

# 胃癌学会全国登録解析結果報告 —2013年EMR/ESD症例—

## 1. 登録施設 計192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 市立室蘭総合病院 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 恵佑会第2病院 釧路労災病院 社会医療法人母恋天使病院 北見赤十字病院

### 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 仙台厚生病院 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 石巻赤十字病院 財団法人三友堂病院  
福島県立医科大学

### 北陸

済生会新潟病院 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 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 JCHO 群馬中央病院 SUBARU健康保険組合太田記念病院 獨協医科大学埼玉医療センター  
上尾中央総合病院 上福岡総合病院 栃木県立がんセンター 国立病院機構宇都宮病院 済生会宇都宮病院 那須赤十字病院 友愛記念病院 北茨城市民病院  
筑波大学附属病院 水戸赤十字病院 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 川崎市立川崎病院 北里大学病院 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  
独立行政法人国立病院機構横浜医療センター 済生会横浜市南部病院 国立病院機構相模原病院 衣笠病院 大船中央病院 伊勢原協同病院  
済生会横浜市東部病院 (医) 社団哺育会桜ヶ丘中央病院 日本大学病院 国立がん研究センター中央病院 東京慈恵会医科大学 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 (独) 国立病院機構東京医療センター  
東京医科大学病院 慶應義塾大学病院 杏林大学病院 公立昭和病院 東京都済生会中央病院 河北総合病院 東京都立大塚病院  
社会医療法人社団慈生会等潤病院 順天堂大学練馬病院 国家公務員共済組合連合会 東京共済病院 三井記念病院 国家公務員共済組合連合会立川病院

### 甲信

社会医療法人財団慈泉会相澤病院 長野市民病院 JA長野厚生連佐久総合病院佐久医療センター JA長野厚生連南長野医療センター篠ノ井総合病院

### 東海

静岡県立総合病院 沼津市立病院 聖隷浜松病院 浜松医科大学 磐田市立総合病院 聖隷富士病院 岐阜大学医学部 朝日大学病院  
愛知県がんセンター中央病院 愛知医科大学病院 名古屋市立西部医療センター 江南厚生病院 四日市市立四日市病院 名古屋第一赤十字病院

## 近畿

滋賀県立総合病院 住友病院 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 関西医科大学附属病院 パナソニック健康保険組合松下記念病院 市立ひらかた病院 大阪中央病院 市立貝塚病院 景岳会南大阪病院  
高槻赤十字病院 ベルランド総合病院 医療法人春秋会城山病院 医療法人仙養会北摂総合病院 京都府立医科大学 京都大学医学部附属病院  
社会福祉法人恩賜財団済生会中和病院 市立奈良病院 和歌山県立医科大学 宝塚市立病院 市立伊丹病院 兵庫県立丹波医療センター  
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 地方独立行政法人加古川市民病院機構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医療センター 市立長浜病院

## 中国

鳥取大学医学部附属病院 岡山大学病院 倉敷中央病院 総合病院水島協同病院 岡山ろうさい病院 チクバ外科・胃腸科・肛門科病院  
川崎医科大学総合医療センター 独立行政法人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 広島共立病院  
一般財団法人防府消化器病センター防府胃腸病院

## 四国

三豊総合病院 四国がんセンター 愛媛県立新居浜病院 徳島赤十字病院 高知赤十字病院 高知医療センター

## 九州

製鉄記念八幡病院 国立病院機構九州がんセンター 福岡歯科大学医科歯科総合病院 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 戸畑共立病院 芦屋中央病院 地方独立行政法人大牟田市立総合病院 一般社団法人朝倉医師会朝倉医師会病院  
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 佐世保共済病院 井上病院 長崎県対馬病院 熊本地域医療センター  
熊本大学医学部附属病院 熊本労災病院 荒尾市民病院 独立行政法人国立病院機構大分医療センター 大分大学医学部附属病院 大分県厚生連鶴見病院  
天心堂へつぎ病院 医療法人慈恵会西田病院 大分岡病院 大分中村病院 古賀総合病院 鹿児島大学病院 公益法人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 済生会川内病院

## 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 9,705 例

## 3. 対象症例

登録対象は2013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. 24.0を用いた。

#### 5. 表中の略語の説明

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

All Patients			
Age	mean±SD	72.0	±8.941
	-39	27	(0.3%)
	40-59	754	(7.8%)
	60-79	6,923	(71.3%)
	80-	2,001	(20.6%)
Sex	Male	7,263	(74.8%)
	Female	2,442	(25.2%)
Prior endoscopic treatment	-	9,409	(97.0%)
	+	292	(3.0%)
	Unknown	4	(0.0%)
Stomach condition	Normal stomach	9,333	(96.2%)
	Remnant stomach	305	(3.1%)
	Gastric tube	65	(0.7%)
	Unknown	2	(0.0%)
Tumor location	U	1,575	(16.3%)
	M	3,605	(37.1%)
	L	4,503	(46.4%)
	Unknown	22	(0.2%)
Cross-sectional parts	Less	4,017	(41.4%)
	Gre	2,005	(20.7%)
	Ant	1,630	(16.8%)
	Post	1,981	(20.4%)
	Unknown	72	(0.7%)
Macroscopic type	Depressed type	5,165	(53.2%)
	Elevated type	3,627	(37.4%)
	Mixed type	846	(8.7%)
	Others	17	(0.2%)
	Unknown	50	(0.5%)
Method of endoscopic resection	ESD	9,572	(98.6%)
	EMR	129	(1.3%)
	Others	4	(0.1%)
En-bloc or piecemeal resection	En-bloc resection	9,585	(98.8%)
	Piecemeal resection	113	(1.1%)
	Unknown	7	(0.1%)
Bleeding requiring emergency surgery	Presence	51	(0.5%)
	Absence	9,648	(99.4%)
	Unknown	6	(0.1%)
Perforation requiring emergency surgery	Presence	27	(0.3%)
	Absence	9,667	(99.6%)
	Unknown	11	(0.1%)
Histological type	pap	191	(2.0%)
	tub1	7,617	(78.3%)
	tub2	1,368	(14.1%)
	por	228	(2.4%)
	sig	239	(2.5%)
	muc	5	(0.1%)
	Others	41	(0.4%)
	Inconclusive	7	(0.1%)
	Unknown	6	(0.1%)
	Data unavailable	3	(0.0%)

Depth of tumor invasion	M	8,209	(84.6%)
	SM1	693	(7.1%)
	SM2 or deeper than SM2	759	(7.9%)
	Others	11	(0.1%)
	Inconclusive	13	(0.1%)
	Unknown	20	(0.2%)
Lymphatic invasion(ly)	-	9,151	(94.2%)
	+	482	(5.0%)
	Inconclusive	27	(0.3%)
	Unknown	45	(0.5%)
Venous invasion(v)	-	9,335	(96.1%)
	+	301	(3.1%)
	Inconclusive	25	(0.3%)
	Unknown	44	(0.5%)
UL	-	8,253	(85.0%)
	+	880	(9.1%)
	Inconclusive	112	(1.2%)
	Unknown	460	(4.7%)
Horizontal margin	HM0	9,226	(95.1%)
	HM1	226	(2.3%)
	HMX	253	(2.6%)
Vertical margin	VM0	9,303	(95.9%)
	VM1	227	(2.3%)
	VMX	175	(1.8%)
En-bloc resection with tumor-free margins	En-bloc resection with tumor-free margins	8,967	(92.4%)
	Positive or inconclusive resected margins	738	(7.6%)
Curability	Curative resection	5,191	(53.5%)
	Curative resection for expanded indication	2,570	(26.5%)
	Non-curative resection	1,944	(20.0%)
Subsequent treatment for non-curative resection	No additional treatment	1,201	(61.8%)
	Surgery	686	(35.3%)
	Endoscopic resection	16	(0.8%)
	Endoscopic ablation	28	(1.4%)
	Others	7	(0.4%)
	Unknown	6	(0.3%)
<i>H. pylori</i> infection	-	2,085	(21.5%)
	+	4,901	(50.5%)
	Unknown	2,719	(28.0%)
Eradication therapy in <i>H. pylori</i> -positive cases	Not performed	944	(19.3%)
	Performed	3,443	(70.2%)
	Unknown	505	(10.3%)
	Data unavailable	9	(0.2%)
Total		9,705	(100.0%)

Methods of endoscopic resection		ESD	EMR
Age	mean±SD	72.0 ±8.925	73.7 ±9.928
	-39	26 (0.3%)	1 (0.8%)
	40-59	745 (7.8%)	9 (7.0%)
	60-79	6,841 (71.4%)	80 (62.0%)
	80-	1,960 (20.5%)	39 (30.2%)
Sex	Male	7,175 (75.0%)	85 (65.9%)
	Female	2,397 (25.0%)	44 (34.1%)
Prior endoscopic treatment	-	9,281 (97.0%)	125 (96.9%)
	+	287 (3.0%)	4 (3.1%)
	Unknown	4 (0.0%)	0 (0.0%)
Stomach condition	Normal stomach	9,212 (96.2%)	118 (91.5%)
	Remnant stomach	294 (3.1%)	11 (8.5%)
	Gastric tube	65 (0.7%)	0 (0.0%)
	Unknown	1 (0.0%)	0 (0.0%)
Tumor location	U	1,542 (16.1%)	32 (24.8%)
	M	3,560 (37.2%)	43 (33.3%)
	L	4,448 (46.5%)	54 (41.9%)
	Unknown	22 (0.2%)	0 (0.0%)
Cross-sectional parts	Less	3,988 (41.7%)	28 (21.7%)
	Gre	1,955 (20.4%)	49 (38.0%)
	Ant	1,606 (16.8%)	22 (17.1%)
	Post	1,957 (20.4%)	24 (18.6%)
	Unknown	66 (0.7%)	6 (4.7%)
Macroscopic type	Depressed type	5,143 (53.7%)	22 (17.1%)
	Elevated type	3,528 (36.9%)	95 (73.6%)
	Mixed type	843 (8.8%)	3 (2.3%)
	Others	15 (0.2%)	2 (1.6%)
	Unknown	43 (0.4%)	7 (5.4%)
En-bloc or piecemeal resection	En-bloc resection	9,474 (99.0%)	109 (84.5%)
	Piecemeal resection	92 (0.9%)	20 (15.5%)
	Unknown	6 (0.1%)	0 (0.0%)
Bleeding requiring emergency surgery	Presence	51 (0.5%)	0 (0.0%)
	Absence	9,515 (99.4%)	129 (100.0%)
	Unknown	6 (0.1%)	0 (0.0%)
Perforation requiring emergency surgery	Presence	27 (0.3%)	0 (0.0%)
	Absence	9,535 (99.6%)	128 (99.2%)
	Unknown	10 (0.1%)	1 (0.8%)
Histological type	pap	179 (1.9%)	12 (9.3%)
	tub1	7,514 (78.4%)	99 (76.7%)
	tub2	1,360 (14.2%)	8 (6.2%)
	por	225 (2.4%)	3 (2.3%)
	sig	237 (2.5%)	2 (1.6%)
	muc	5 (0.1%)	0 (0.0%)
	Others	38 (0.4%)	3 (2.3%)
	Inconclusive	7 (0.1%)	0 (0.0%)
	Unknown	4 (0.0%)	2 (1.6%)
	Data unavailable	3 (0.0%)	0 (0.0%)

		ESD	EMR
Depth of tumor invasion	M	8,092 (84.5%)	114 (88.4%)
	SM1	688 (7.2%)	4 (3.1%)
	SM2 or deeper than SM2	752 (7.9%)	7 (5.4%)
	Others	11 (0.1%)	0 (0.0%)
	Inconclusive	12 (0.1%)	1 (0.8%)
	Unknown	17 (0.2%)	3 (2.3%)
Lymphatic invasion(ly)	-	9,027 (94.3%)	120 (93.0%)
	+	479 (5.0%)	3 (2.3%)
	Inconclusive	25 (0.3%)	2 (1.6%)
	Unknown	41 (0.4%)	4 (3.1%)
Venous invasion(v)	-	9,212 (96.2%)	119 (92.2%)
	+	297 (3.1%)	4 (3.1%)
	Inconclusive	23 (0.2%)	2 (1.6%)
	Unknown	40 (0.4%)	4 (3.1%)
UL	-	8,154 (85.2%)	95 (73.5%)
	+	874 (9.1%)	6 (4.7%)
	Inconclusive	106 (1.1%)	6 (4.7%)
	Unknown	438 (4.6%)	22 (17.1%)
Horizontal margin	HM0	9,133 (95.4%)	91 (70.5%)
	HM1	212 (2.2%)	13 (10.1%)
	HMX	227 (2.4%)	25 (19.4%)
Vertical margin	VM0	9,190 (96.0%)	110 (85.3%)
	VM1	220 (2.3%)	7 (5.4%)
	VMX	162 (1.7%)	12 (9.3%)
En-bloc resection with tumor-free margins	En-bloc resection with tumor-free margins	8,876 (92.7%)	90 (69.8%)
	Positive or inconclusive resected margins	696 (7.3%)	39 (30.2%)
Curability	Curative resection	5,126 (53.5%)	64 (49.6%)
	Curative resection for expanded indication	2,562 (26.8%)	8 (6.2%)
	Non-curative resection	1,884 (19.7%)	57 (44.2%)
Subsequent treatment for non-curative resection	No additional treatment	1,153 (61.2%)	46 (80.7%)
	Surgery	680 (36.1%)	6 (10.5%)
	Endoscopic resection	14 (0.7%)	2 (3.5%)
	Endoscopic ablation	24 (1.3%)	3 (5.3%)
	Others	7 (0.4%)	0 (0.0%)
	Unknown	6 (0.3%)	0 (0.0%)
<i>H. pylori</i> infection	-	2,053 (21.4%)	31 (24.0%)
	+	4,850 (50.7%)	50 (38.8%)
	Unknown	2,669 (27.9%)	48 (37.2%)
Eradication therapy in <i>H. pylori</i> -positive cases	Not performed	933 (19.2%)	10 (20.0%)
	Performed	3,408 (70.3%)	35 (70.0%)
	Unknown	500 (10.3%)	5 (10.0%)
	Data unavailable	9 (0.2%)	0 (0.0%)
Total		9,572 (100.0%)	129 (100.0%)

## Survival curve of patients

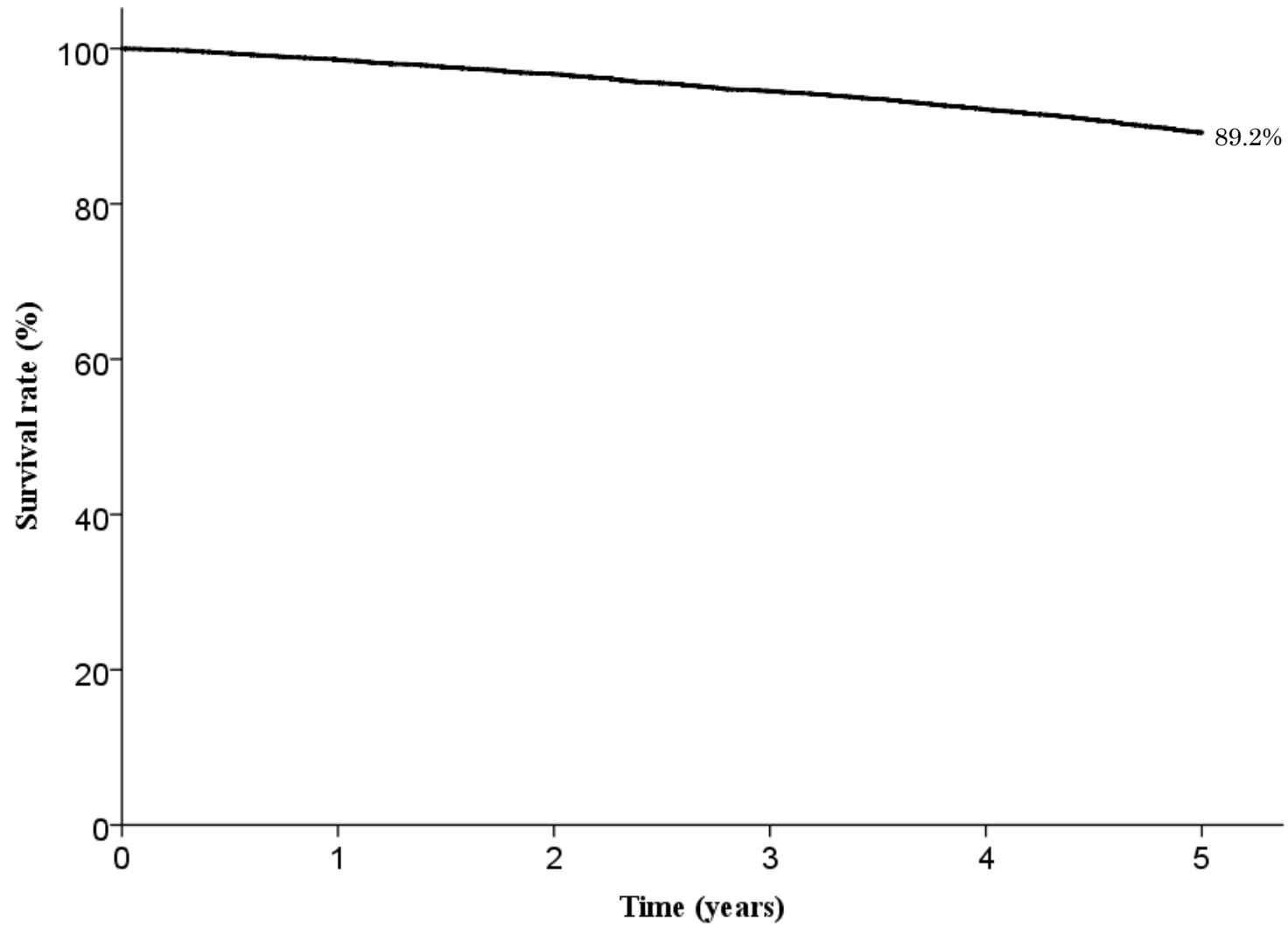


Fig. 1. Five year survival rates for all patients

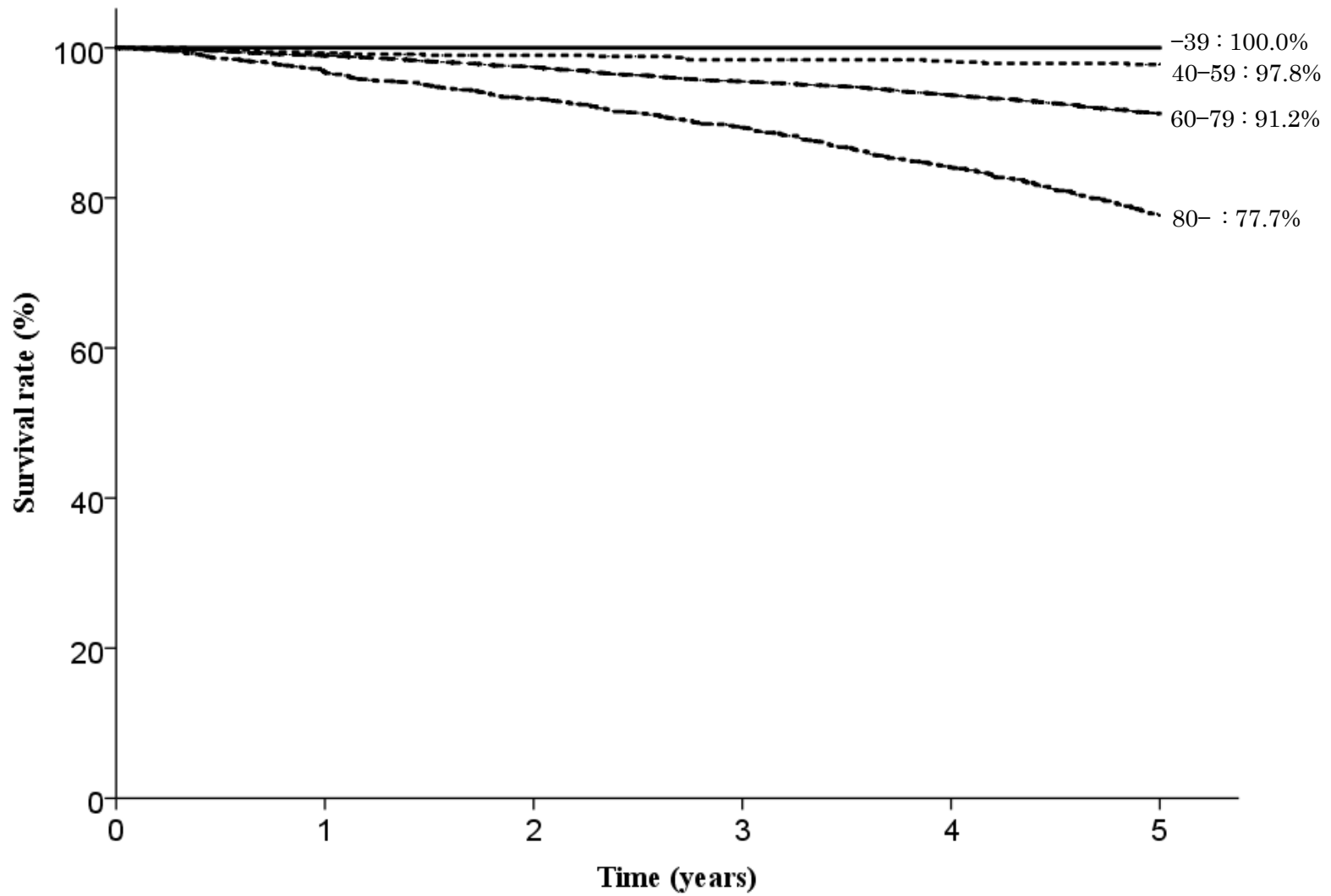


Fig. 2. Five year survival rates stratified by age

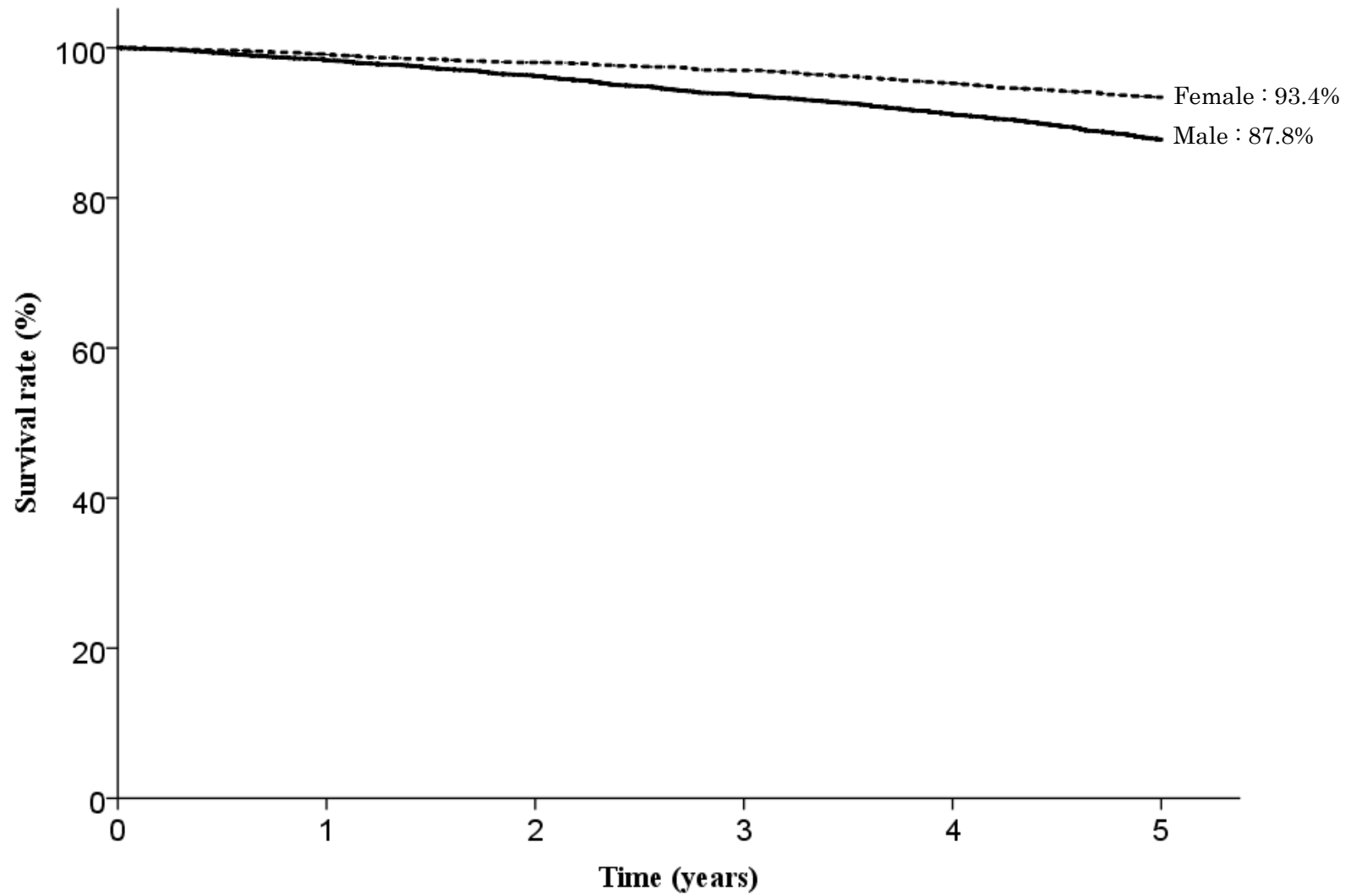


Fig. 3. Five year survival rates stratified by sex



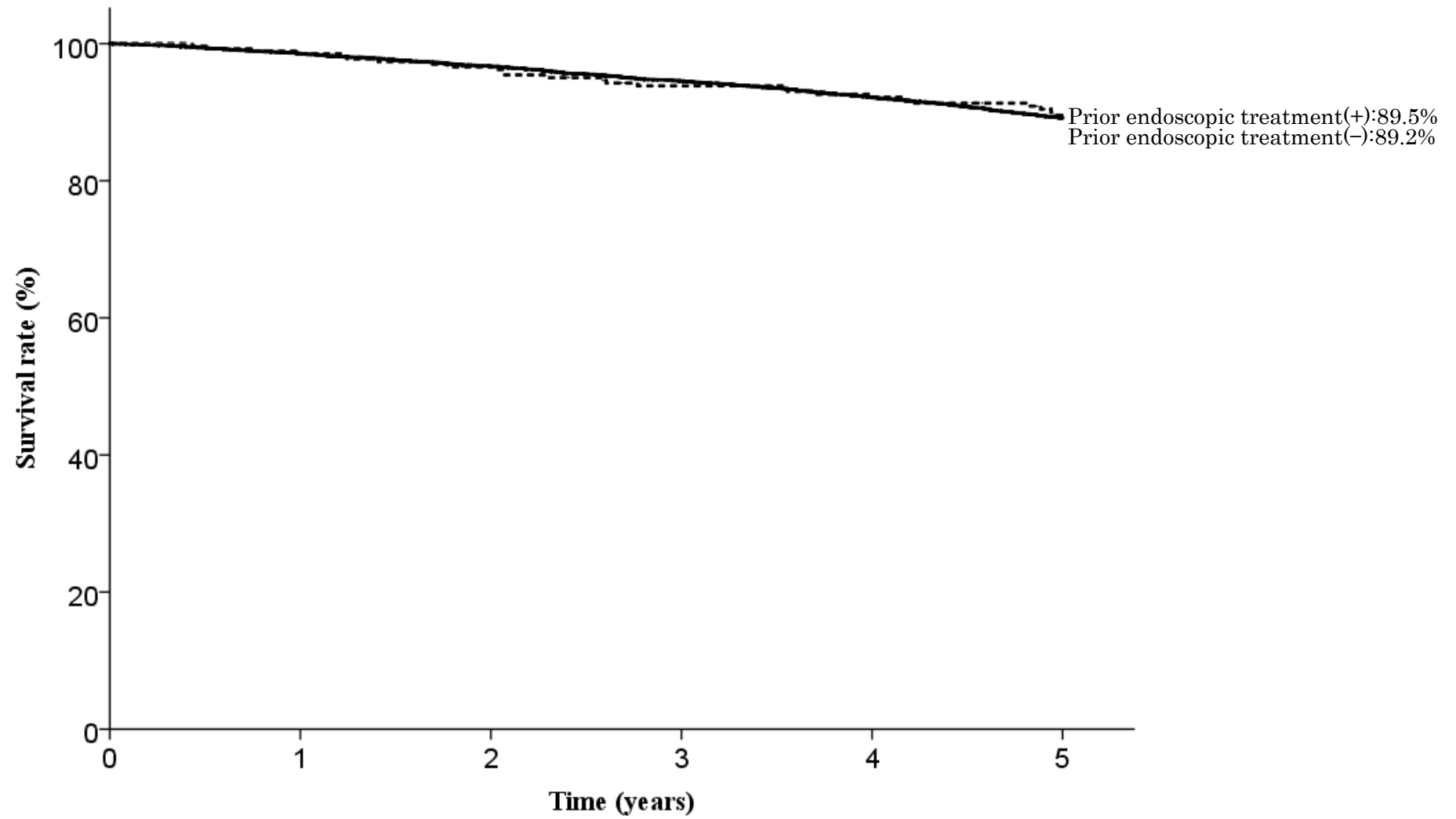


Fig. 4. Five year survival rates stratified by prior endoscopic treatment

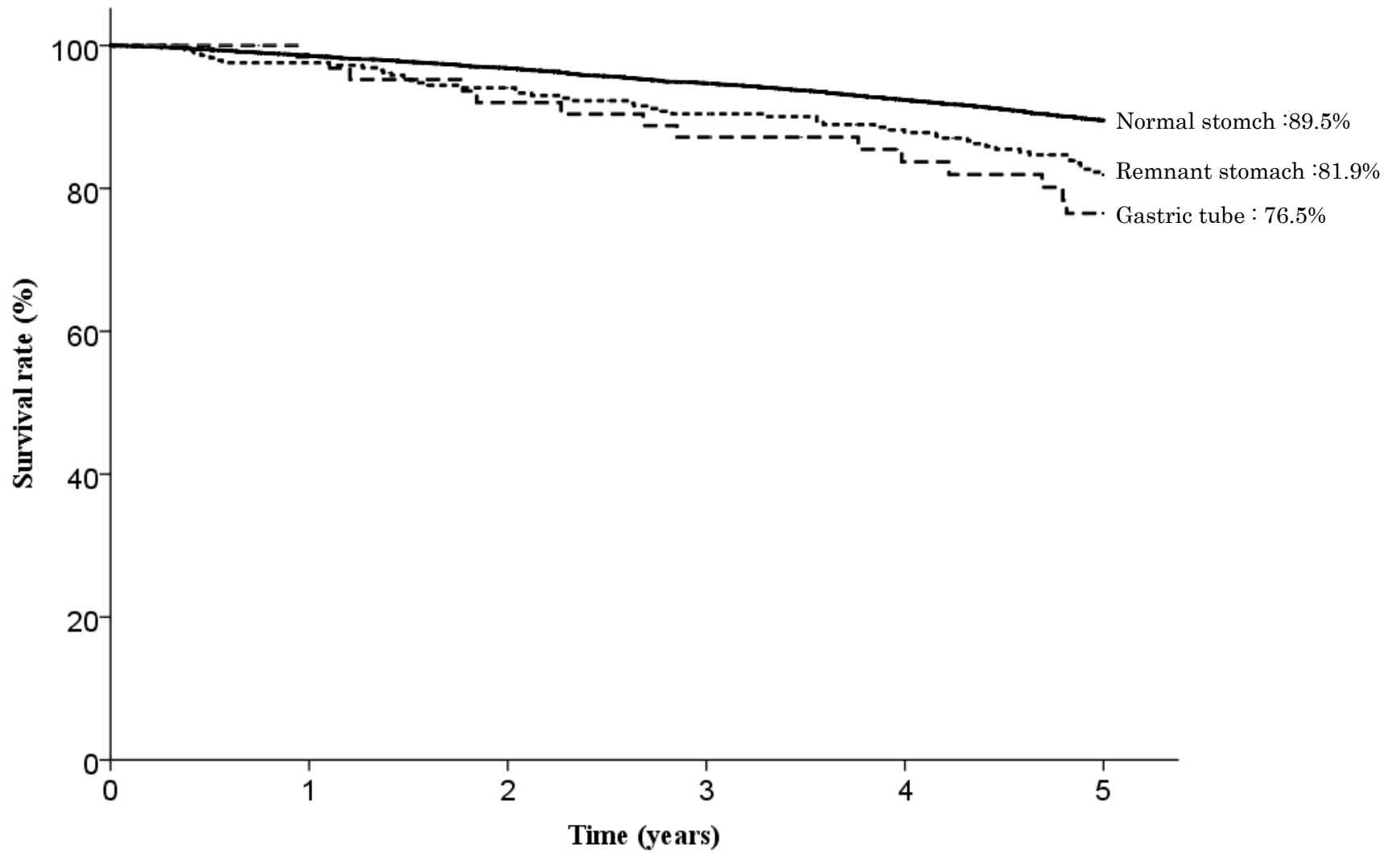


Fig. 5. Five year survival rates stratified by stomach condition

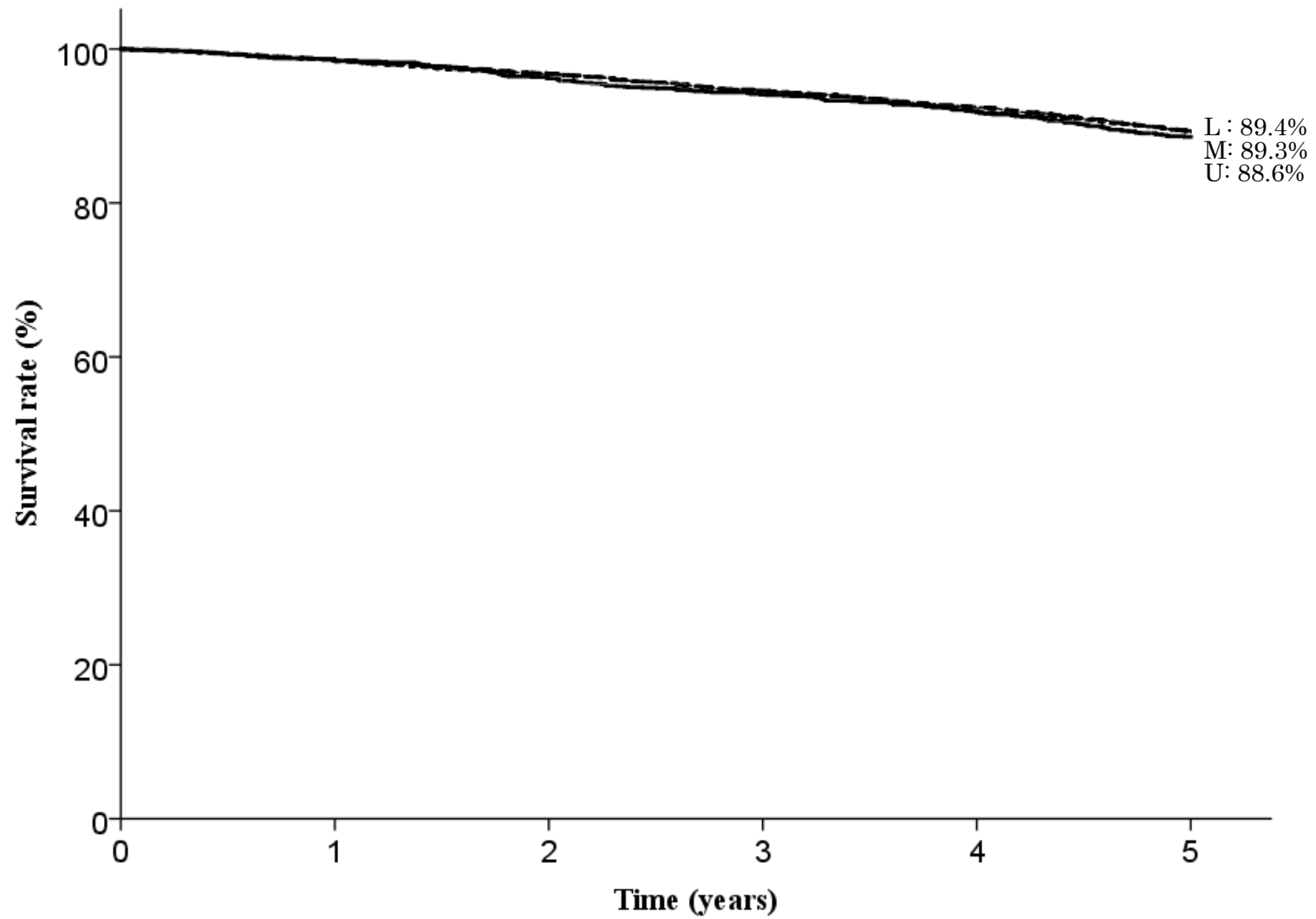


Fig. 6. Five year survival rates stratified by tumor location

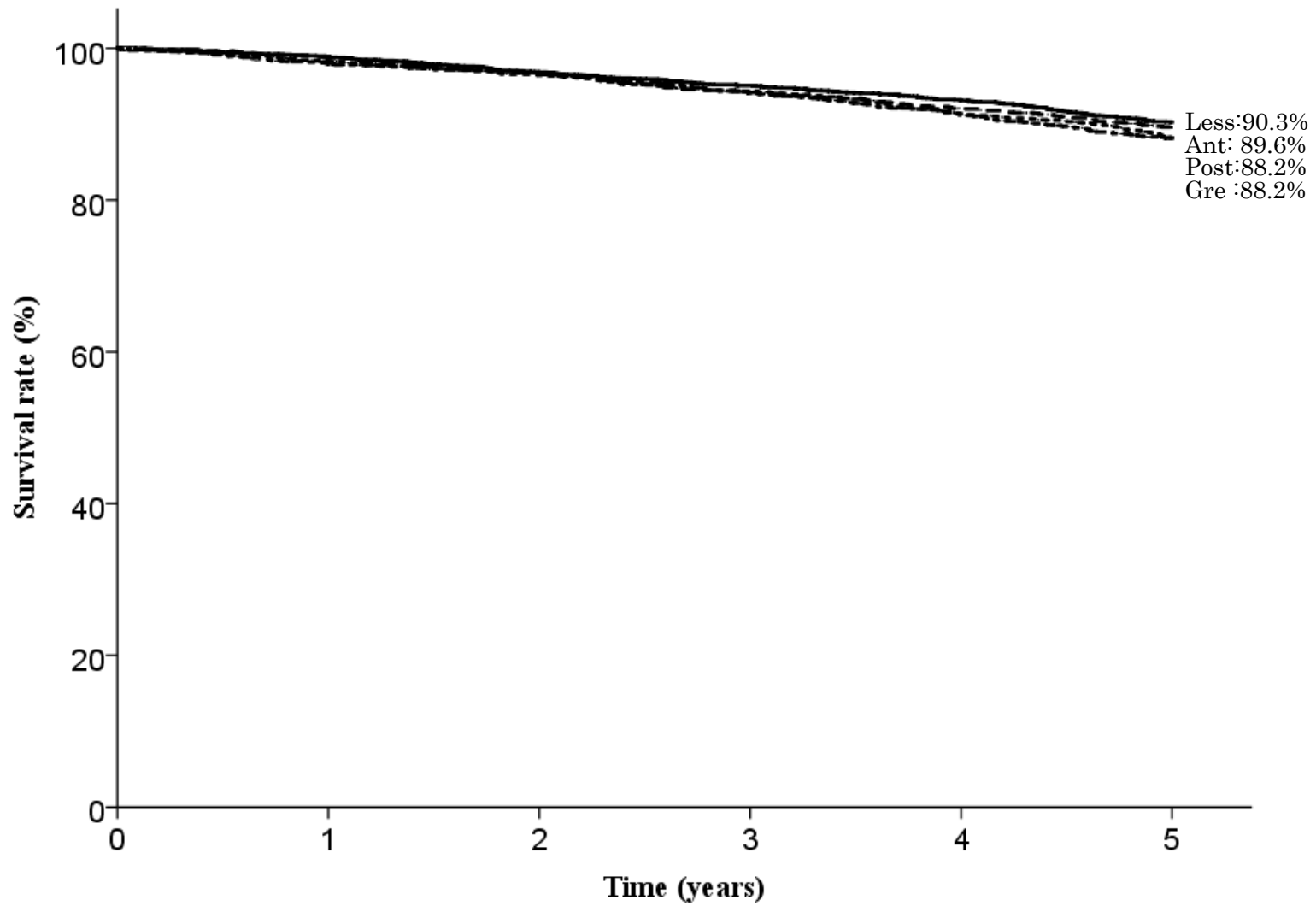


Fig. 7. Five year survival rates stratified by cross-sectional parts

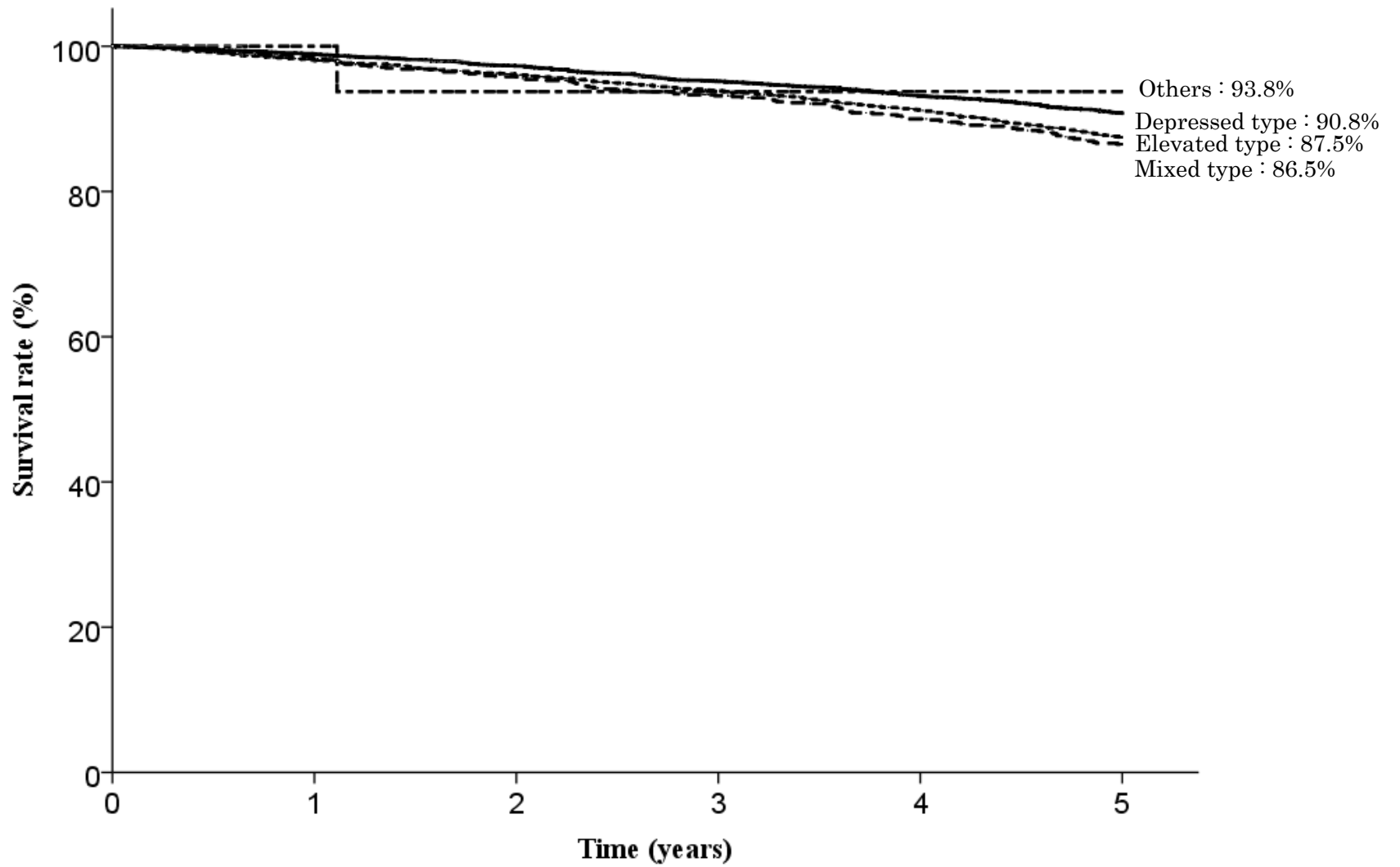


Fig. 8. Five year survival rates stratified by macroscopic type

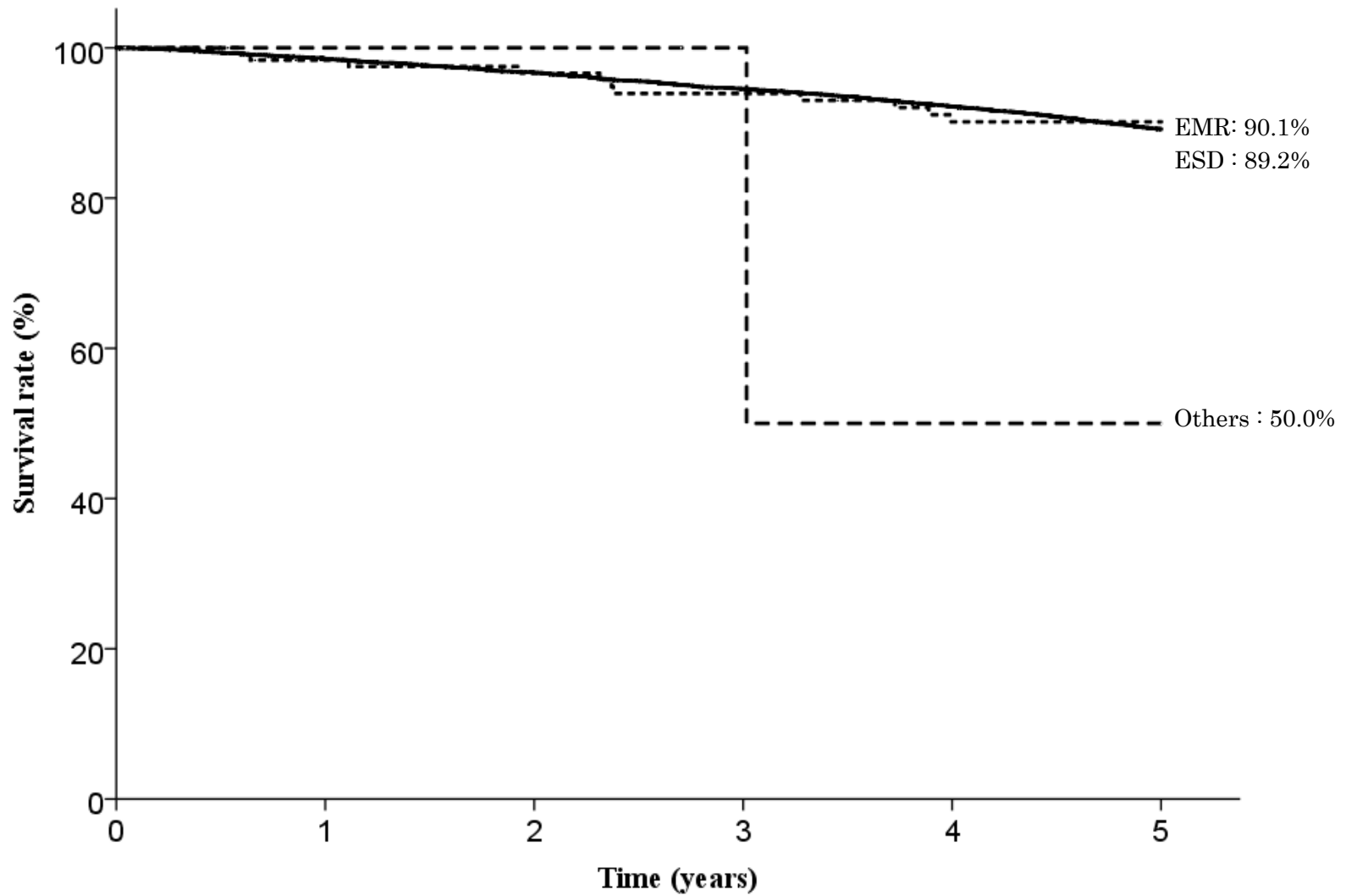


Fig. 9. Five year survival rates stratified by method of endoscopic resection

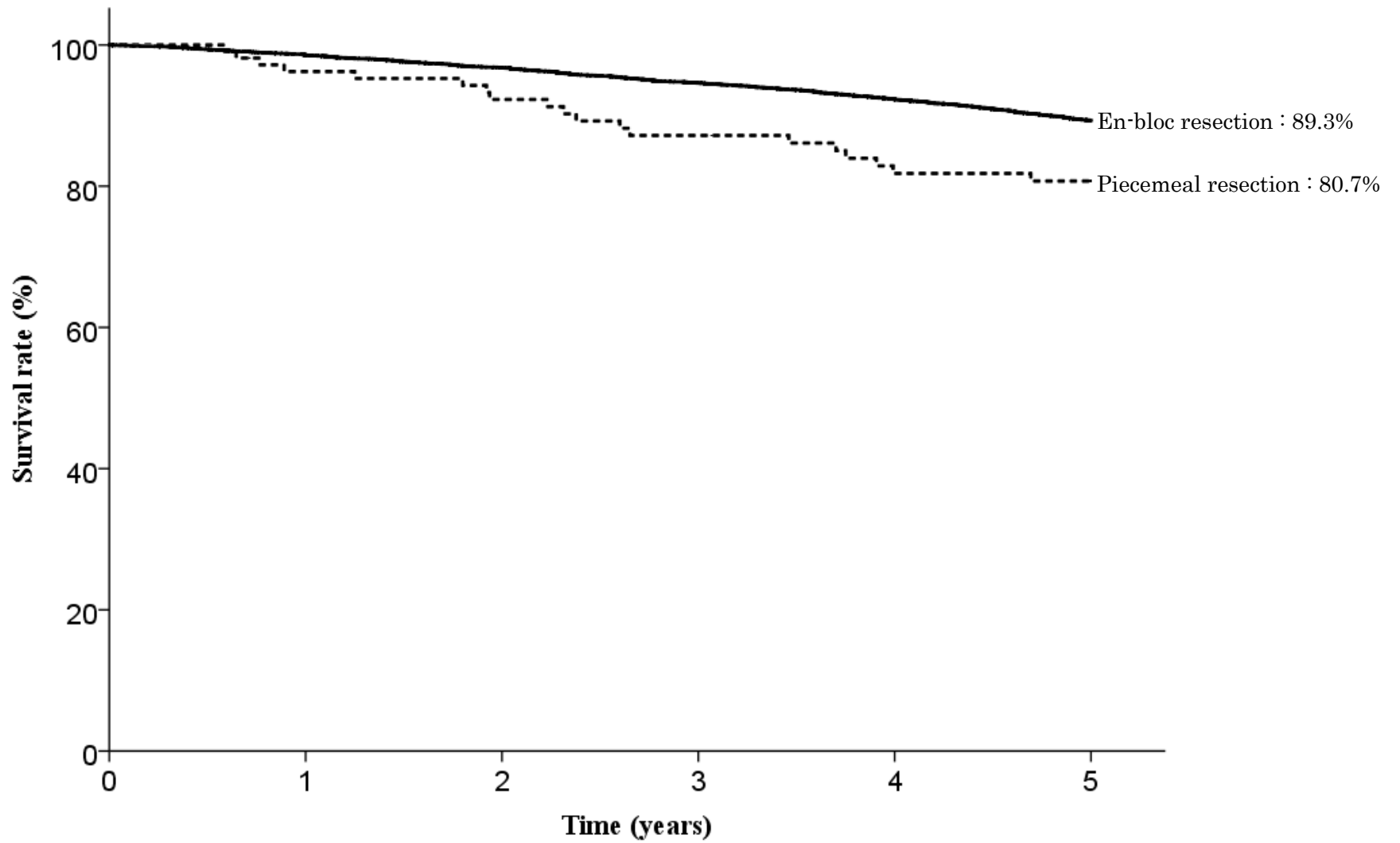


Fig. 10. Five year survival rates stratified by en-bloc or piecemeal resection

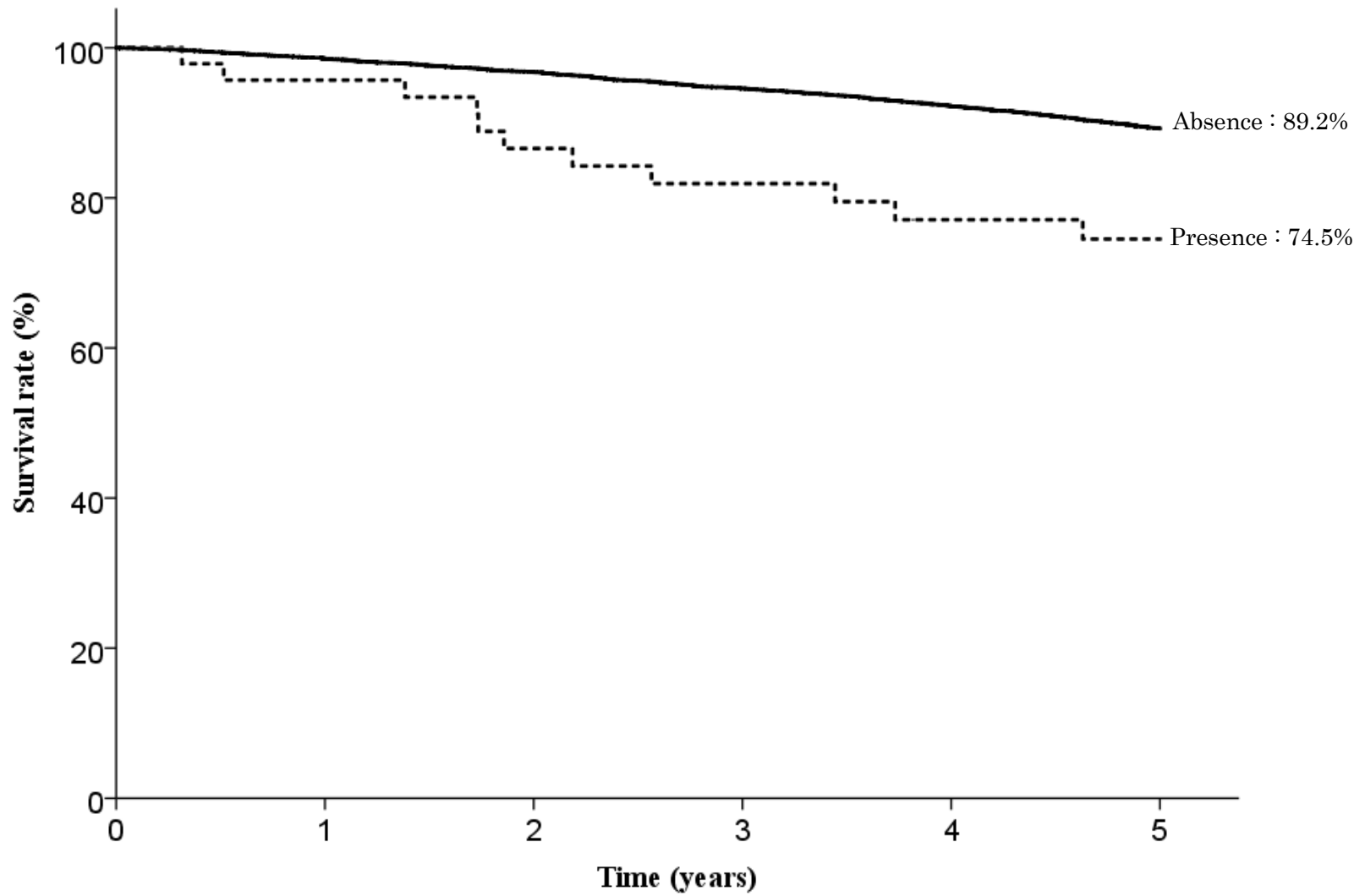


Fig. 11. Five year survival rates stratified by bleeding requiring emergency surgery



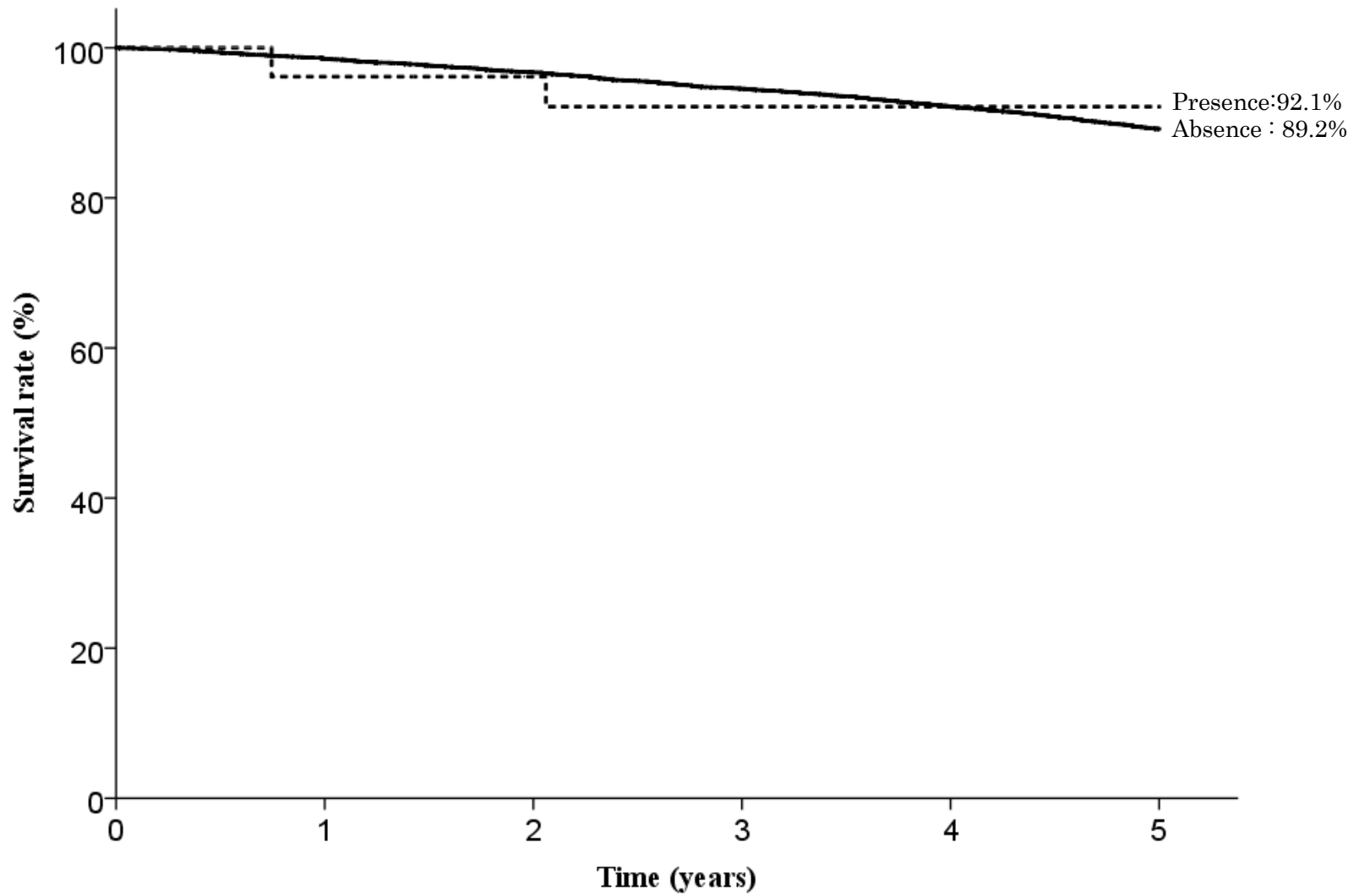


Fig. 12. Five year survival rates stratified by perforation requiring emergency surgery

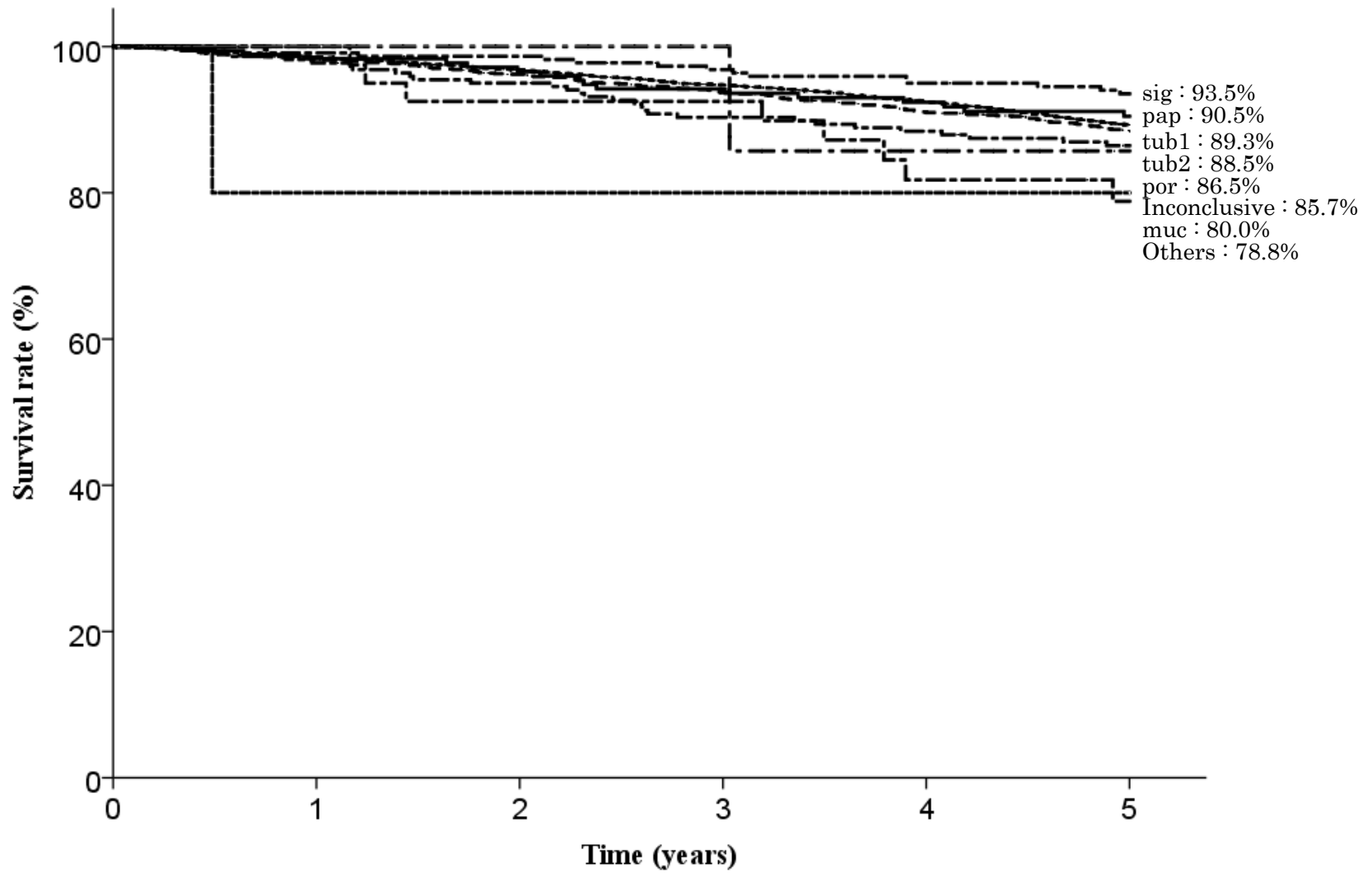


Fig. 13. Five year survival rates stratified by histological type

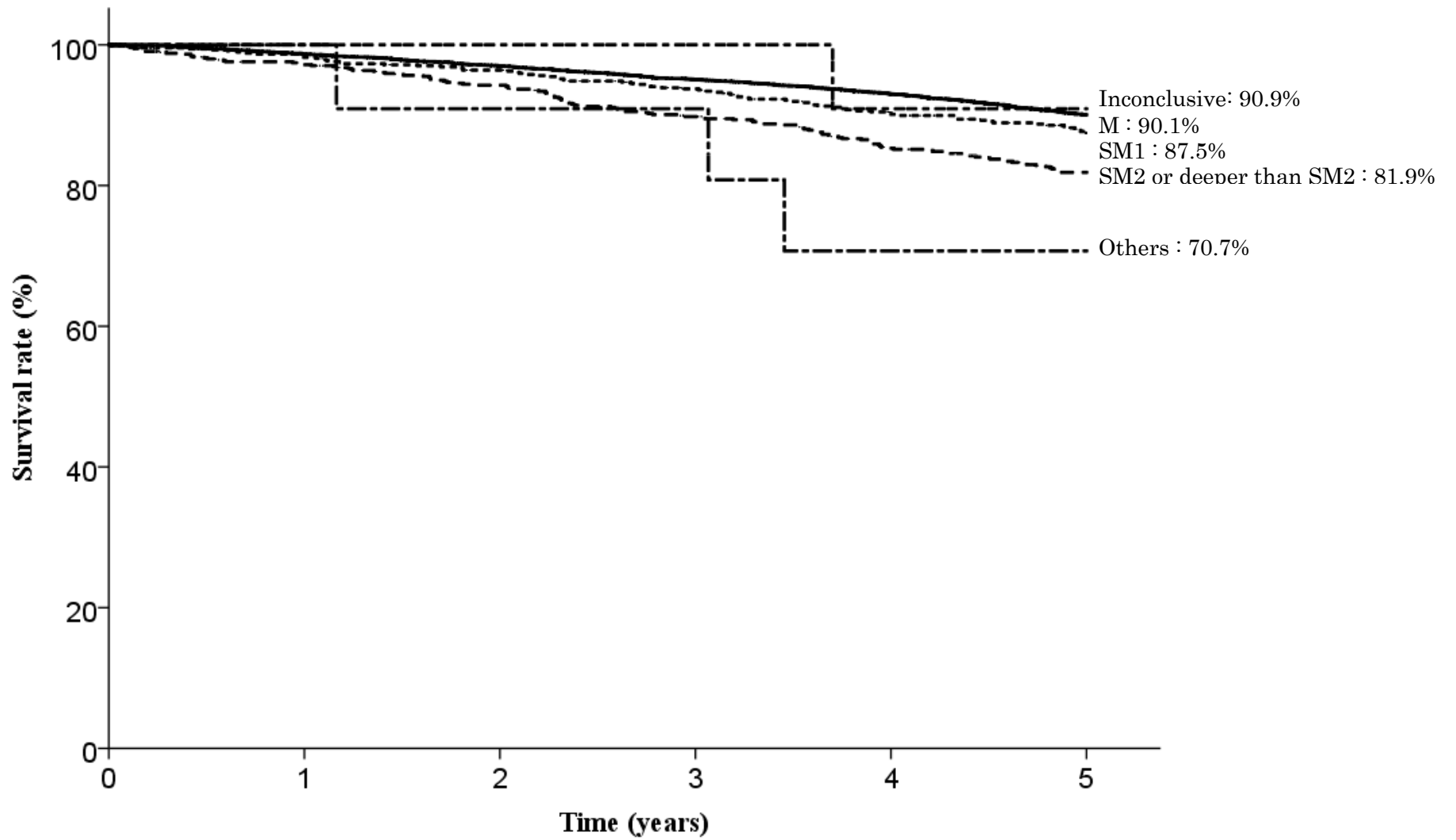


Fig. 14. Five year survival rates stratified by depth of tumor invasion

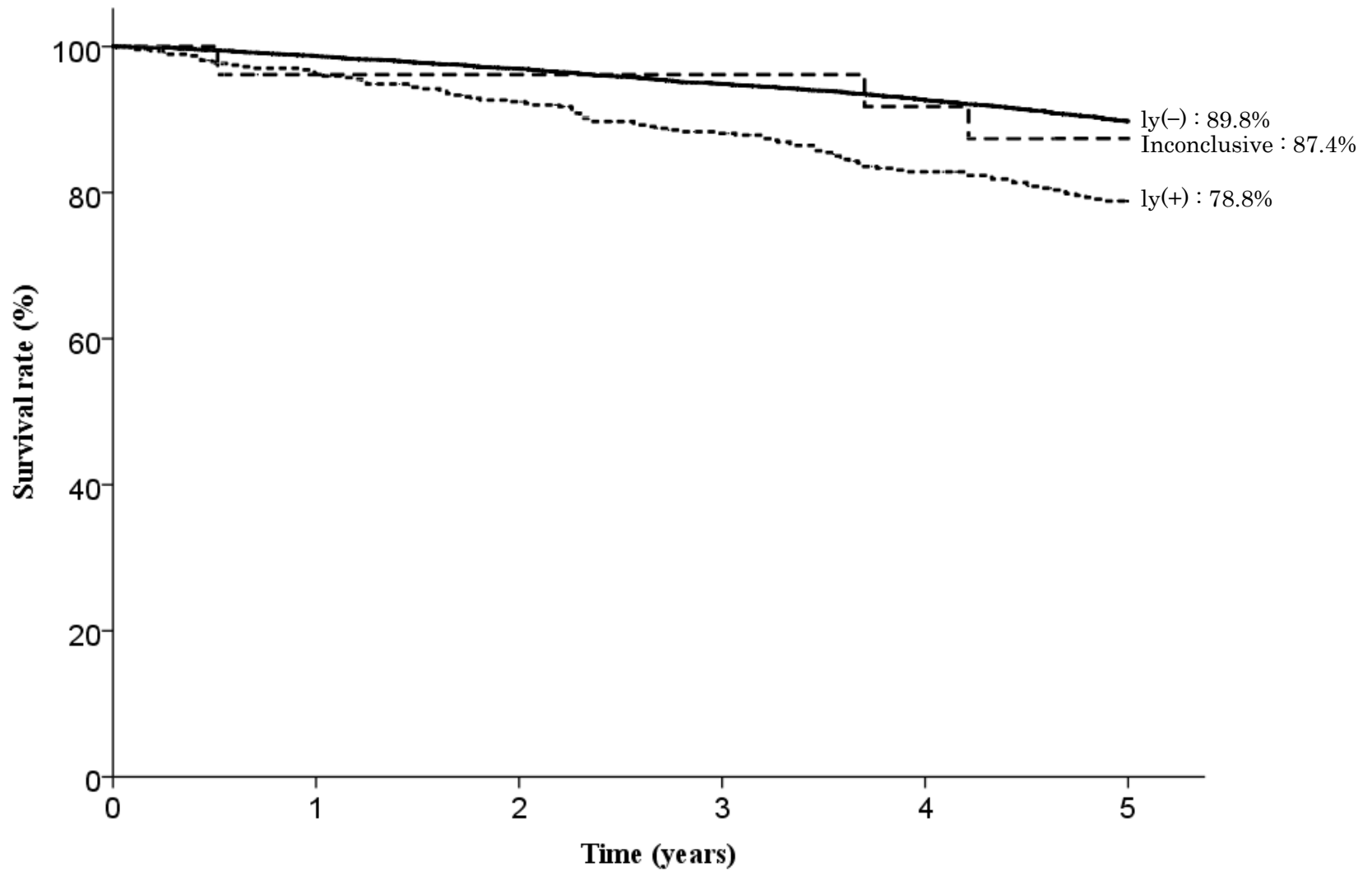


Fig. 15. Five year survival rates stratified by lymphatic invasion

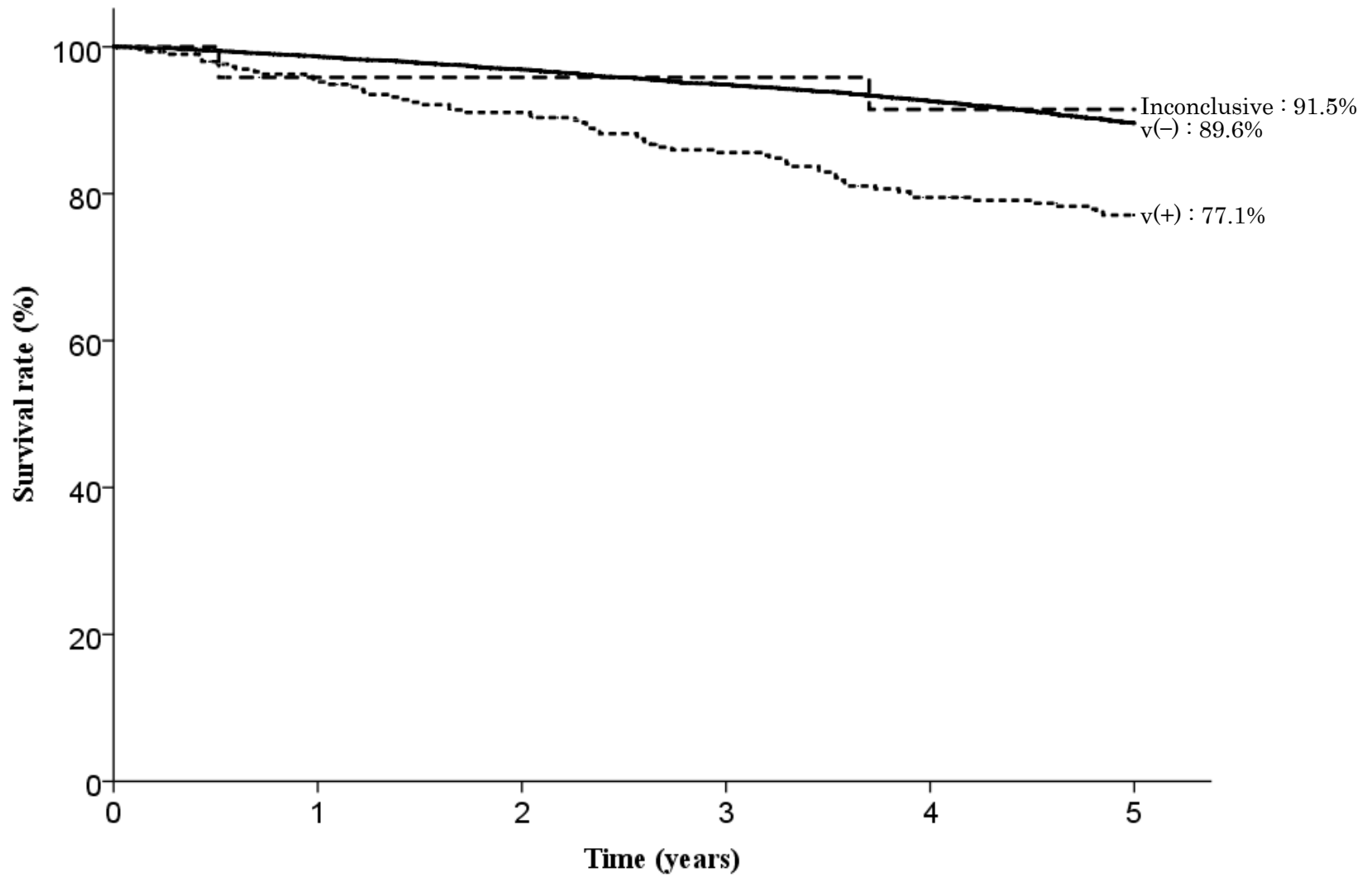


Fig. 16. Five year survival rates stratified by venous invasion

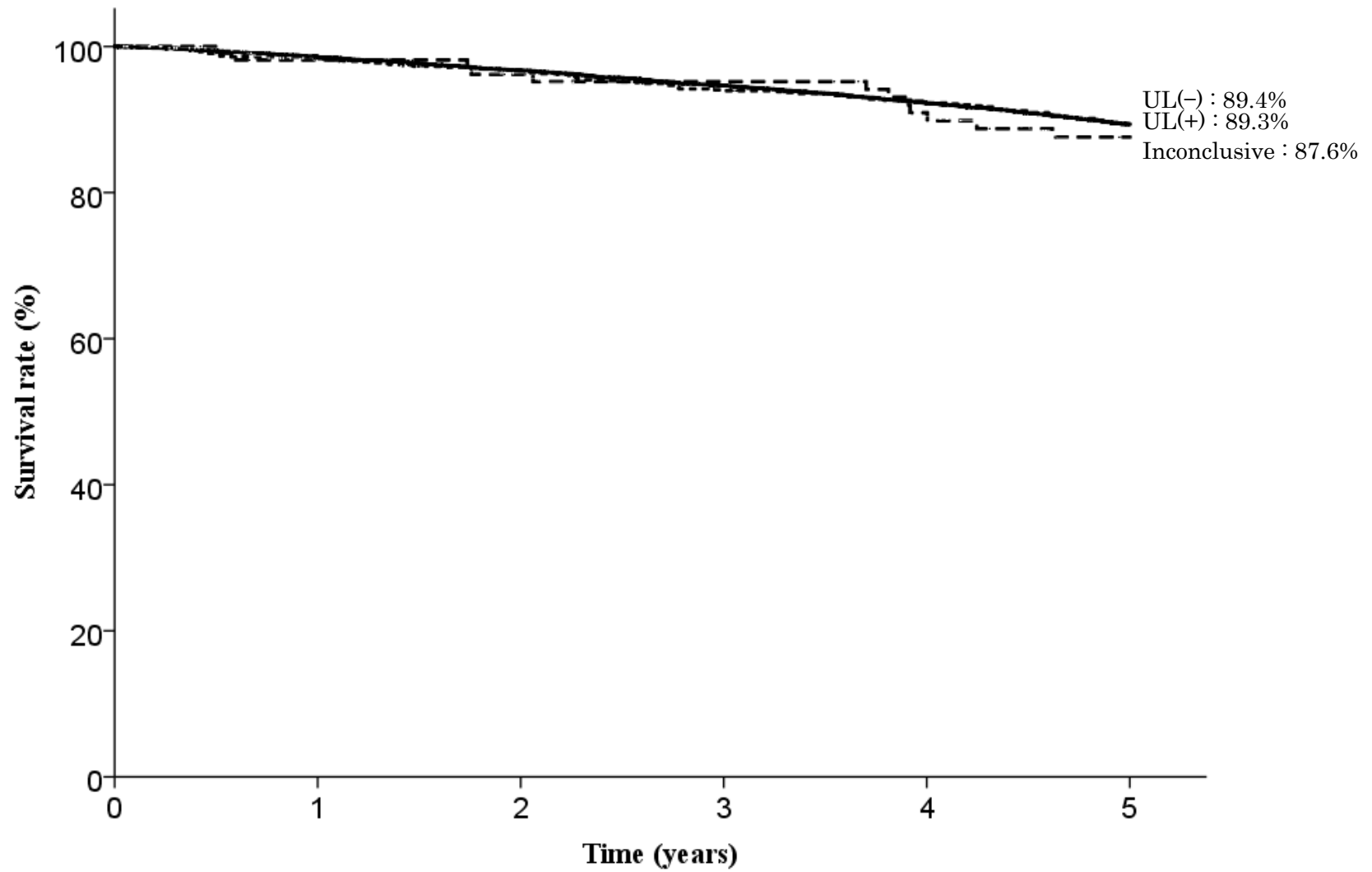


Fig. 17. Five year survival rates stratified by UL

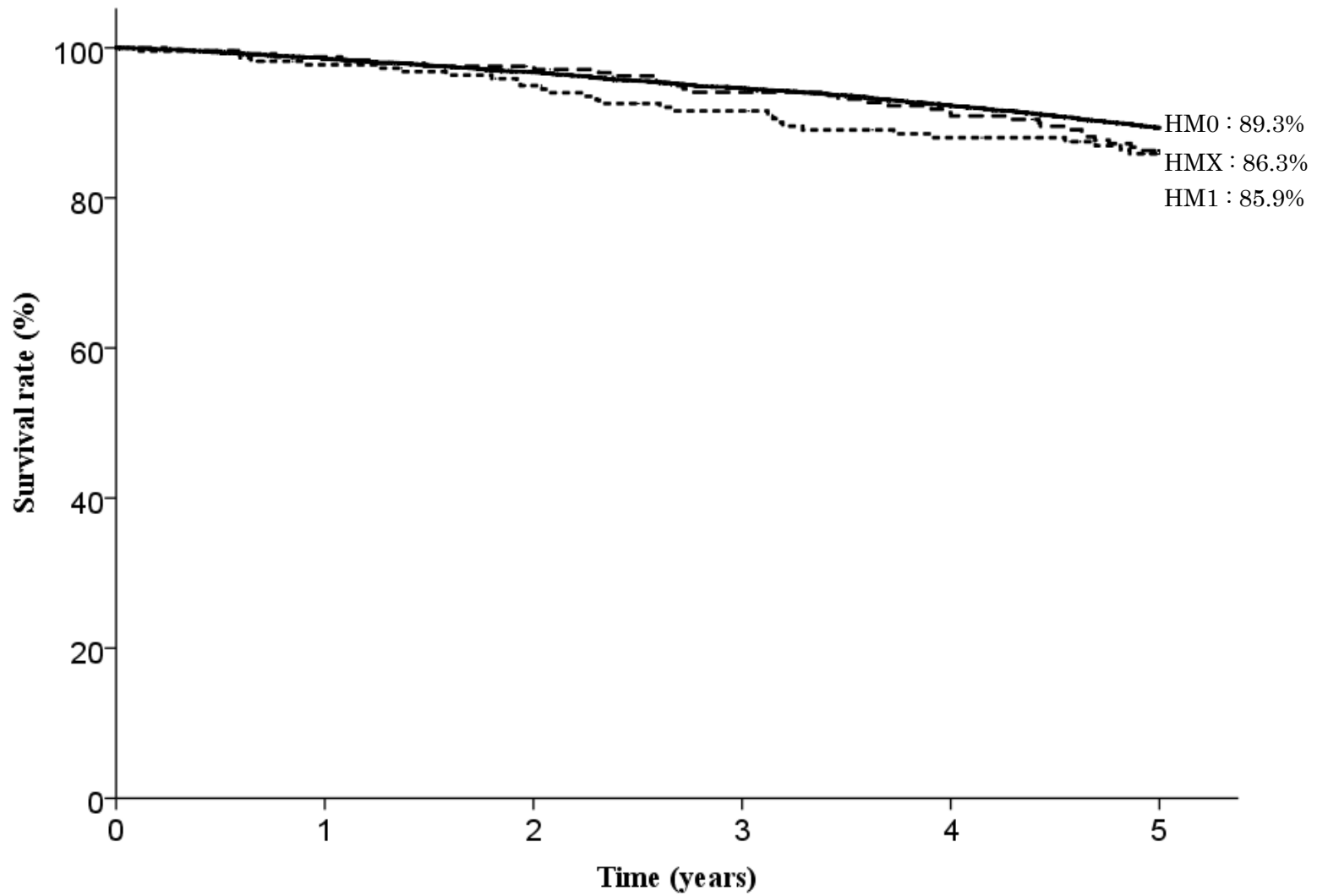


Fig. 18. Five year survival rates stratified by horizontal margin

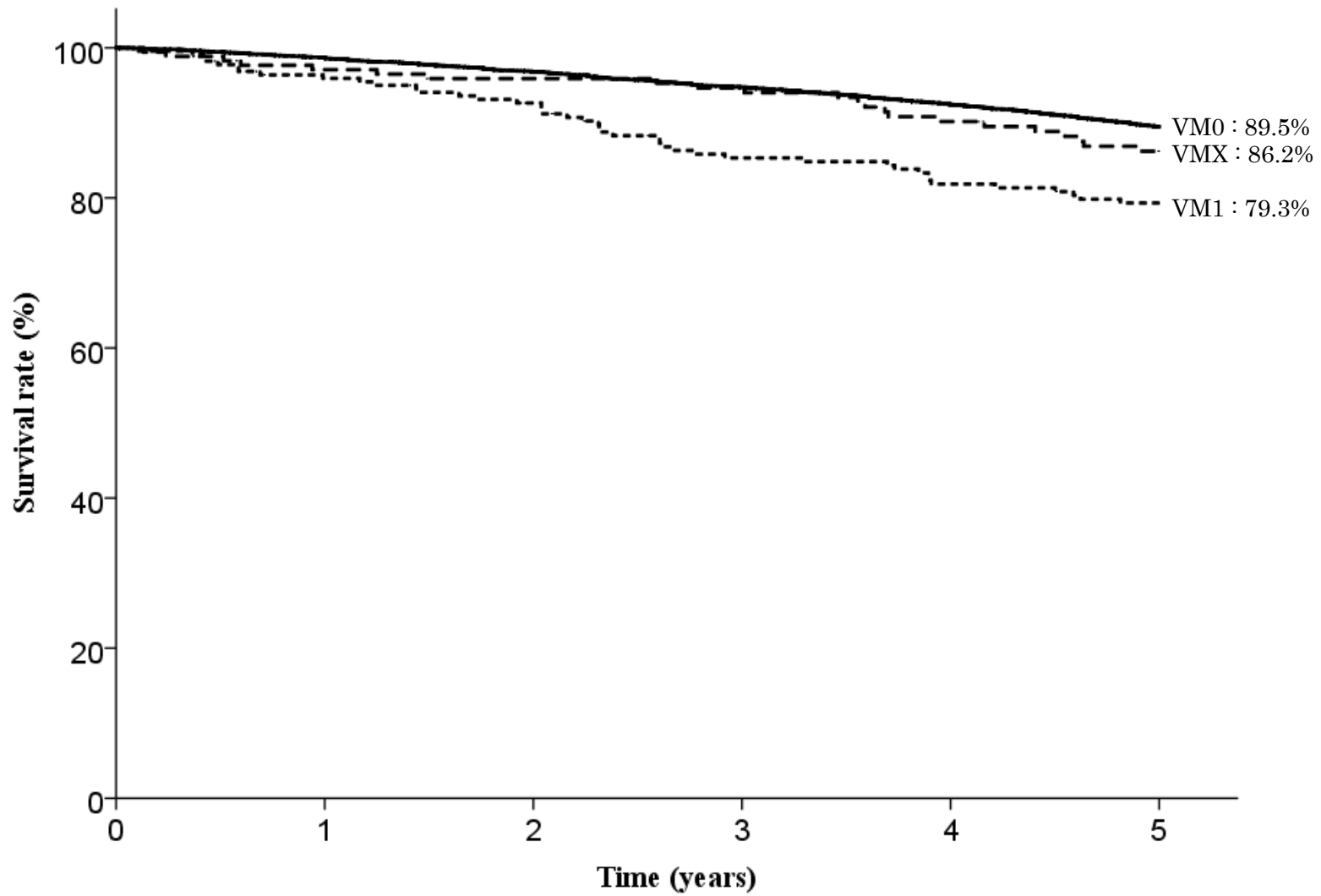


Fig. 19. Five year survival rates stratified by vertical margin



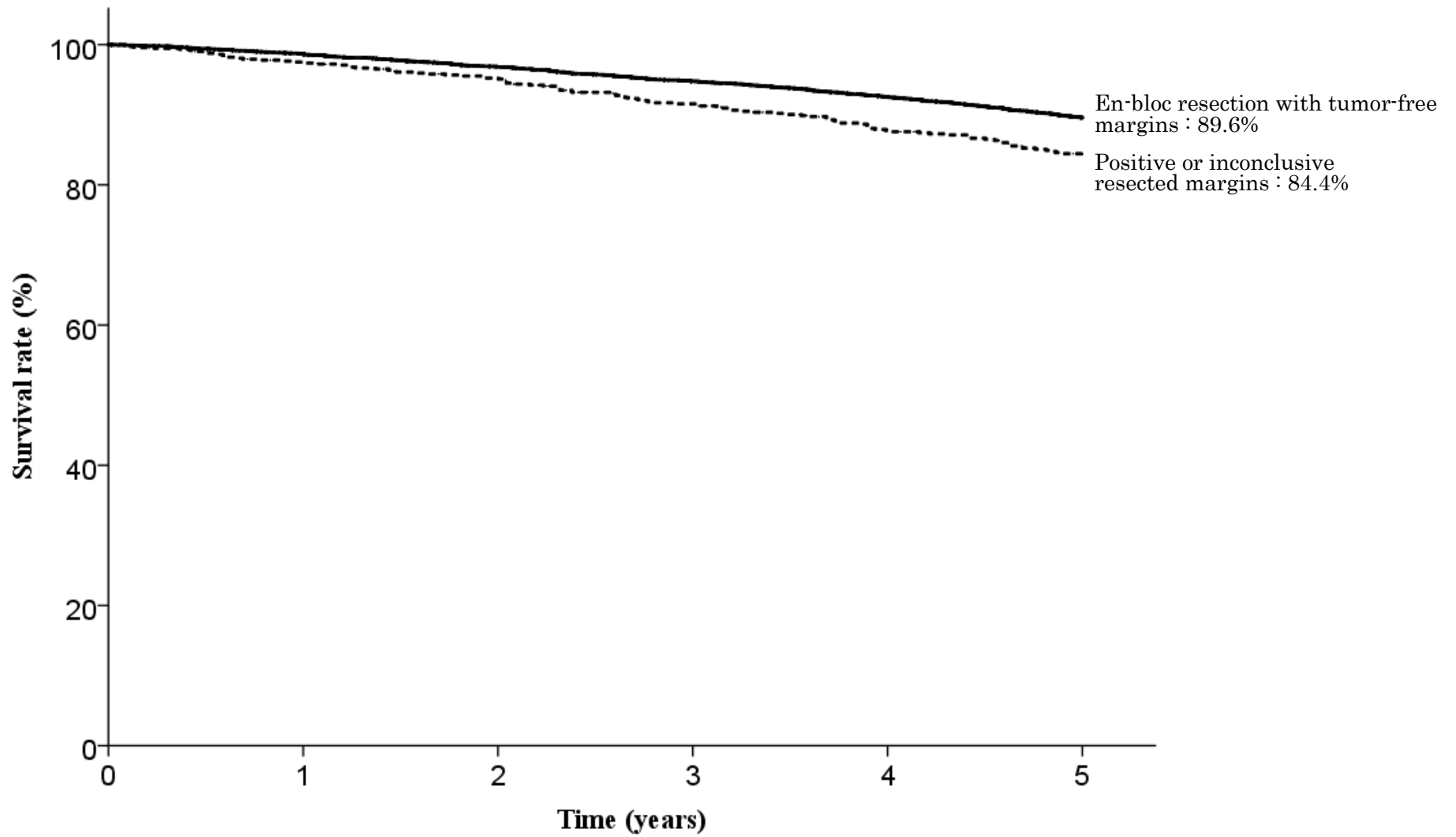


Fig. 20. Five year survival rates stratified by en-bloc resection with tumor-free margins

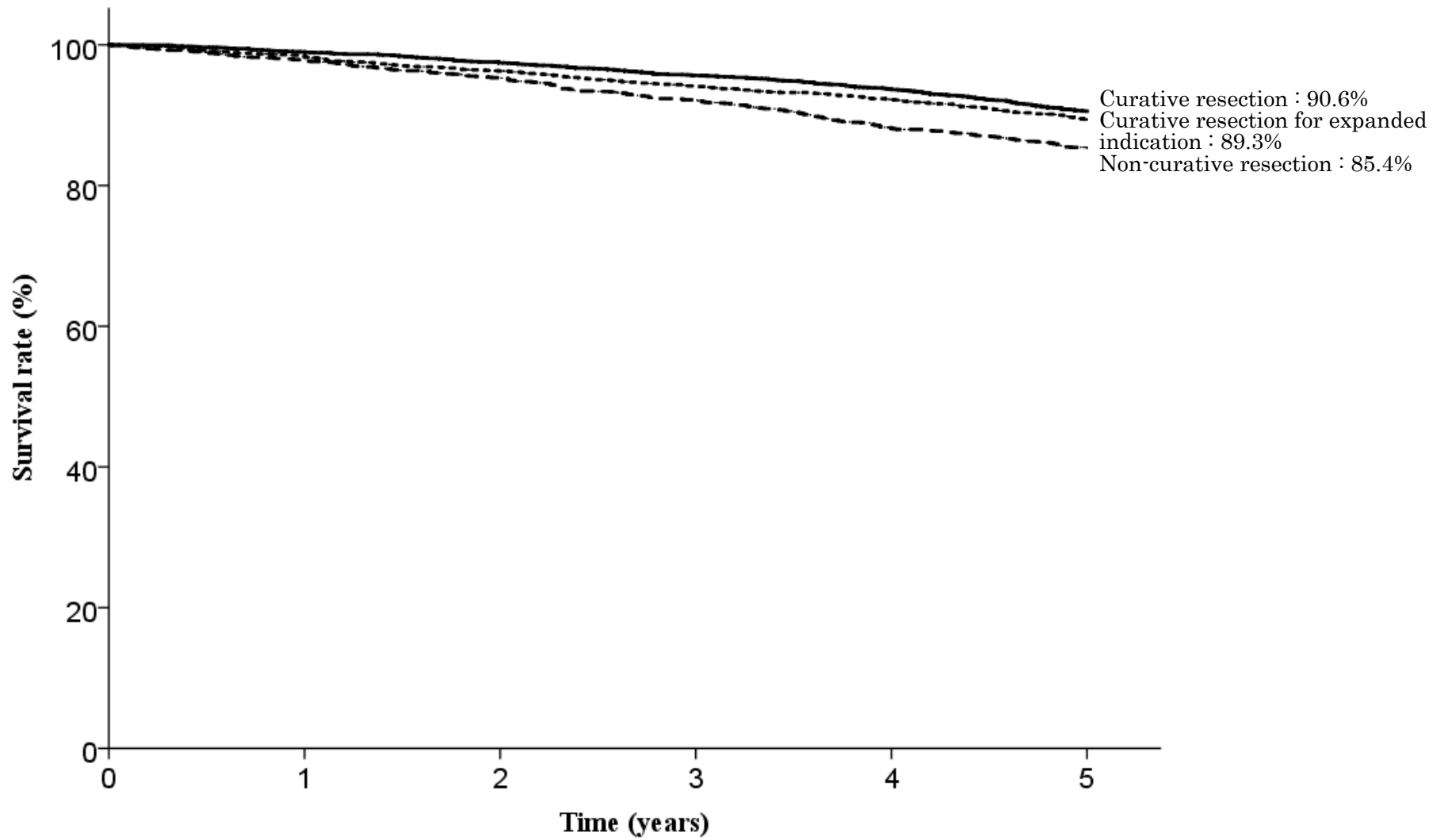


Fig. 21. Five year survival rates stratified by curability

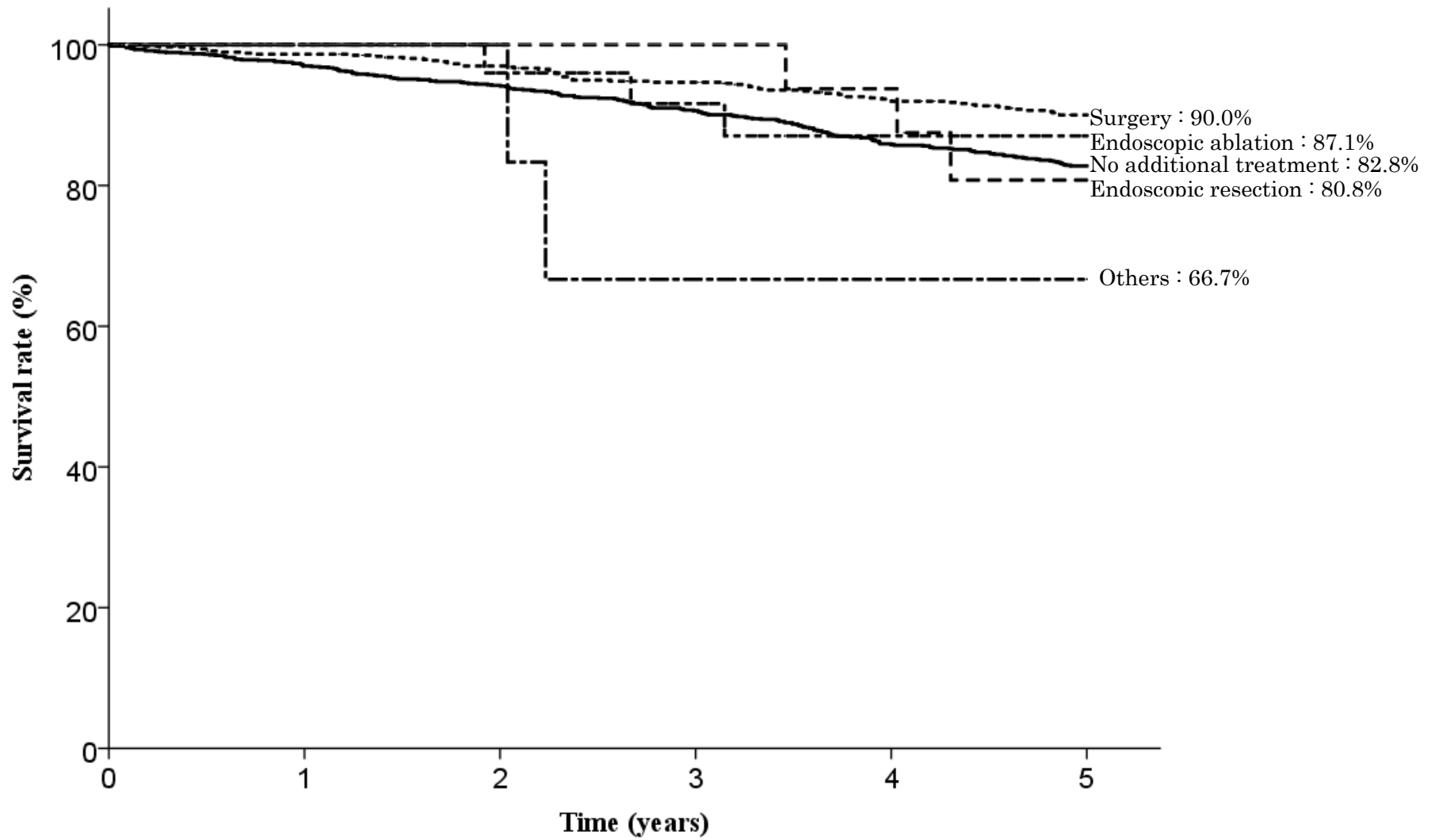


Fig. 22. Five year survival rates stratified by subsequent treatment for non-curative resection

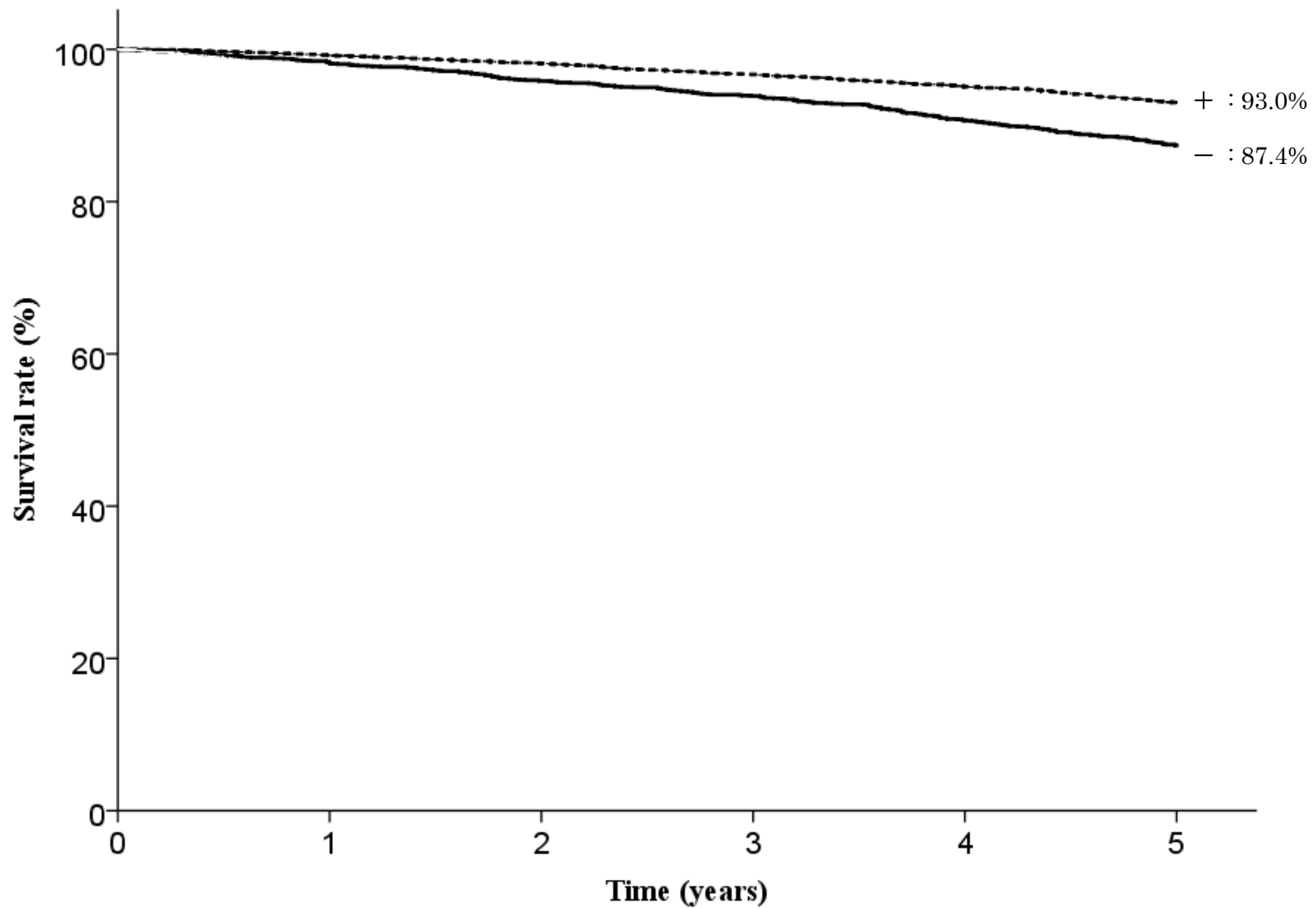


Fig. 23. Five year survival rates stratified by *H. pylori* infection

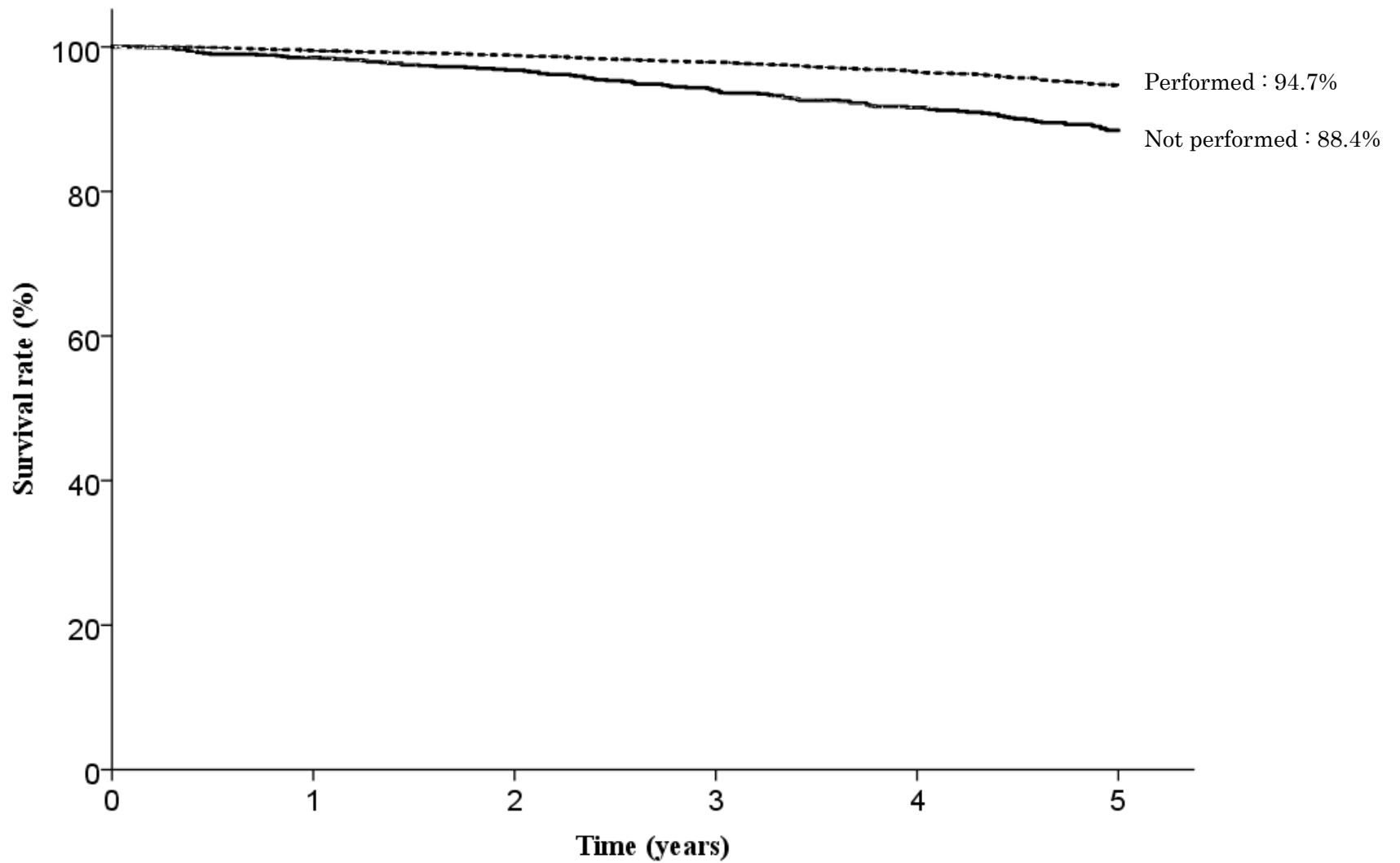


Fig. 24. Five year survival rates stratified by Eradication therapy  
*in H. pylori* - positive cases

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
EMR/ESD	9,705	6	1,844	98.5	96.7	94.5	92.1	89.2	0.3	6,940	38	5	5	5	9	0	252	368	239

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
-39	27	0	1	100.0	100.0	100.0	100.0	100.0	-	26	0	0	0	0	0	0	0	0	0
40-59	754	0	126	99.3	99.0	98.4	98.1	97.8	0.6	613	1	0	1	0	0	0	5	6	2
60-79	6,923	5	1,172	99.0	97.4	95.5	93.7	91.2	0.4	5,211	27	1	3	4	6	0	181	191	127
80-	2,001	1	545	96.7	93.2	89.4	84.0	77.7	1.0	1,090	10	4	1	1	3	0	66	171	110

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
Male	7,263	6	1,350	98.3	96.2	93.7	91.1	87.8	0.4	5,132	34	5	4	3	8	0	217	315	195
Female	2,442	0	494	99.1	98.0	97.0	95.3	93.4	0.5	1,808	4	0	1	2	1	0	35	53	44

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
Prior endoscopic treatment (-)	9,409	6	1,776	98.5	96.7	94.5	92.1	89.2	0.3	6,738	37	5	5	5	9	0	247	355	232
Prior endoscopic treatment (+)	292	0	68	98.5	96.6	93.8	92.2	89.5	1.9	198	1	0	0	0	0	0	5	13	7

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
Normal stomach	9,333	6	1,781	98.6	96.8	94.7	92.3	89.5	0.3	6,695	34	3	5	4	7	0	238	345	221
Remnant stomach	305	0	54	97.6	94.1	90.4	87.8	81.9	2.4	202	3	1	0	1	2	0	11	16	15
Gastric tube	65	0	9	98.4	92.0	87.2	83.7	76.5	5.5	42	1	1	0	0	0	0	3	6	3

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	1,575	2	294	98.5	96.2	94.1	91.8	88.6	0.9	1,123	6	2	2	1	1	0	48	55	43
Middle third	3,605	3	623	98.4	96.8	94.6	91.9	89.3	0.5	2,637	10	1	0	2	7	0	88	143	94
Lower third	4,503	1	926	98.6	96.8	94.6	92.4	89.4	0.5	3,163	21	1	3	2	1	0	116	169	101

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	4,017	1	783	98.9	96.9	95.1	93.1	90.3	0.5	2,892	14	1	3	3	4	0	89	144	84
Gre	2,005	0	362	98.3	96.5	94.3	91.3	88.2	0.8	1,435	9	1	0	0	2	0	64	81	51
Ant	1,630	0	310	98.7	96.7	94.2	92.1	89.6	0.8	1,171	4	0	2	0	1	0	39	64	39
Post	1,981	5	378	97.9	96.8	94.1	91.2	88.2	0.8	1,397	8	1	0	2	2	0	56	76	61

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	5,165	4	945	98.9	97.3	95.2	93.1	90.8	0.4	3,799	18	0	2	3	7	0	122	158	111
Elevated type	3,627	2	729	98.0	96.1	93.9	91.2	87.5	0.6	2,504	11	1	3	2	1	0	104	174	98
Mixed type	846	0	160	98.4	95.8	93.2	90.0	86.5	1.3	586	9	3	0	0	1	0	24	35	28
Others	17	0	2	100.0	93.8	93.8	93.8	93.8	6.1	14	0	1	0	0	0	0	0	0	1

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	9,572	6	1,815	98.5	96.7	94.5	92.2	89.2	0.3	6,848	37	5	5	5	9	0	249	363	236
EMR	129	0	27	98.4	96.6	93.9	90.1	90.1	2.8	91	1	0	0	0	0	0	3	4	3
Others	4	0	2	100.0	100.0	100.0	50.0	50.0	35.4	1	0	0	0	0	0	0	0	1	0

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	9,585	6	1,823	98.6	96.8	94.6	92.3	89.3	0.3	6,863	37	5	5	5	8	0	247	358	234
Piecemeal resection	113	0	20	96.2	92.3	87.2	81.8	80.7	4.0	74	1	0	0	0	1	0	4	8	5

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.	peri-toneal	liver rec	R	other cancer	other disease	un-known
Presence	51	0	11	95.7	86.6	81.9	77.1	74.5	6.7	29	1	0	0	0	0	0	3	6	1
Absence	9,648	6	1,830	98.5	96.7	94.6	92.2	89.2	0.3	6,908	37	5	5	5	9	0	249	362	238

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.	peri-toneal	liver rec	R	other cancer	other disease	un-known
Presence	27	0	5	96.2	96.2	92.1	92.1	92.1	5.3	20	0	0	0	0	0	0	0	0	2
Absence	9,667	6	1,838	98.5	96.7	94.6	92.1	89.2	0.3	6,912	38	5	5	5	9	0	251	367	237

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.	peri-toneal	liver rec	R	other cancer	other disease	un-known
pap	191	0	38	98.3	96.6	94.2	92.4	90.5	2.3	137	0	0	0	0	0	0	7	7	2
tub1	7,617	5	1,477	98.6	96.8	94.8	92.4	89.3	0.4	5,427	25	1	3	3	4	0	188	294	195
tub2	1,368	1	253	98.2	96.2	93.7	91.0	88.5	0.9	977	8	4	0	1	1	0	44	52	28
por	228	0	30	97.8	95.0	90.3	88.4	86.5	2.3	169	4	0	2	1	3	0	6	6	7
sig	239	0	33	99.1	98.7	96.8	95.0	93.5	1.7	192	1	0	0	0	0	0	5	4	4
muc	5	0	0	80.0	80.0	80.0	80.0	80.0	17.9	4	0	0	0	0	0	0	0	0	1
Others	41	0	6	100.0	92.5	92.5	81.8	78.8	6.7	27	0	0	0	0	1	0	2	3	2
Inconclusive	7	0	2	100.0	100.0	100.0	85.7	85.7	13.2	4	0	0	0	0	0	0	0	1	0

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.	peri-toneal	liver rec	R	other cancer	other disease	un-known
M	8,209	4	1,596	98.7	97.0	95.1	93.0	90.1	0.4	5,902	19	1	2	2	1	0	198	303	185
SM1	693	1	126	98.2	96.4	93.7	90.1	87.5	1.3	489	6	0	1	0	3	0	27	21	20
SM2 or deeper than SM2	759	1	115	97.2	94.3	89.8	85.3	81.9	1.5	519	13	4	2	3	5	0	25	43	30
Others	11	0	2	100.0	90.9	90.9	70.7	70.7	14.3	6	0	0	0	0	0	0	0	0	3
Inconclusive	13	0	2	100.0	100.0	100.0	90.9	90.9	8.7	10	0	0	0	0	0	0	0	0	1



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.	peritoneal	liver rec	R	other cancer	other disease	un-known
ly(-)	9,151	6	1,747	98.7	96.9	94.9	92.7	89.8	0.3	6,584	26	1	3	3	4	0	230	335	218
ly(+)	482	0	84	96.2	92.4	88.1	82.8	78.8	2.0	306	11	4	2	2	5	0	18	31	19
Inconclusive	27	0	4	96.2	96.2	96.2	91.8	87.4	6.8	20	0	0	0	0	0	0	1	0	2

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
v(-)	9,335	6	1,786	98.7	96.9	94.8	92.6	89.6	0.3	6,699	29	1	3	2	6	0	240	345	224
v(+)	301	0	47	95.2	91.1	85.6	79.5	77.1	2.5	191	8	4	2	3	3	0	8	21	14
Inconclusive	25	0	2	95.8	95.8	95.8	91.5	91.5	5.8	21	0	0	0	0	0	0	1	0	1

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
UL(-)	8,253	6	1,591	98.6	96.7	94.6	92.2	89.4	0.4	5,894	31	2	5	4	8	0	209	313	196
UL(+)	880	0	137	98.5	96.7	94.1	92.3	89.3	1.1	658	4	0	0	1	1	0	24	32	23
Inconclusive	112	0	26	98.1	96.2	95.2	90.9	87.6	3.4	74	1	0	0	0	0	0	3	3	5

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
HM0	9,226	6	1,768	98.5	96.7	94.6	92.3	89.3	0.3	6,597	35	3	5	4	8	0	240	345	221
HM1	226	0	39	97.7	95.0	91.6	88.0	85.9	2.4	158	2	2	0	1	0	0	7	10	7
HMX	253	0	37	98.8	97.5	94.1	90.9	86.3	2.3	185	1	0	0	0	1	0	5	13	11

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.	peritoneal	liver rec	R	other cancer	other disease	un-known
VM0	9,303	6	1,793	98.6	96.8	94.8	92.4	89.5	0.3	6,654	30	1	5	4	6	0	240	348	222
VM1	227	0	29	95.9	92.6	85.3	81.8	79.3	2.8	155	6	3	0	1	3	0	8	11	11
VMX	175	0	22	97.1	95.9	94.6	90.2	86.2	2.7	131	2	1	0	0	0	0	4	9	6

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	8,967	6	1,742	98.6	96.8	94.8	92.5	89.6	0.3	6,409	28	1	5	4	6	0	232	328	212
Positive or inconclusive resected margins	738	0	102	97.4	95.2	91.6	87.6	84.4	1.4	531	10	4	0	1	3	0	20	40	27

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	5,191	1	1,047	99.0	97.4	95.6	93.7	90.6	0.4	3,721	11	0	0	2	1	0	122	179	108
Curative resection for expanded indication	2,570	2	485	98.3	96.3	94.2	92.2	89.3	0.7	1,844	5	1	2	0	2	0	70	95	66
Non-curative resection	1,944	3	312	97.7	95.3	92.1	88.1	85.4	0.8	1,375	22	4	3	3	6	0	60	94	65

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	1,201	3	222	97.0	94.2	90.6	85.8	82.8	1.2	794	16	4	3	1	4	0	42	60	55
Surgery	686	0	73	98.7	97.0	94.7	92.0	90.0	1.2	549	5	0	0	2	2	0	15	31	9
Endoscopic resection	16	0	2	100.0	100.0	100.0	93.8	80.8	10.0	11	0	0	0	0	0	0	1	2	0
Endoscopic ablation	28	0	8	100.0	96.0	91.6	87.1	87.1	7.0	17	0	0	0	0	0	0	1	1	1
Others	7	0	2	100.0	100.0	66.7	66.7	66.7	19.2	3	1	0	0	0	0	0	1	0	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
(-)	2,085	1	356	98.2	95.8	93.9	90.7	87.4	0.8	1,494	11	3	2	0	1	0	61	85	72
(+)	4,901	2	808	99.2	98.1	96.7	95.1	93.0	0.4	3,787	14	0	0	3	3	0	88	120	78

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	944	0	195	98.5	96.8	94.0	91.6	88.4	1.1	655	3	0	0	0	1	0	29	40	21
Performed	3,443	1	527	99.5	98.8	97.9	96.5	94.7	0.4	2,751	6	0	0	2	2	0	47	60	48