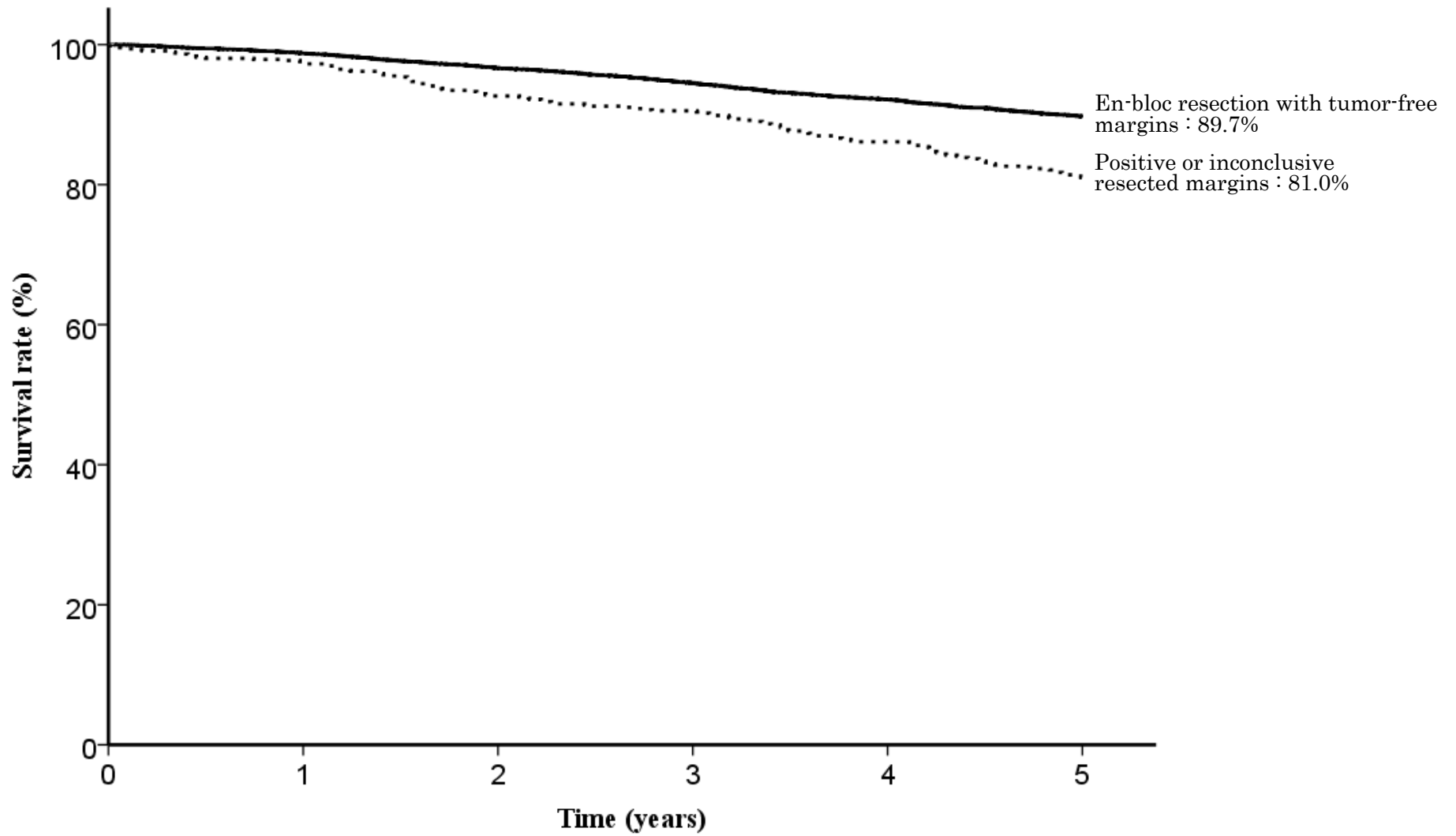


Fig. 20. Five year survival rates stratified by en-bloc resection with tumor-free margins

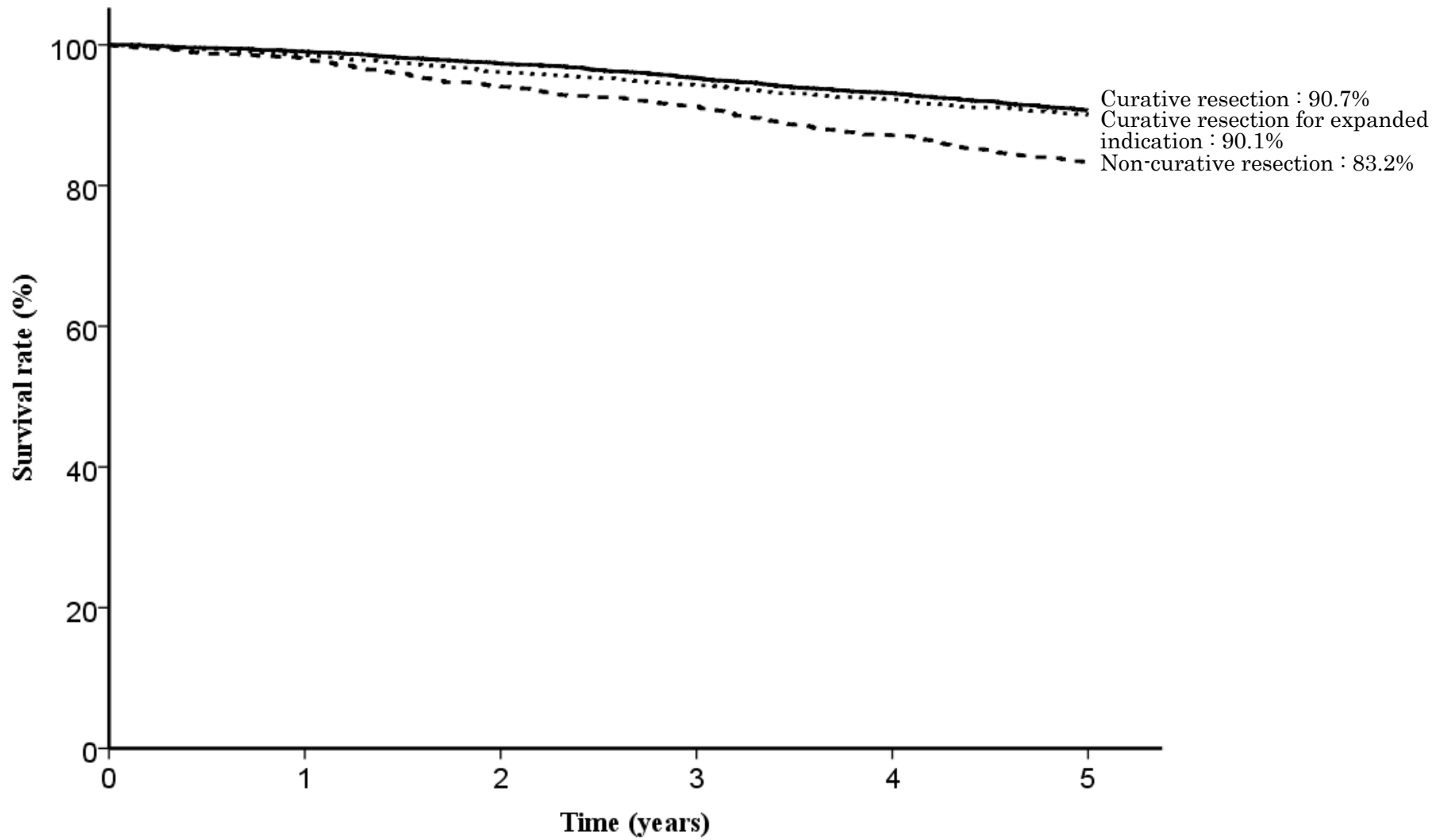


Fig. 21. Five year survival rates stratified by curability

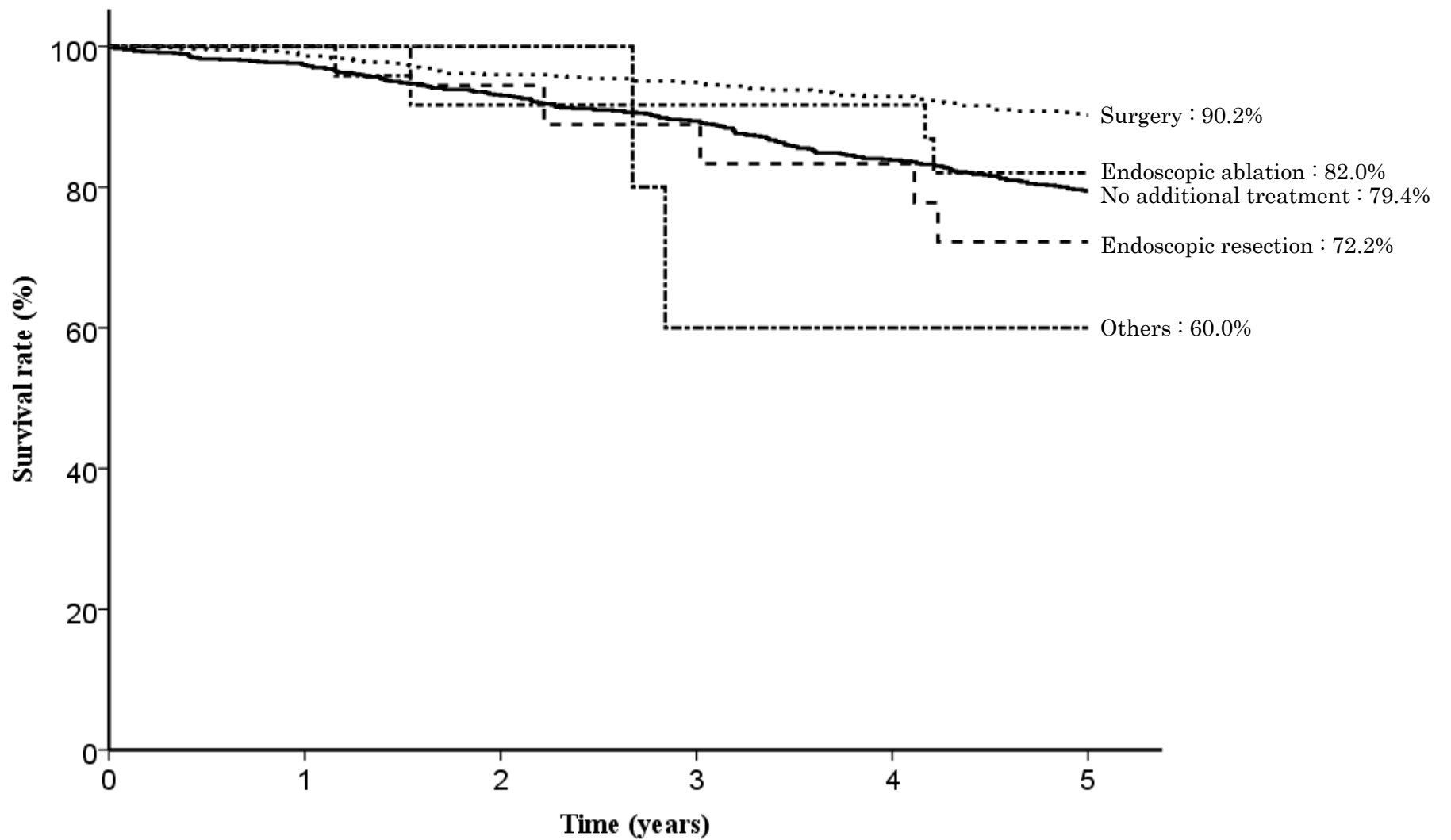


Fig. 22. Five year survival rates stratified by subsequent treatment for non-curative resection

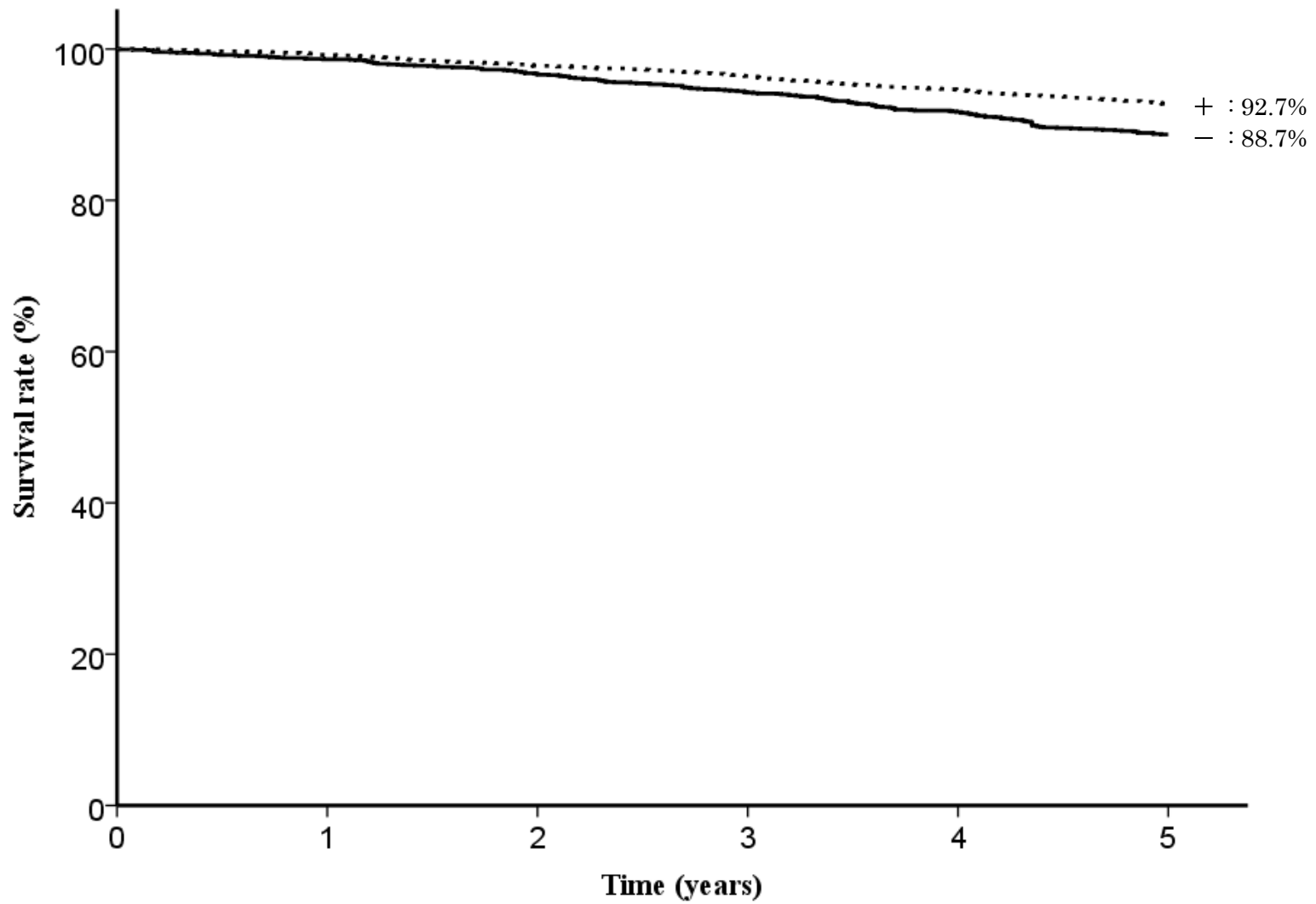


Fig. 23. Five year survival rates stratified by *H. pylori* infection

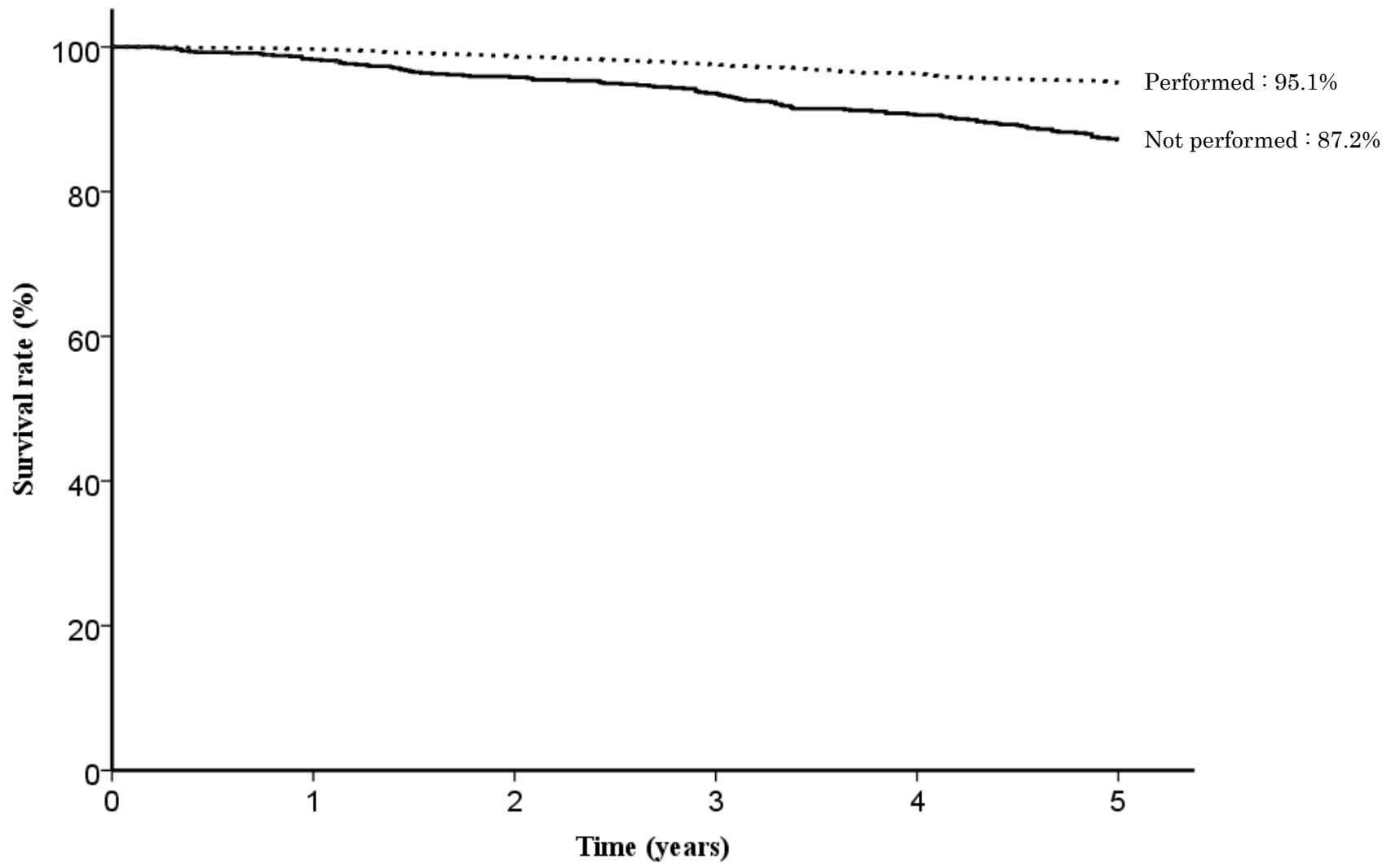


Fig. 24. Five year survival rates stratified by Eradication therapy  
*in H. pylori* - positive cases

Table1. EMR/ESD

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
EMR/ESD	8,681	7	1,661	98.7	96.3	94.2	91.7	89.0	0.4	6,187	21	4	7	1	13	0	240	338	209

Table2. Age

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
<39	26	0	7	100.0	100.0	100.0	100.0	100.0		19	0	0	0	0	0	0	0	0	0
40-59	834	1	129	99.4	99.0	98.9	98.2	96.9	0.6	682	1	0	1	0	1	0	10	8	2
60-79	6,160	2	1,030	99.0	97.0	95.1	93.0	90.9	0.4	4,629	12	3	4	1	5	0	160	190	126
80-	1,661	4	495	96.8	92.2	87.9	82.7	76.6	1.2	857	8	1	2	0	7	0	70	140	81

Table3. Sex

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
Male	6,529	4	1,187	98.5	95.9	93.7	90.9	88.2	0.4	4,660	16	3	6	0	10	0	206	261	180
Female	2,151	3	474	99.1	97.6	95.8	94.0	91.8	0.6	1,526	5	1	1	1	3	0	34	77	29

Table4. Prior endoscopic treatment

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
Prior endoscopic treatment (-)	8,449	6	1,626	98.7	96.4	94.2	91.7	89.2	0.4	6,021	20	4	6	1	13	0	230	325	203
Prior endoscopic treatment (+)	222	1	32	98.2	94.8	92.8	89.7	84.5	2.6	159	1	0	1	0	0	0	10	13	6

Table5. Stomach condition

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
Normal stomach	8,322	6	1,600	98.7	96.5	94.4	92.0	89.5	0.4	5,958	18	3	5	1	13	0	219	317	188
Remnant stomach	295	1	56	97.5	94.2	90.8	86.4	80.3	2.5	188	2	0	1	0	0	0	13	16	19
Gastric tube	62	0	4	96.7	86.9	83.6	73.6	71.9	5.8	41	1	1	1	0	0	0	7	5	2

Table6. Tumor location

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Upper third	1,408	1	277	98.9	96.4	94.2	90.7	87.8	0.9	982	7	0	0	0	6	0	42	55	39
Middle third	3,375	2	619	98.6	96.6	94.3	92.2	89.8	0.6	2,450	7	1	2	0	4	0	96	118	78
Lower third	3,877	3	758	98.6	96.1	94.2	91.6	88.9	0.5	2,745	7	3	4	1	3	0	101	164	91

Table7. Cross-sectional parts

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Less	3,616	3	702	98.6	96.1	94.2	91.5	89.3	0.6	2,577	3	2	3	1	3	0	94	146	85
Gre	1,686	2	324	98.5	96.7	94.7	91.9	89.0	0.8	1,200	5	1	3	0	4	0	55	62	32
Ant	1,542	0	278	98.9	96.7	94.6	92.8	89.5	0.8	1,121	4	0	0	0	2	0	42	58	37
Post	1,805	2	341	98.8	96.1	93.6	90.9	88.3	0.8	1,277	8	1	1	0	4	0	48	70	55

Table8. Macroscopic type

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Depressed type	4,528	1	791	99.2	97.3	95.5	93.3	90.7	0.5	3,365	8	1	3	1	4	0	109	145	101
Elevated type	3,290	3	691	98.2	95.3	92.9	89.7	87.0	0.6	2,230	10	2	4	0	4	0	103	158	88
Mixed type	831	3	168	98.0	95.1	92.5	90.3	87.8	1.2	574	2	1	0	0	5	0	27	34	20
Others	6	0	1	66.7	66.7	66.7	66.7	66.7	19.2	3	1	0	0	0	0	0	0	1	0

Table9. Method of endoscopic resection

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
ESD	8,500	7	1,622	98.7	96.4	94.3	91.8	89.3	0.4	6,078	18	4	7	1	12	0	232	324	202
EMR	174	0	35	97.6	91.9	88.6	83.8	78.9	3.3	107	3	0	0	0	1	0	8	14	6
Others	7	0	4	100.0	100.0	83.3	83.3	83.3	15.2	2	0	0	0	0	0	0	0	0	1

Table10. En-bloc or piecemeal resection

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
En-bloc resection	8,556	5	1,635	98.7	96.4	94.3	91.8	89.2	0.4	6,112	18	4	7	1	12	0	236	330	201
Piecemeal resection	113	1	22	97.3	93.7	92.7	85.4	81.0	3.9	72	1	0	0	0	1	0	4	6	7

Table11. Bleeding requiring emergency surgery

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Presence	68	1	14	97.0	93.6	91.9	90.1	88.2	4.2	47	0	0	0	0	0	0	0	5	2
Absence	8,610	5	1,647	98.7	96.4	94.2	91.7	89.1	0.4	6,138	21	4	7	1	13	0	240	332	207

Table12. Perforation requiring emergency surgery

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Presence	28	0	6	96.2	92.0	87.4	87.4	73.6	9.3	16	2	0	0	0	0	0	1	3	0
Absence	8,648	6	1,655	98.7	96.3	94.2	91.7	89.1	0.4	6,168	19	4	7	1	13	0	239	333	209

Table13. Histological type

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
pap	202	1	53	96.9	92.3	89.4	85.1	82.5	2.9	119	4	0	0	0	2	0	9	13	2
tub1	6,815	3	1,303	98.7	96.4	94.4	92.0	89.3	0.4	4,876	11	3	3	0	4	0	189	261	165
tub2	1,246	0	252	98.7	96.6	94.4	91.4	89.0	1.0	875	4	1	2	0	7	0	31	40	34
por	177	2	21	97.7	94.7	89.2	85.4	82.9	3.0	128	2	0	1	1	0	0	7	14	3
sig	173	0	19	100.0	98.2	97.0	94.4	92.5	2.1	142	0	0	1	0	0	0	1	7	3
muc	5	0	1	100.0	100.0	100.0	100.0	75.0	21.7	3	0	0	0	0	0	0	1	0	0
Others	41	0	7	100.0	100.0	94.8	92.1	92.1	4.4	31	0	0	0	0	0	0	2	1	0
Inconclusive	6	0	3	100.0	100.0	75.0	75.0	75.0	21.7	2	0	0	0	0	0	0	0	0	1

Table14. Depth of tumor invasion

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
M	7,412	2	1,440	98.9	96.8	94.9	92.5	90.0	0.4	5,326	11	1	0	0	3	0	200	254	177
SM1	591	1	103	97.7	95.2	91.9	88.6	86.4	1.5	416	1	1	1	0	1	0	18	33	17
SM2 or deeper than SM2	636	3	106	96.9	91.5	88.7	85.3	81.0	1.6	421	8	2	6	1	9	0	21	47	15
Others	9	0	1	88.9	88.9	88.9	88.9	88.9	10.5	7	0	0	0	0	0	0	0	1	0
Inconclusive	18	0	5	100.0	100.0	100.0	100.0	85.1	9.7	11	0	0	0	0	0	0	0	2	0



Table15. Lymphatic invasion(ly)

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
ly(-)	8,202	5	1,568	98.8	96.6	94.6	92.2	89.7	0.4	5,894	10	4	2	1	5	0	228	296	194
ly(+)	425	1	80	96.6	90.9	87.5	82.5	77.5	2.2	261	9	0	5	0	8	0	12	38	12
Inconclusive	27	0	8	96.0	96.0	96.0	90.9	90.9	6.2	17	1	0	0	0	0	0	0	1	0

Table16. Venous invasion(v)

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
v(-)	8,387	5	1,597	98.7	96.5	94.4	91.9	89.4	0.4	6,008	15	4	3	1	7	0	235	315	202
v(+)	247	1	52	96.6	90.2	88.4	83.6	80.0	2.7	151	4	0	4	0	6	0	5	19	6
Inconclusive	22	0	7	95.0	95.0	95.0	89.1	89.1	7.3	13	1	0	0	0	0	0	0	1	0

Table17. UL

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
UL(-)	7,438	4	1,435	98.7	96.3	94.1	91.5	89.0	0.4	5,289	15	3	4	0	9	0	212	291	180
UL(+)	847	1	153	98.5	96.1	94.8	93.3	90.6	1.1	623	2	1	2	0	2	0	20	29	15
Inconclusive	68	0	16	98.5	98.5	95.1	93.3	85.5	4.8	44	1	0	0	1	0	0	3	1	2

Table18. Horizontal margin

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
HM0	8,209	4	1,586	98.8	96.5	94.4	92.1	89.6	0.4	5,873	15	4	4	0	10	0	222	311	184
HM1	204	0	37	97.5	91.5	89.3	82.9	76.4	3.2	125	3	0	3	1	2	0	7	13	13
HMX	267	2	38	97.3	94.2	91.7	87.4	83.5	2.4	189	3	0	0	0	1	0	11	13	12

Table19. Vertical margin

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peri-toneal	liver rec	R	other cancer	other disease	un-known
VM0	8,348	3	1,612	98.7	96.6	94.4	91.9	89.5	0.4	5,966	16	4	3	0	11	0	226	312	198
VM1	175	2	28	95.3	88.1	86.3	81.7	76.2	3.4	109	3	0	4	1	1	0	7	15	7
VMX	157	1	21	98.7	94.1	92.0	89.8	83.2	3.1	112	2	0	0	0	1	0	7	10	4

Table20. En-bloc resection with tumor-free margins

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
En-bloc resection with tumor-free margins	8,010	3	1,559	98.8	96.6	94.5	92.2	89.7	0.4	5,733	13	4	3	0	10	0	214	296	178
Positive or inconclusive resected margins	671	4	102	97.6	92.7	90.5	86.1	81.0	1.6	454	8	0	4	1	3	0	26	42	31

Table21. Curability

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Curative resection	4,566	0	919	99.0	97.3	95.3	93.1	90.7	0.5	3,280	5	0	0	0	1	0	130	132	99
Curative resection for expanded indication	2,422	2	454	98.5	96.1	94.3	92.2	90.1	0.6	1,755	4	1	0	0	2	0	55	92	59
Non-curative resection	1,693	5	288	97.9	94.0	91.3	87.1	83.2	1.0	1,152	12	3	7	1	10	0	55	114	51

Table22. Subsequent treatment for non-curative resection

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
No additional treatment	1,034	5	196	97.4	93.0	89.4	83.8	79.4	1.3	651	6	1	4	0	6	0	39	92	39
Surgery	603	0	80	98.6	96.0	94.9	92.9	90.2	1.3	469	5	2	3	1	4	0	11	21	7
Endoscopic resection	19	0	1	100.0	94.4	88.9	83.3	72.2	10.6	13	1	0	0	0	0	0	3	0	1
Endoscopic ablation	26	0	7	100.0	91.7	91.7	91.7	82.0	8.2	15	0	0	0	0	0	0	1	0	3
Others	6	0	1	100.0	100.0	80.0	60.0	60.0	21.9	3	0	0	0	0	0	0	1	1	0

Table23. *H. pylori* infection

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
-	1,830	2	307	98.6	96.6	94.2	91.7	88.7	0.8	1,339	1	0	2	1	1	0	50	71	58
+	3,982	0	686	99.2	97.8	96.4	94.6	92.7	0.4	3,038	9	1	2	0	4	0	74	107	61

Table24. Eradication therapy in *H. pylori*- positive cases

categories	total number	direct death	lost f.u.	1yr(%)	2yr(%)	3yr(%)	4yr(%)	5yr(%)	S.E.at 5yr	alive	primary disease	local rec.	lymph node.	peritoneal	liver rec	R	other cancer	other disease	un-known
Not performed	984	0	231	98.2	95.8	93.6	90.6	87.2	1.2	648	3	0	1	0	2	0	24	55	20
Performed	2,686	0	382	99.7	98.6	97.6	96.3	95.1	0.4	2,182	5	1	1	0	1	0	41	39	34