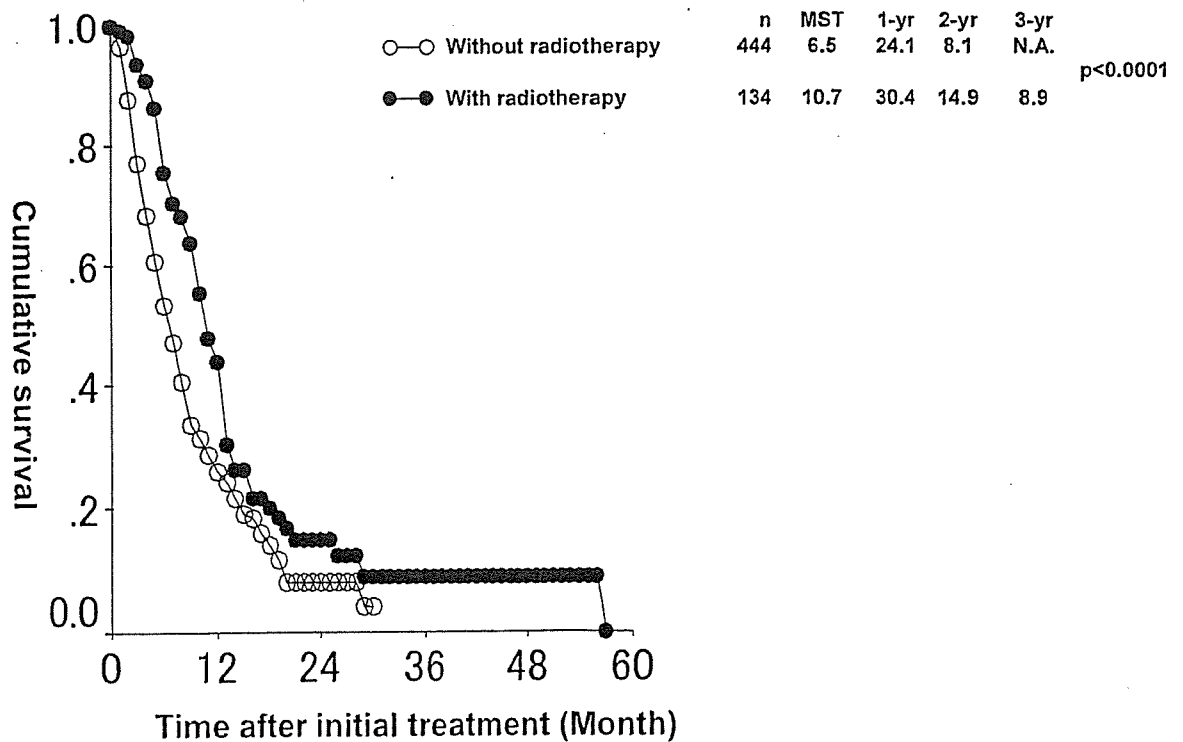


c. 非手術例における放射線療法 Radiotherapy in non-surgical cases
 表 3.10.c.1 非手術例における放射線療法 Radiotherapy in non-surgical cases

	2001	2002	2003	2004	Total	%
放射線線種 Type of ray						
1. γ線 γ-ray	17	6	21	23	67	49.6
2. 電子線 β-ray	2	2	0	0	4	3.0
3. その他 Other type of ray	25	23	7	2	57	42.2
増感剤 Radiosensitizer						
0. なし No sensitizer	3	1	2	3	9	6.7
1. 純酸素 Oxygen	0	0	1	0	1	0.7
2. 5FU Fluorouracil	16	19	18	19	72	53.3
3. CDDP Cisplatin	1	0	0	0	1	0.7
4. PR350	0	0	0	0	0	0.0
5. GEM Gemcitabine	23	12	7	4	46	34.1
有効例 Effective cases	16	18	19	15	68	50.4
無効例 Non-effective cases	7	4	7	8	26	19.3
効果不明例 Effect unknown cases	25	10	2	4	41	30.4
Total	48	32	28	27	135	100.0

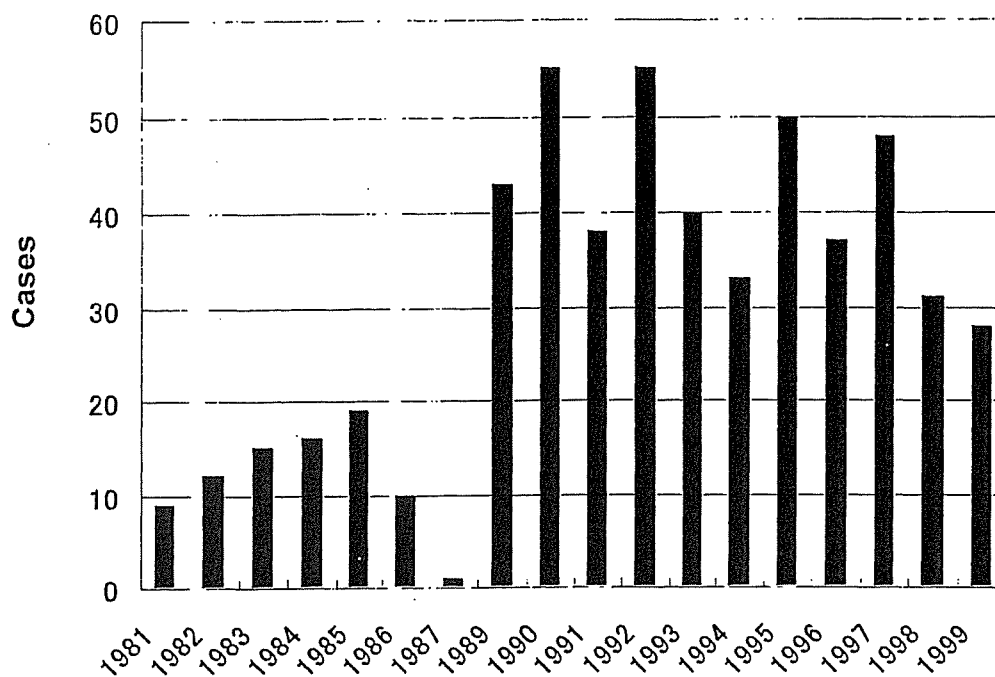
図3.10.c.2 非手術例における放射線療法と生存率
 Radiotherapy and survival of non-surgical cases.



第4章 通常型膵癌 5年生存例 Five year survivors of invasive pancreatic cancer

1. 5年生存者の年次推移 Trend of 5 year survivors

図 4.1 5年生存者の年次推移 Trend of 5 year survivors



II. 切除術後 5年生存者と 5年未満での死亡例(観察打ち切例を除く)の比較 Comparison between 5 year survivors and the patients who died within 5 years after pancreatectomy

a. 年齢・性別 Age and sex

表 4.2.a.1 年齢 Comparison of Age distribution

Age	Patients who died within 5 years	5 year survivors	total
10-19	1 (0.0%)	1 (0.2%)	2 (0.0%)
20-29	8 (0.1%)	0 (0.0%)	8 (0.1%)
30-39	89 (1.4%)	6 (1.1%)	95 (1.4%)
40-49	456 (7.3%)	51 (9.6%)	507 (7.5%)
50-59	1460 (23.4%)	126 (23.7%)	1586 (23.4%)
60-69	2314 (37.1%)	212 (39.8%)	2526 (37.3%)
70-79	1657 (26.6%)	120 (22.6%)	1777 (26.2%)
80-89	153 (2.5%)	10 (1.9%)	163 (2.4%)
90-99	3 (0.0%)	0 (0.0%)	3 (0.0%)
unknown	100 (1.6%)	6 (1.1%)	106 (1.6%)
Total	6241 (100.0%)	532 (100.0%)	6773 (100.0%)

Chi-square test: N.S.

表 4.2.a.2 性別 Sex distribution

Sex	Patients who died within 5 years	5 year survivors	total
Male	3863 (61.9%)	321 (60.3%)	4184 (61.8%)
Female	2378 (38.1%)	211 (39.7%)	2589 (38.2%)
Total	6241 (100.0%)	532 (100.0%)	6773 (100.0%)

Chi-square test: N.S.

b. 組織学的分類 Histological classification

表 4.2.b.1 組織学的分類の比較 Comparison of histological classification

Histological classification	Patients who died within 5 years	5 year survivors	total
06. 乳頭腺癌 Papillary adenocarcinoma	513 (8.2%)	120 (22.6%)	633 (9.3%)
07. 管状腺癌 Adenocarcinoma without description of differentiation	747 (12.0%)	61 (11.5%)	808 (11.9%)
08. 高分化型管状腺癌 Well differentiated tubular adenocarcinoma	1391 (22.3%)	131 (24.6%)	1522 (22.5%)
09. 中分化型管状腺癌 Moderately differentiated tubular adenocarcinoma	2691 (43.1%)	139 (26.1%)	2830 (41.8%)
10. 低分化型管状腺癌 Poorly differentiated tubular adenocarcinoma	613 (9.8%)	26 (4.9%)	639 (9.4%)
11. 腺扁平上皮癌 Adenosquamous carcinoma	124 (2.0%)	10 (1.9%)	134 (2.0%)
12. 粘液癌 Mucinous carcinoma	62 (1.0%)	21 (3.9%)	83 (1.2%)
13. 退形成性腺癌 Anaplastic	21 (0.3%)	2 (0.4%)	23 (0.3%)
16b. 腺房細胞癌 Acinar cell adenocarcinoma	38 (0.6%)	17 (3.2%)	55 (0.8%)
21. 未分化癌 Undifferentiated carcinoma	41 (0.7%)	5 (0.9%)	46 (0.7%)
Total	6241 (100.0%)	532 (100.0%)	6773 (100.0%)

Chi-square test: $p < 0.001$

表 4.2.b.2 癌の実質と間質の量比の比較 Comparison of cancer stroma relationship

Cancer stroma relationship	Patients who died within 5 years	5 year survivors	total
1. 髄様型 Medullary type	232 (4.9%)	60 (15.0%)	292 (5.7%)
2. 中間型 Intermediate type	2836 (60.4%)	229 (57.4%)	3065 (60.2%)
3. 硬性型 Scirrhus type	1628 (34.7%)	110 (27.6%)	1738 (34.1%)
Total	4696 (100.0%)	399 (100.0%)	5095 (100.0%)

Chi-square test: $p < 0.001$

表 4.2.b.3 癌の周囲組織に対する浸潤増殖様式の比較 Comparison of growth patterns of tumors infiltrating surrounding tissue

Growth patterns of tumors infiltrating surrounding tissue	Patients who died within 5 years	5 year survivors	total
1. INF α	230 (4.3%)	81 (18.5%)	311 (5.4%)
2. INF β	2876 (54.0%)	236 (53.8%)	3112 (54.0%)
3. INF γ	2222 (41.7%)	122 (27.8%)	2344 (40.6%)
Total	5328 (100.0%)	439 (100.0%)	5767 (100.0%)

Chi-square test: $p < 0.001$

表 4.2.b.4 リンパ管侵襲の比較 Comparison of lymphatic invasion

Lymphatic invasion	Patients who died within 5 years	5 year survivors	total
0. ly0 No lymphatic invasion	654 (11.7%)	186 (38.0%)	840 (13.8%)
1. ly1 Slight lymphatic invasion	1910 (34.1%)	189 (38.6%)	2099 (34.5%)
2. ly2 Moderate lymphatic invasion	2201 (39.3%)	96 (19.6%)	2297 (37.7%)
3. ly3 Marked lymphatic invasion	835 (14.9%)	19 (3.9%)	854 (14.0%)
Total	5600 (100.0%)	490 (100.0%)	6090 (100.0%)

Chi-square test: $p < 0.001$

表 4.2.b.5 静脈侵襲の比較 Comparison of venous invasion

Venous invasion	Patients who died within 5 years	5 year survivors	total
0. v0 No venous invasion	1724 (30.8%)	274 (56.0%)	1998 (32.8%)
1. v1 Slight venous invasion	1861 (33.2%)	144 (29.4%)	2005 (32.9%)
2. v2 Moderate venous invasion	1422 (25.4%)	55 (11.2%)	1477 (24.3%)
3. v3 Marked venous invasion	590 (10.5%)	16 (3.3%)	606 (10.0%)
Total	5597 (100.0%)	489 (100.0%)	6086 (100.0%)

Chi-square test: $p < 0.001$

表 4.2.b.6 膵内神経浸潤の比較 Comparison of intrapancreatic nerve invasion

Intrapancreatic nerve invasion	Patients who died within 5 years	5 year survivors	total
0. ne0 No invasion of intrapancreatic nerves	627 (14.4%)	160 (39.9%)	787 (16.5%)
1. ne1 Slight invasion of intrapancreatic nerves	1120 (25.7%)	99 (24.7%)	1219 (25.6%)
2. ne2 Moderate invasion of intrapancreatic nerves	1600 (36.7%)	109 (27.2%)	1709 (35.9%)
3. ne3 Marked invasion of intrapancreatic nerves	1018 (23.3%)	33 (8.2%)	1051 (22.1%)
Total	4365 (100.0%)	401 (100.0%)	4766 (100.0%)

Chi-square test: $p < 0.001$

c. 進展度 Tumor extent

表 4.2.c.1 腫瘍占拠部位の比較 Comparison of tumor location

Tumor location	Patients who died within 5 years	5 year survivors	total
1. 膵頭部癌 Cancer in the head of the pancreas	4234 (68.1%)	350 (65.8%)	4584 (67.9%)
2. 膵体尾部癌 Cancer in the body and tail of the pancreas	1063 (17.1%)	126 (23.7%)	1189 (17.6%)
3. 2 区域以上の癌 Cancer in the two areas of the pancreas	801 (12.9%)	47 (8.8%)	848 (12.6%)
4. 膵全体癌 Cancer in the whole pancreas	117 (1.9%)	9 (1.7%)	126 (1.9%)
Total	6215 (100.0%)	532 (100.0%)	6747 (100.0%)

Chi-square test: p<0.001

表 4.2.c.2 腫瘍の大きさの比較 Comparison of tumor size (TS)

	Tumor size	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	1. TS1 (≤ 2.0 cm)	415 (10.1%)	97 (29.0%)	512 (11.5%)
	2. TS2 (2.1- 4.0 cm)	2434 (59.4%)	171 (51.0%)	2605 (58.8%)
	3. TS3 (4.1- 6.0 cm)	1049 (25.6%)	48 (14.3%)	1097 (24.7%)
	4. TS4 (> 6.0 cm)	200 (4.9%)	19 (5.7%)	219 (4.9%)
	Total	4098 (100.0%)	335 (100.0%)	4433 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	1. TS1 (≤ 2.0 cm)	93 (9.1%)	40 (33.9%)	133 (11.7%)
	2. TS2 (2.1- 4.0 cm)	445 (43.5%)	50 (42.4%)	495 (43.4%)
	3. TS3 (4.1- 6.0 cm)	330 (32.3%)	19 (16.1%)	349 (30.6%)
	4. TS4 (> 6.0 cm)	154 (15.1%)	9 (7.6%)	163 (14.3%)
	Total	1022 (100.0%)	118 (100.0%)	1140 (100.0%)

Chi-square test: p<0.001

表 4.2.c.3 膵内胆管浸潤の比較 Comparison of bile duct infiltration (CH)

	Bile duct infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. CH(-) Without invasion	826 (20.1%)	136 (39.7%)	962 (21.6%)
	1. CH(+) With invasion	3287 (79.9%)	207 (60.3%)	3494 (78.4%)
	Total	4113 (100.0%)	343 (100.0%)	4456 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. CH(-) Without invasion	966 (95.1%)	119 (98.3%)	1085 (95.4%)
	1. CH(+) With invasion	50 (4.9%)	2 (1.7%)	52 (4.6%)
	Total	1016 (100.0%)	121 (100.0%)	1137 (100.0%)

Chi-square test: p<0.001 for the cancer in the head, N.S. for the lesions in the body and tail.

表 4.2.c.4 十二指腸浸潤の比較 Comparison of duodenal infiltration (DU)

	Duodenal infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. DU(-) Without invasion	2070 (49.7%)	225 (64.8%)	2295 (50.9%)
	1. DU(+) With invasion	2093 (50.3%)	122 (35.2%)	2215 (49.1%)
	Total	4163 (100.0%)	347 (100.0%)	4510 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. DU(-) Without invasion	976 (95.6%)	123 (100.0%)	1099 (96.1%)
	1. DU(+) With invasion	45 (4.4%)	0 (0.0%)	45 (3.9%)
	Total	1021 (100.0%)	123 (100.0%)	1144 (100.0%)

Chi-square test: p<0.001 for the cancer in the head, p=0.018 for the lesions in the body and tail.

表 4.2.c.5 膵前方被膜浸潤の比較 Comparison of serosal infiltration (S)

	Serosal infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. S(-) Without invasion	2160 (52.1%)	257 (74.7%)	2417 (53.9%)
	1. S(+) With invasion	1984 (47.9%)	87 (25.3%)	2071 (46.1%)
	Total	4144 (100.0%)	344 (100.0%)	4488 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. S(-) Without invasion	205 (19.7%)	64 (51.2%)	269 (23.0%)
	1. S(+) With invasion	838 (80.3%)	61 (48.8%)	899 (77.0%)
	Total	1043 (100.0%)	125 (100.0%)	1168 (100.0%)

Chi-square test: p<0.001 for the cancer in the head, p<0.001 for the lesions in the body and tail.

表 4.2.c.6 膵後方組織浸潤の比較 Comparison of retroperitoneal infiltration (RP)

	Retroperitoneal infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. RP (+) With invasion	1865 (46.5%)	229 (68.8%)	2094 (48.2%)
	1. RP (-) Without invasion	2145 (53.5%)	104 (31.2%)	2249 (51.8%)
	Total	4010 (100.0%)	333 (100.0%)	4343 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. RP (-) Without invasion	267 (26.5%)	71 (58.2%)	338 (29.9%)
	1. RP (+) With invasion	741 (73.5%)	51 (41.8%)	792 (70.1%)
	Total	1008 (100.0%)	122 (100.0%)	1130 (100.0%)

Chi-square test: p<0.001 for the cancer in the head, p<0.001 for the lesions in the body and tail.

表 4.2.c.7 門脈系静脈浸潤の比較 Comparison of portal venous system infiltration (PV)

	Portal venous system infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. PV (+) With invasion	1986 (47.4%)	258 (74.6%)	2244 (49.4%)
	1. PV (+) With invasion	2206 (52.6%)	88 (25.4%)	2294 (50.6%)
	Total	4192 (100.0%)	346 (100.0%)	4538 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. PV (-) Without invasion	430 (41.5%)	95 (76.6%)	525 (45.2%)
	1. PV (+) With invasion	607 (58.5%)	29 (23.4%)	636 (54.8%)
	Total	1037 (100.0%)	124 (100.0%)	1161 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.c.8 動脈浸潤の比較 Comparison of arterial infiltration (A)

	Arterial infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. A (+) With invasion	3264 (78.4%)	321 (93.0%)	3585 (79.5%)
	1. A (+) With invasion	901 (21.6%)	24 (7.0%)	925 (20.5%)
	Total	4165 (100.0%)	345 (100.0%)	4510 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. A (-) Without invasion	506 (49.2%)	102 (81.6%)	608 (52.7%)
	1. A (+) With invasion	523 (50.8%)	23 (18.4%)	546 (47.3%)
	Total	1029 (100.0%)	125 (100.0%)	1154 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.c.9 神経叢浸潤の比較 Comparison of plexus infiltration (PL)

	Plexus infiltration	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. PL (+) With invasion	2365 (71.8%)	289 (91.2%)	2654 (73.5%)
	1. PL (+) With invasion	929 (28.2%)	28 (8.8%)	957 (26.5%)
	Total	3294 (100.0%)	317 (100.0%)	3611 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. PL (-) Without invasion	532 (65.2%)	107 (92.2%)	639 (68.6%)
	1. PL (+) With invasion	284 (34.8%)	9 (7.8%)	293 (31.4%)
	Total	816 (100.0%)	116 (100.0%)	932 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.c.10 他臓器浸潤の比較 Comparison of infiltration to the other organs (OO)

	Infiltration to the other organs	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. OO (+) With invasion	3703 (88.5%)	332 (96.2%)	4035 (89.1%)
	1. OO (+) With invasion	480 (11.5%)	13 (3.8%)	493 (10.9%)
	Total	4183 (100.0%)	345 (100.0%)	4528 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. OO (-) Without invasion	674 (64.4%)	110 (88.0%)	784 (66.9%)
	1. OO (+) With invasion	373 (35.6%)	15 (12.0%)	388 (33.1%)
	Total	1047 (100.0%)	125 (100.0%)	1172 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

d. JPS TNM

表 4.2.d.1 JPS T 因子の比較 Comparison of JPS T factors

	JPS T	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	JPS T1	68 (1.7%)	34 (10.3%)	102 (2.4%)
	JPS T2	125 (3.2%)	43 (13.0%)	168 (4.0%)
	JPS T3	1144 (29.3%)	153 (46.4%)	1297 (30.6%)
	JPS T4	2572 (65.8%)	100 (30.3%)	2672 (63.0%)
	Total	3909 (100.0%)	330 (100.0%)	4239 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	JPS T1	35 (3.5%)	24 (19.8%)	59 (5.2%)
	JPS T2	43 (4.3%)	17 (14.0%)	60 (5.3%)
	JPS T3	122 (12.1%)	36 (29.8%)	158 (14.0%)
	JPS T4	806 (80.1%)	44 (36.4%)	850 (75.4%)
	Total	1006 (100.0%)	121 (100.0%)	1127 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.d.2 JPS N 因子の比較 Comparison of JPS N factors

	JPS N	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	JPS N0	1101 (28.0%)	203 (63.8%)	1304 (30.7%)
	JPS N1	926 (23.5%)	61 (19.2%)	987 (23.2%)
	JPS N2	1100 (27.9%)	37 (11.6%)	1137 (26.7%)
	JPS N3	809 (20.6%)	17 (5.3%)	826 (19.4%)
	Total	3936 (100.0%)	318 (100.0%)	4254 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	JPS N0	353 (39.7%)	74 (72.5%)	427 (43.1%)
	JPS N1	250 (28.1%)	22 (21.6%)	272 (27.4%)
	JPS N2	91 (10.2%)	1 (1.0%)	92 (9.3%)
	JPS N3	195 (21.9%)	5 (4.9%)	200 (20.2%)
	Total	889 (100.0%)	102 (100.0%)	991 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.d.3 JPS M 因子の比較 Comparison of JPS M factors

	JPS M	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	JPS M0	3221 (76.3%)	327 (94.0%)	3548 (77.7%)
	JPS M1	999 (23.7%)	21 (6.0%)	1020 (22.3%)
	Total	4220 (100.0%)	348 (100.0%)	4568 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	JPS M0	681 (64.2%)	115 (92.0%)	796 (67.2%)
	JPS M1	379 (35.8%)	10 (8.0%)	389 (32.8%)
	Total	1060 (100.0%)	125 (100.0%)	1185 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.d.4 遠隔転移の比較 Comparison of type of distant metastases

Type of distant metastasis	Patients who died within 5 years	5 year survivors	total
Distant lymph nodes (LYM)	4080 (72.4%)	436 (93.0%)	4516 (74.0%)
	1554 (27.6%)	33 (7.0%)	1587 (26.0%)
	Total	5634 (100.0%)	469 (100.0%)
Liver metastasis (HEP)	5722 (92.3%)	521 (98.7%)	6243 (92.8%)
	476 (7.7%)	7 (1.3%)	483 (7.2%)
	Total	6198 (100.0%)	528 (100.0%)
Peritoneal dissemination (PER)	5827 (95.2%)	519 (99.2%)	6346 (95.5%)
	296 (4.8%)	4 (0.8%)	300 (4.5%)
	Total	6123 (100.0%)	523 (100.0%)

表 4.2.d.5 JPS Stage の比較 Comparison of JPS Stage

	JPS Stage	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	JPS Stage I	36 (1.0%)	27 (8.9%)	63 (1.5%)
	JPS Stage II	67 (1.8%)	31 (10.2%)	98 (2.4%)
	JPS Stage III	699 (18.5%)	130 (42.8%)	829 (20.3%)
	JPS Stage IVa	1329 (35.2%)	78 (25.7%)	1407 (34.5%)
	JPS Stage IVb	1645 (43.6%)	38 (12.5%)	1683 (41.3%)
	Total	3776 (100.0%)	304 (100.0%)	4080 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	JPS Stage I	21 (2.3%)	17 (16.8%)	38 (3.7%)
	JPS Stage II	20 (2.2%)	13 (12.9%)	33 (3.2%)
	JPS Stage III	91 (9.9%)	31 (30.7%)	122 (12.0%)
	JPS Stage IVa	346 (37.8%)	29 (28.7%)	375 (36.9%)
	JPS Stage IVb	438 (47.8%)	11 (10.9%)	449 (44.1%)
	Total	916 (100.0%)	101 (100.0%)	1017 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

e. UICC TNM

表 4.2.e.1 UICC T 因子の比較 Comparison of UICC T factors

	UICC T	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	UICC T1	178 (4.3%)	58 (17.5%)	236 (5.3%)
	UICC T2	443 (10.8%)	65 (19.6%)	508 (11.4%)
	UICC T3	2149 (52.4%)	169 (50.9%)	2318 (52.2%)
	UICC T4	1335 (32.5%)	40 (12.0%)	1375 (31.0%)
	Total	4105 (100.0%)	332 (100.0%)	4437 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	UICC T1	41 (4.0%)	25 (21.0%)	66 (5.8%)
	UICC T2	58 (5.7%)	13 (10.9%)	71 (6.3%)
	UICC T3	374 (36.8%)	55 (46.2%)	429 (37.8%)
	UICC T4	542 (53.4%)	26 (21.8%)	568 (50.1%)
	Total	1015 (100.0%)	119 (100.0%)	1134 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.e.2 UICC N 因子の比較 Comparison of UICC N factors

	UICC N	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	UICC N0	1102 (28.0%)	203 (63.8%)	1305 (30.7%)
	UICC N1	2832 (72.0%)	115 (36.2%)	2947 (69.3%)
	Total	3934 (100.0%)	318 (100.0%)	4252 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	UICC N0	355 (39.8%)	74 (72.5%)	429 (43.2%)
	UICC N1	537 (60.2%)	28 (27.5%)	565 (56.8%)
	Total	892 (100.0%)	102 (100.0%)	994 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.e.3 UICC M 因子の比較 Comparison of UICC M factors

	UICC M	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	UICC M0	3078 (72.8%)	317 (90.6%)	3395 (74.2%)
	UICC M1	1148 (27.2%)	33 (9.4%)	1181 (25.8%)
	Total	4226 (100.0%)	350 (100.0%)	4576 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	UICC M0	646 (60.9%)	114 (91.2%)	760 (64.1%)
	UICC M1	414 (39.1%)	11 (8.8%)	425 (35.9%)
	Total	1060 (100.0%)	125 (100.0%)	1185 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.e.4 遠隔転移の比較 Comparison of type of distant metastases

Type of distant metastasis	Patients who died within 5 years	5 year survivors	total
Distant lymph nodes (LYM)	4080 (72.4%) 1554 (27.6%)	436 (93.0%) 33 (7.0%)	4516 (74.0%) 1587 (26.0%)
Total	5634 (100.0%)	469 (100.0%)	6103 (100.0%)
Liver metastasis (HEP)	5722 (92.3%) 476 (7.7%)	521 (98.7%) 7 (1.3%)	6243 (92.8%) 483 (7.2%)
Total	6198 (100.0%)	528 (100.0%)	6726 (100.0%)
Peritoneal dissemination (PER)	5827 (95.2%) 296 (4.8%)	519 (99.2%) 4 (0.8%)	6346 (95.5%) 300 (4.5%)
Total	6123 (100.0%)	523 (100.0%)	6646 (100.0%)

表 4.2.e.5 UICC Stage の比較 Comparison of UICC Stage

	UICC Stage	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	UICC Stage Ia	81 (2.0%)	43 (14.0%)	124 (2.9%)
	UICC Stage Ib	160 (4.0%)	37 (12.0%)	197 (4.6%)
	UICC Stage IIa	496 (12.5%)	92 (29.9%)	588 (13.7%)
	UICC Stage IIb	1259 (31.7%)	70 (22.7%)	1329 (31.1%)
	UICC Stage III	827 (20.8%)	33 (10.7%)	860 (20.1%)
	UICC Stage IV	1148 (28.9%)	33 (10.7%)	1181 (27.6%)
	Total	3971 (100.0%)	308 (100.0%)	4279 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	UICC Stage Ia	23 (2.3%)	17 (16.8%)	40 (3.7%)
	UICC Stage Ib	21 (2.1%)	9 (8.9%)	30 (2.7%)
	UICC Stage IIa	124 (12.5%)	31 (30.7%)	155 (14.2%)
	UICC Stage IIb	121 (12.2%)	15 (14.9%)	136 (12.5%)
	UICC Stage III	287 (29.0%)	18 (17.8%)	305 (28.0%)
	UICC Stage IV	414 (41.8%)	11 (10.9%)	425 (39.0%)
	Total	990 (100.0%)	101 (100.0%)	1091 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

f. 手術 Operation

表 4.2.f.1 術式の比較 Comparison of methods of pancreatectomy

	Procedures	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	TP	300 (7.1%)	17 (4.9%)	317 (7.0%)
	PD	3874 (92.3%)	329 (94.5%)	4203 (92.5%)
	DPPHR	1 (0.0%)	0 (0.0%)	1 (0.0%)
	DP	19 (0.5%)	2 (0.6%)	21 (0.5%)
	MP & PR	2 (0.0%)	0 (0.0%)	2 (0.0%)
	Total	4196 (100.0%)	348 (100.0%)	4544 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	TP	66 (6.4%)	3 (2.5%)	69 (6.0%)
	PD	47 (4.6%)	4 (3.3%)	51 (4.4%)
	DP	909 (88.3%)	115 (94.3%)	1024 (88.9%)
	MP & PR	8 (0.8%)	0 (0.0%)	8 (0.7%)
	Total	1030 (100.0%)	122 (100.0%)	1152 (100.0%)

Chi-square test: N.S. for the cancer in the head, N.S. for the lesions in the body and tail.

TP: total pancreatectomy, PD: pancreaticoduodenectomy including pylorus preserving (PPPD) and subtotal stomach preserving (SSPPD), DPPHR: duodenum preserving pancreatic head resection, DP: distal pancreatectomy, MP: middle pancreatectomy, PR: partial resection

表 4.2.f.2 申告による癌遺残度の比較 Comparison of residual tumor declared by the surgeons.

	Operation	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. R0	1123 (33.2%)	171 (59.8%)	1294 (35.3%)
	1. R1	400 (11.8%)	35 (12.2%)	435 (11.9%)
	2. R2	1860 (55.0%)	80 (28.0%)	1940 (52.9%)
	Total	3383 (100.0%)	286 (100.0%)	3669 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. R0	137 (27.2%)	33 (50.8%)	170 (29.9%)
	1. R1	53 (10.5%)	8 (12.3%)	61 (10.7%)
	2. R2	313 (62.2%)	24 (36.9%)	337 (59.3%)
	Total	503 (100.0%)	65 (100.0%)	568 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p < 0.001$ for the lesions in the body and tail.

表 4.2.f.3 申告によるリンパ節郭清度の比較 Comparison of the level of dissection declared by the surgeons.

	Level of dissection	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. D0	283 (6.9%)	20 (6.1%)	303 (6.9%)
	1. D1	1347 (33.1%)	121 (36.8%)	1468 (33.3%)
	2. D2	2373 (58.2%)	188 (57.1%)	2561 (58.2%)
	3. D3	71 (1.7%)	0 (0.0%)	71 (1.6%)
	Total	4074 (100.0%)	329 (100.0%)	4403 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. D0	242 (24.4%)	21 (17.9%)	263 (23.7%)
	1. D1	417 (42.0%)	61 (52.1%)	478 (43.1%)
	2. D2	323 (32.5%)	35 (29.9%)	358 (32.3%)
	3. D3	11 (1.1%)	0 (0.0%)	11 (1.0%)
	Total	993 (100.0%)	117 (100.0%)	1110 (100.0%)

Chi-square test: N.S. for the cancer in the head, N.S. for the lesions in the body and tail.

表 4.2.f.4 門脈合併切除の比較 Comparison of the combined resection of the portal vein.

	Portal vein resection	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no PV resection	2156 (61.8%)	222 (79.9%)	2378 (63.1%)
	1. resected	1333 (38.2%)	56 (20.1%)	1389 (36.9%)
	Total	3489 (100.0%)	278 (100.0%)	3767 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no PV resection	773 (82.0%)	99 (90.8%)	872 (82.9%)
	1. resected	170 (18.0%)	10 (9.2%)	180 (17.1%)
	Total	943 (100.0%)	109 (100.0%)	1052 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p = 0.020$ for the lesions in the body and tail.

表 4.2.f.5 動脈合併切除の比較 Comparison of the combined resection of the artery.

	Artery resection	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no arterial resection	3264 (96.0%)	270 (98.9%)	3534 (96.2%)
	1. resected	135 (4.0%)	3 (1.1%)	138 (3.8%)
	Total	3399 (100.0%)	273 (100.0%)	3672 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no arterial resection	816 (87.5%)	103 (93.6%)	919 (88.1%)
	1. resected	117 (12.5%)	7 (6.4%)	124 (11.9%)
	Total	933 (100.0%)	110 (100.0%)	1043 (100.0%)

Chi-square test: $p = 0.016$ for the cancer in the head, N.S. for the lesions in the body and tail.

表 4.2.f.6 神経叢合併切除の比較 Comparison of the combined resection of the peripancreatic plexus.

	Plexus resection	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no plexus resection	1141 (57.1%)	89 (56.0%)	1230 (57.0%)
	1. resected	858 (42.9%)	70 (44.0%)	928 (43.0%)
	Total	1999 (100.0%)	159 (100.0%)	2158 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no plexus resection	433 (72.9%)	46 (75.4%)	479 (73.1%)
	1. resected	161 (27.1%)	15 (24.6%)	176 (26.9%)
	Total	594 (100.0%)	61 (100.0%)	655 (100.0%)

Chi-square test: $p < 0.001$ for the cancer in the head, $p = 0.020$ for the lesions in the body and tail.

g. 化学療法 Chemotherapy

表 4.2.g.1 術前化学療法の比較 Comparison of the preoperative chemotherapy

	Preoperative chemotherapy	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no preoperative chemotherapy	3889 (95.2%)	328 (96.8%)	4217 (95.3%)
	1. with preoperative chemotherapy	198 (4.8%)	11 (3.2%)	209 (4.7%)
	Total	4087 (100.0%)	339 (100.0%)	4426 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no preoperative chemotherapy	965 (94.6%)	120 (99.2%)	1085 (95.1%)
	1. with preoperative chemotherapy	55 (5.4%)	1 (0.8%)	56 (4.9%)
	Total	1020 (100.0%)	121 (100.0%)	1141 (100.0%)

Chi-square test: N.S. for the cancer in the head, p=0.028 for the lesions in the body and tail.

表 4.2.g.2 術中化学療法の比較 Comparison of the intraoperative chemotherapy

	Intraoperative chemotherapy	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no intraoperative chemotherapy	3798 (93.7%)	328 (96.5%)	4126 (93.9%)
	1. with intraoperative chemotherapy	254 (6.3%)	12 (3.5%)	266 (6.1%)
	Total	4052 (100.0%)	340 (100.0%)	4392 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no preoperative chemotherapy	925 (91.0%)	108 (89.3%)	1033 (90.9%)
	1. with preoperative chemotherapy	91 (9.0%)	13 (10.7%)	104 (9.1%)
	Total	1016 (100.0%)	121 (100.0%)	1137 (100.0%)

Chi-square test: p=0.042 for the cancer in the head, N.S. for the lesions in the body and tail.

表 4.2.g.3 術後化学療法の比較 Comparison of the postoperative chemotherapy

	Postoperative chemotherapy	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no postoperative chemotherapy	2295 (56.8%)	194 (57.9%)	2489 (56.9%)
	1. with postoperative chemotherapy	1747 (43.2%)	141 (42.1%)	1888 (43.1%)
	Total	4042 (100.0%)	335 (100.0%)	4377 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no postoperative chemotherapy	530 (52.4%)	66 (55.0%)	596 (52.7%)
	1. with postoperative chemotherapy	481 (47.6%)	54 (45.0%)	535 (47.3%)
	Total	1011 (100.0%)	120 (100.0%)	1131 (100.0%)

Chi-square test: N.S. for the cancer in the head, N.S. for the lesions in the body and tail.

h. 放射線療法 Radiation therapy

表 4.2.h.1 術前放射線療法の比較 Comparison of the preoperative radiation

	Preoperative radiation	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no preoperative radiation	3991 (98.0%)	328 (97.0%)	4319 (97.9%)
	1. with preoperative radiation	81 (2.0%)	10 (3.0%)	91 (2.1%)
	Total	4072 (100.0%)	338 (100.0%)	4410 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no preoperative radiation	998 (98.3%)	118 (98.3%)	1116 (98.3%)
	1. with preoperative radiation	17 (1.7%)	2 (1.7%)	19 (1.7%)
	Total	1015 (100.0%)	120 (100.0%)	1135 (100.0%)

Chi-square test: N.S. for the cancer in the head, N.S. for the lesions in the body and tail.

表 4.2.h.2 術中放射線療法の比較 Comparison of the intraoperative radiation

	Intraoperative radiation	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no intraoperative radiation	801 (94.9%)	60 (96.8%)	861 (95.0%)
	1. with intraoperative radiation	43 (5.1%)	2 (3.2%)	45 (5.0%)
	Total	844 (100.0%)	62 (100.0%)	906 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no preoperative radiation	192 (94.6%)	24 (100.0%)	216 (95.2%)
	1. with preoperative radiation	11 (5.4%)	0 (0.0%)	11 (4.8%)
	Total	203 (100.0%)	24 (100.0%)	227 (100.0%)

Chi-square test: N.S. for the cancer in the head, N.S. for the lesions in the body and tail.

表 4.2.h.3 術後放射線療法の比較 Comparison of the postoperative radiation

	Postoperative radiation	Patients who died within 5 years	5 year survivors	total
膵頭部癌 Cancer in the head of the pancreas	0. no postoperative radiation	831 (97.9%)	66 (98.5%)	897 (97.9%)
	1. with postoperative radiation	18 (2.1%)	1 (1.5%)	19 (2.1%)
	Total	849 (100.0%)	67 (100.0%)	916 (100.0%)
膵体尾部癌 Cancer in the body and tail of the pancreas	0. no postoperative radiation	215 (96.0%)	25 (92.6%)	240 (95.6%)
	1. with postoperative radiation	9 (4.0%)	2 (7.4%)	11 (4.4%)
	Total	224 (100.0%)	27 (100.0%)	251 (100.0%)

Chi-square test: N.S. for the cancer in the head, N.S. for the lesions in the body and tail.

III. 非切除例の5年生生存者 5 year survivors from unresectable disease.

表 4.3.a 非切除例の5年生生存者の年代と治療法 Treatment and the time of 5 year survivors without pancreatectomy

Year	Palliative operation	Exploratory laparotomy
1981.00	1	0
1984.00	1	0
1985.00	1	1
1986.00	1	0
1990.00	2	0
1998.00	1	0
Total	7	1

表 4.3.b 組織型 Histology

Histological types	Palliative operation	Exploratory laparotomy
06. 乳頭腺癌 Papillary adenocarcinoma	2	0
07. 管状腺癌 Adenocarcinoma without description of differentiation	1	0
09. 中分化型管状腺癌 Moderately differentiated adenocarcinoma	3	1
10. 低分化型管状腺癌 Poorly differentiated adenocarcinoma	1	0
Total	7	1

表 4.3.c UICC Stage

UICC Stage	Palliative operation	Exploratory laparotomy
UICC Stage III	5	1
UICC Stage IV	1	0
Unknown	1	0
Total	7	1

表 4.3.d 化学療法 Chemotherapy

Chemotherapy	Palliative operation	Exploratory laparotomy
Without chemotherapy	1	0
With chemotherapy	5	1
Unknown	1	0
Total	7	1

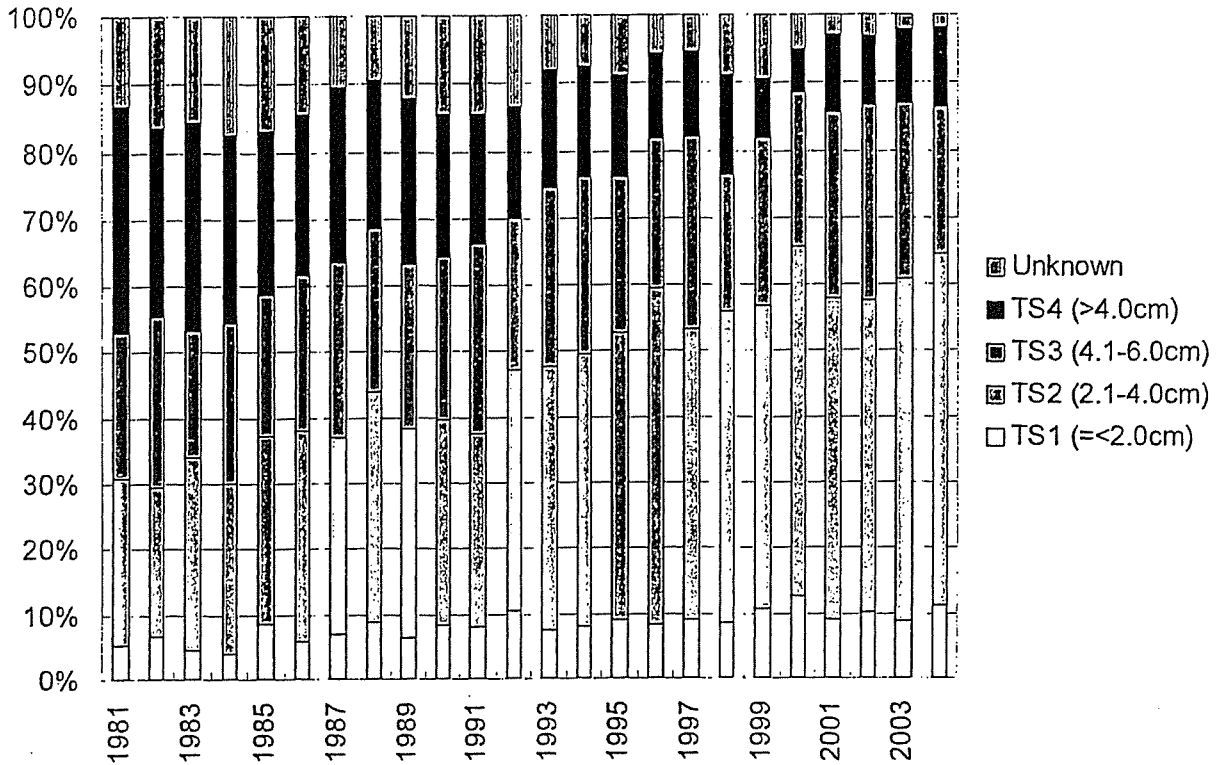
第5章 2cm 以内の通常型腺癌 Invasive cancer less than 2 cm in diameter

1. 2cm 以内腺癌の年次推移 Trend of invasive cancer less than 2 cm in diameter

表 5.1.a.1 腫瘍サイズの年次推移 Trend of tumor size

Year	TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Unknown	Total
1981	29 (5.3%)	138 (25.4%)	121 (22.3%)	183 (33.7%)	72 (13.3%)	543 (100.0%)
1982	24 (6.6%)	84 (23.0%)	95 (26.0%)	102 (27.9%)	60 (16.4%)	365 (100.0%)
1983	23 (4.6%)	149 (29.6%)	97 (19.2%)	156 (31.0%)	79 (15.7%)	504 (100.0%)
1984	18 (3.9%)	121 (26.2%)	112 (24.3%)	130 (28.2%)	80 (17.4%)	461 (100.0%)
1985	40 (8.5%)	135 (28.7%)	102 (21.7%)	114 (24.2%)	80 (17.0%)	471 (100.0%)
1986	29 (6.0%)	156 (32.0%)	115 (23.6%)	117 (24.0%)	70 (14.4%)	487 (100.0%)
1987	31 (6.8%)	136 (30.0%)	121 (26.7%)	118 (26.0%)	47 (10.4%)	453 (100.0%)
1988	39 (8.9%)	153 (34.9%)	109 (24.9%)	96 (21.9%)	41 (9.4%)	438 (100.0%)
1989	36 (6.3%)	182 (31.9%)	142 (24.9%)	141 (24.7%)	69 (12.1%)	570 (100.0%)
1990	55 (8.3%)	207 (31.4%)	162 (24.6%)	140 (21.2%)	95 (14.4%)	659 (100.0%)
1991	36 (7.9%)	134 (29.6%)	130 (28.7%)	87 (19.2%)	66 (14.6%)	453 (100.0%)
1992	54 (10.4%)	191 (36.8%)	118 (22.7%)	87 (16.8%)	69 (13.3%)	519 (100.0%)
1993	34 (7.5%)	183 (40.1%)	123 (27.0%)	79 (17.3%)	37 (8.1%)	456 (100.0%)
1994	41 (8.0%)	213 (41.7%)	135 (26.4%)	83 (16.2%)	39 (7.6%)	511 (100.0%)
1995	54 (9.1%)	260 (43.8%)	139 (23.4%)	89 (15.0%)	52 (8.8%)	594 (100.0%)
1996	42 (8.4%)	256 (51.1%)	112 (22.4%)	63 (12.6%)	28 (5.6%)	501 (100.0%)
1997	46 (9.0%)	226 (44.3%)	147 (28.8%)	64 (12.5%)	27 (5.3%)	510 (100.0%)
1998	42 (8.6%)	232 (47.3%)	100 (20.4%)	72 (14.7%)	44 (9.0%)	490 (100.0%)
1999	62 (10.8%)	263 (46.0%)	142 (24.8%)	51 (8.9%)	54 (9.4%)	572 (100.0%)
2000	61 (12.7%)	255 (53.0%)	109 (22.7%)	31 (6.4%)	25 (5.2%)	481 (100.0%)
2001	54 (9.1%)	289 (48.7%)	164 (27.7%)	69 (11.6%)	17 (2.9%)	593 (100.0%)
2002	55 (10.3%)	254 (47.5%)	155 (29.0%)	54 (10.1%)	17 (3.2%)	535 (100.0%)
2003	64 (8.8%)	377 (51.9%)	190 (26.2%)	80 (11.0%)	15 (2.1%)	726 (100.0%)
2004	80 (11.2%)	380 (53.4%)	155 (21.8%)	83 (11.7%)	14 (2.0%)	712 (100.0%)
Total	1049 (8.3%)	4974 (39.5%)	3095 (24.6%)	2289 (18.2%)	1197 (9.5%)	12604 (100.0%)

図 5.1.a.2 腫瘍サイズの年次推移グラフ Trend graph of tumor size



II. 診断 Diagnosis
a. 症状 Symptoms

表 5.2.a.1 膵頭部癌の腫瘍サイズと初発症状 Initial symptoms and the size of the tumor in the pancreatic head

Year	TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
00. なし None	100 (12.9%)	263 (7.0%)	73 (4.0%)	22 (3.1%)	458 (6.5%)
01. 腹痛 Abdominal pain	187 (24.2%)	993 (26.3%)	557 (30.8%)	223 (31.1%)	1960 (27.7%)
02. 体重減少 Body weight loss	23 (3.0%)	136 (3.6%)	75 (4.2%)	23 (3.2%)	257 (3.6%)
03. 嘔吐 Vomiting	5 (0.6%)	68 (1.8%)	56 (3.1%)	28 (3.9%)	157 (2.2%)
04. 食思不振 Appetite loss	44 (5.7%)	228 (6.0%)	112 (6.2%)	51 (7.1%)	435 (6.2%)
05. 黄疸 Jaundice	210 (27.2%)	1167 (30.9%)	453 (25.1%)	119 (16.6%)	1949 (27.6%)
06. 全身倦怠 General malaise	44 (5.7%)	188 (5.0%)	71 (3.9%)	31 (4.3%)	334 (4.7%)
07. 腫瘍 Tumor	1 (0.1%)	16 (0.4%)	11 (0.6%)	17 (2.4%)	45 (0.6%)
08. 腰背部痛 Back pain	32 (4.1%)	158 (4.2%)	95 (5.3%)	49 (6.8%)	334 (4.7%)
09. 糖尿病増悪 Deterioration of DM	51 (6.6%)	188 (5.0%)	82 (4.5%)	41 (5.7%)	362 (5.1%)
10. その他	7 (0.9%)	41 (1.1%)	18 (1.0%)	4 (0.6%)	70 (1.0%)
99. 不明	69 (8.9%)	330 (8.7%)	204 (11.3%)	108 (15.1%)	711 (10.1%)
Total	773 (100.0%)	3776 (100.0%)	1807 (100.0%)	716 (100.0%)	7072 (100.0%)

表 5.2.a.2 膵体尾部癌の腫瘍サイズと初発症状 Initial symptoms and the size of the tumor in the pancreatic body and tail

Year	TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
00. なし None	91 (37.6%)	234 (26.9%)	95 (14.0%)	23 (5.1%)	443 (19.8%)
01. 腹痛 Abdominal pain	67 (27.7%)	298 (34.2%)	303 (44.5%)	204 (45.6%)	872 (38.9%)
02. 体重減少 Body weight loss	10 (4.1%)	47 (5.4%)	37 (5.4%)	28 (6.3%)	122 (5.4%)
03. 嘔吐 Vomiting	2 (0.8%)	6 (0.7%)	7 (1.0%)	4 (0.9%)	19 (0.8%)
04. 食思不振 Appetite loss	6 (2.5%)	34 (3.9%)	34 (5.0%)	23 (5.1%)	97 (4.3%)
05. 黄疸 Jaundice	1 (0.4%)	9 (1.0%)	13 (1.9%)	5 (1.1%)	28 (1.2%)
06. 全身倦怠 General malaise	2 (0.8%)	18 (2.1%)	14 (2.1%)	11 (2.5%)	45 (2.0%)
07. 腫瘍 Tumor	0 (0.0%)	4 (0.5%)	3 (0.4%)	6 (1.3%)	13 (0.6%)
08. 腰背部痛 Back pain	20 (8.3%)	93 (10.7%)	80 (11.7%)	52 (11.6%)	245 (10.9%)
09. 糖尿病増悪 Deterioration of DM	30 (12.4%)	62 (7.1%)	42 (6.2%)	31 (6.9%)	165 (7.4%)
10. その他	2 (0.8%)	12 (1.4%)	9 (1.3%)	3 (0.7%)	26 (1.2%)
99. 不明	11 (4.5%)	54 (6.2%)	44 (6.5%)	57 (12.8%)	166 (7.4%)
Total	242 (100.0%)	871 (100.0%)	681 (100.0%)	447 (100.0%)	2241 (100.0%)

図5.2.a.3 TS1膵癌における初発症状と予後 Initial symptom and the survival of patients with TS1 tumor

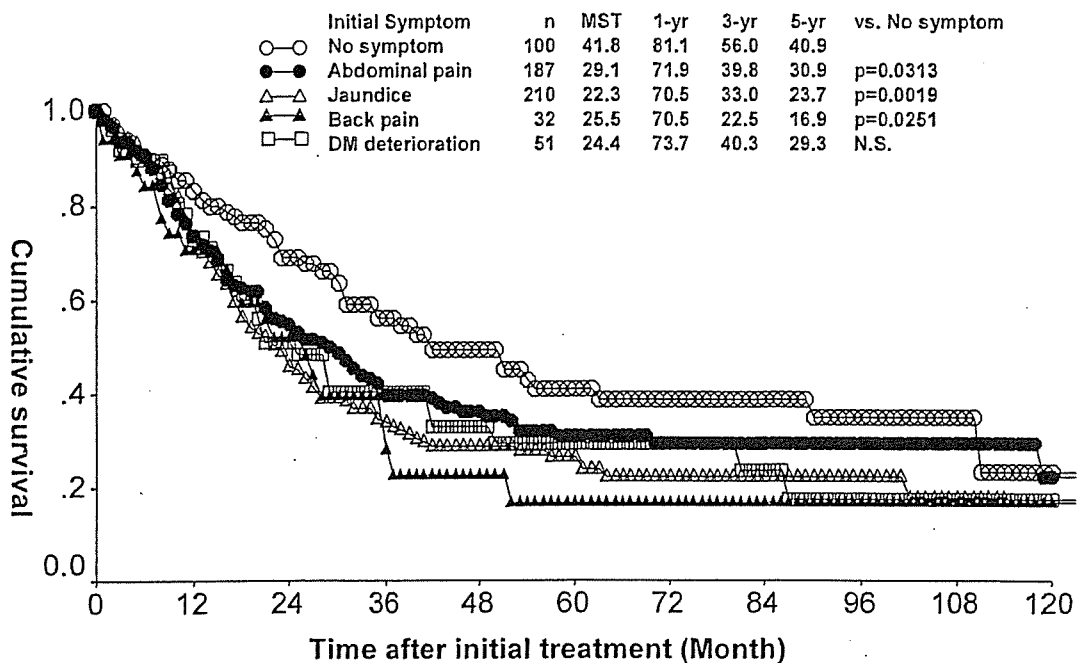
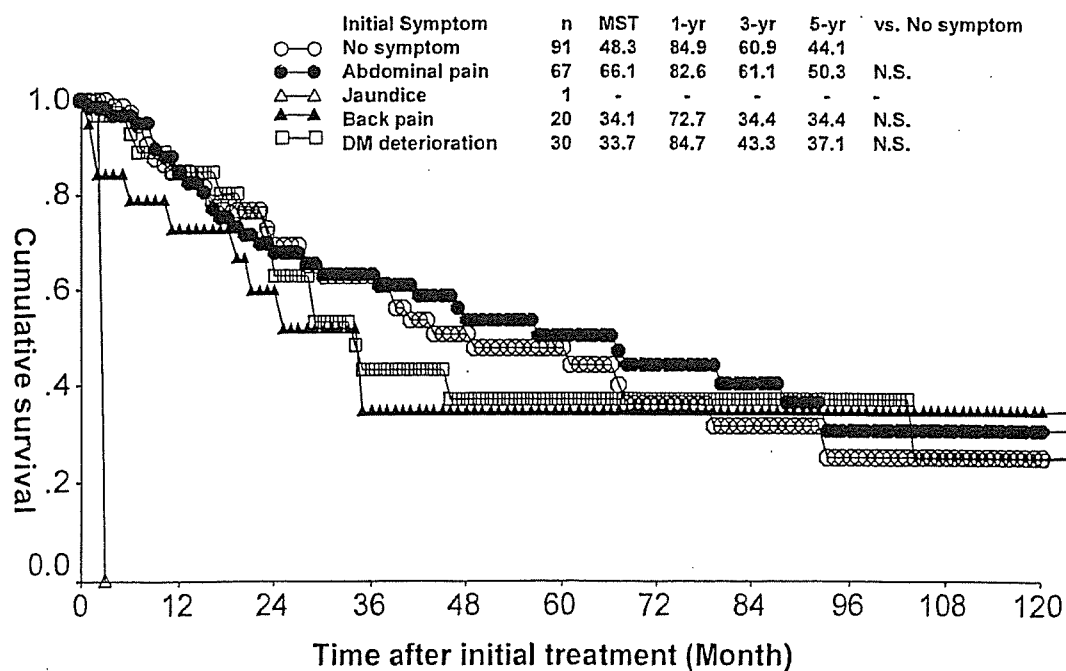


図 5.2.a.4 TS1 膵体尾部癌における初発症状と予後 Initial symptom and the survival of patients with TS1 tumor in the body and tail of the pancreas



b. 診断法 Diagnostic methods

表 5.2.b.1 腫瘍サイズと主病巣の診断に最も重要であった診断法 Tumor size and most valuable image modality to detect the primary lesion

Image modality	TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
01. 臨床所見 Clinical findings	13 (1.2%)	57 (1.1%)	61 (2.0%)	76 (3.3%)	207 (1.8%)
02. 消化管造影 Barium meal	10 (1.0%)	44 (0.9%)	46 (1.5%)	82 (3.6%)	182 (1.6%)
03. DIC	0 (0.0%)	5 (0.1%)	2 (0.1%)	2 (0.1%)	9 (0.1%)
04. ERCP	150 (14.3%)	389 (7.8%)	206 (6.7%)	162 (7.1%)	907 (8.0%)
05. Angiography	6 (0.6%)	17 (0.3%)	20 (0.6%)	28 (1.2%)	71 (0.6%)
06. CT	278 (26.5%)	1567 (31.5%)	1093 (35.3%)	756 (33.0%)	3694 (32.4%)
07. US	385 (36.7%)	1915 (38.5%)	1117 (36.1%)	765 (33.4%)	4182 (36.7%)
08. PTCD	88 (8.4%)	394 (7.9%)	190 (6.1%)	128 (5.6%)	800 (7.0%)
09. MRI	3 (0.3%)	10 (0.2%)	7 (0.2%)	3 (0.1%)	23 (0.2%)
10. 内視鏡 Endoscopic findings	12 (1.1%)	38 (0.8%)	30 (1.0%)	32 (1.4%)	112 (1.0%)
12. 腫シンチ Scintigraphy	5 (0.5%)	14 (0.3%)	8 (0.3%)	8 (0.3%)	35 (0.3%)
15. EUS	3 (0.3%)	2 (0.0%)	2 (0.1%)	1 (0.0%)	8 (0.1%)
17. PET	0 (0.0%)	1 (0.0%)	2 (0.1%)	1 (0.0%)	4 (0.0%)
18. その他 Other	28 (2.7%)	94 (1.9%)	67 (2.2%)	71 (3.1%)	260 (2.3%)
99. 不明 Unknown	68 (6.5%)	427 (8.6%)	244 (7.9%)	174 (7.6%)	913 (8.0%)
Total	1049 (100.0%)	4974 (100.0%)	3095 (100.0%)	2289 (100.0%)	11407 (100.0%)

c. 腫瘍マーカー Tumor markers

表 5.2.c.1 腫瘍サイズと腫瘍マーカー Tumor size and tumor markers

Image modality	TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
CEA within normal limit	555 (68.2%)	2266 (58.3%)	1240 (51.7%)	678 (43.8%)	4739 (54.8%)
CEA high	259 (31.8%)	1619 (41.7%)	1159 (48.3%)	871 (56.2%)	3908 (45.2%)
Total	814 (100.0%)	3885 (100.0%)	2399 (100.0%)	1549 (100.0%)	8647 (100.0%)
CA19-9 within normal limit	238 (46.8%)	707 (27.9%)	335 (25.7%)	153 (26.3%)	1433 (29.1%)
CA19-9 high	271 (53.2%)	1831 (72.1%)	967 (74.3%)	428 (73.7%)	3497 (70.9%)
Total	509 (100.0%)	2538 (100.0%)	1302 (100.0%)	581 (100.0%)	4930 (100.0%)
DUPAN2 within normal limit	76 (62.8%)	231 (40.2%)	106 (36.4%)	42 (38.2%)	455 (41.5%)
DUPAN2 high	45 (37.2%)	344 (59.8%)	185 (63.6%)	68 (61.8%)	642 (58.5%)
Total	121 (100.0%)	575 (100.0%)	291 (100.0%)	110 (100.0%)	1097 (100.0%)
SPAN1 within normal limit	36 (49.3%)	80 (21.6%)	32 (17.9%)	14 (25.5%)	162 (23.9%)
SPAN1 high	37 (50.7%)	291 (78.4%)	147 (82.1%)	41 (74.5%)	516 (76.1%)
Total	73 (100.0%)	371 (100.0%)	179 (100.0%)	55 (100.0%)	678 (100.0%)

図 5.2.c.2 腫瘍サイズと CEA 値 Tumor size and CEA value

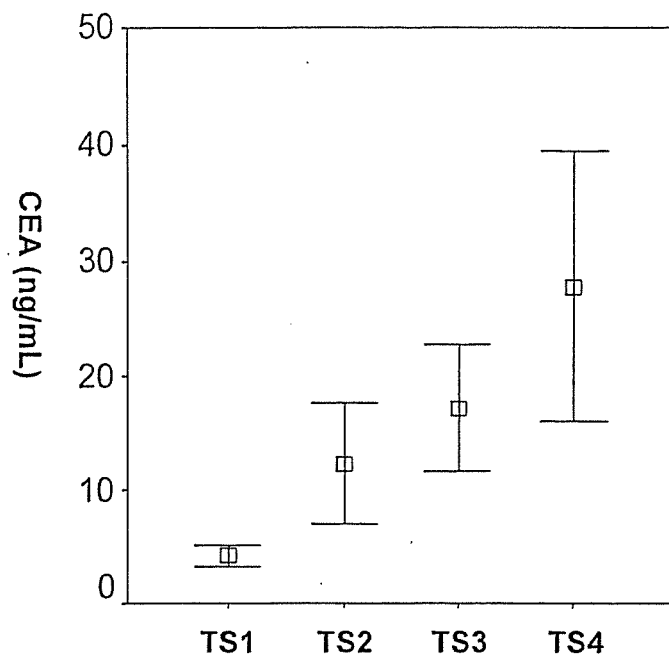


図 5.2.c.3 腫瘍サイズと CA19-9 値 Tumor size and CA19-9 value

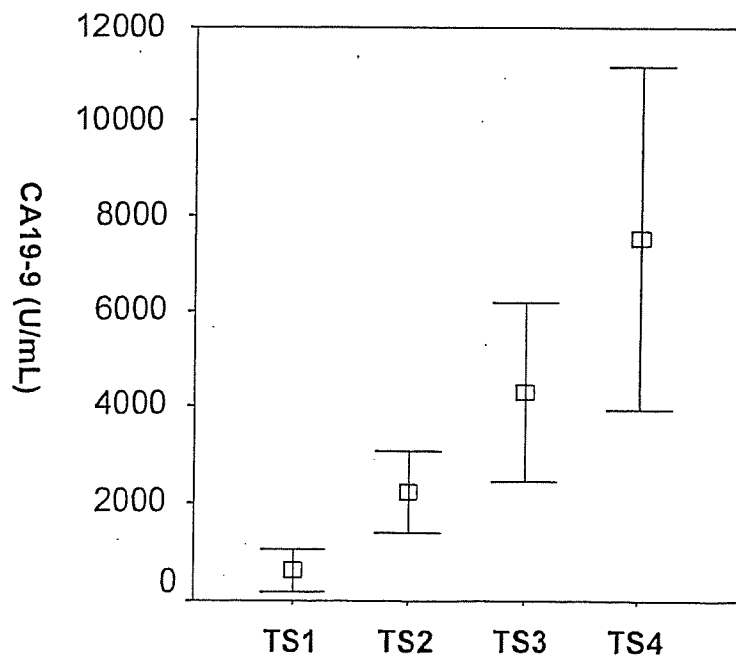


図 5.2.c.4 腫瘍サイズと DUPAN2 値 Tumor size and DUPAN2 value

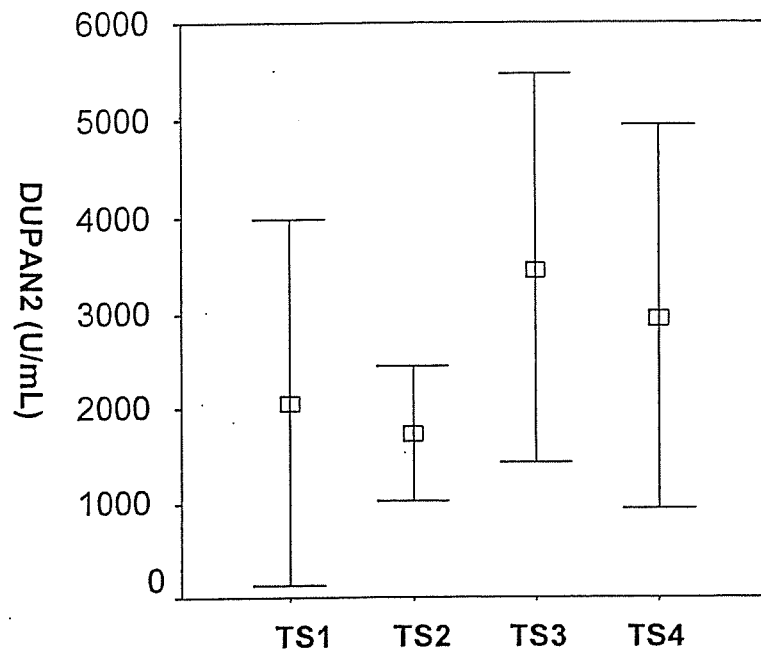
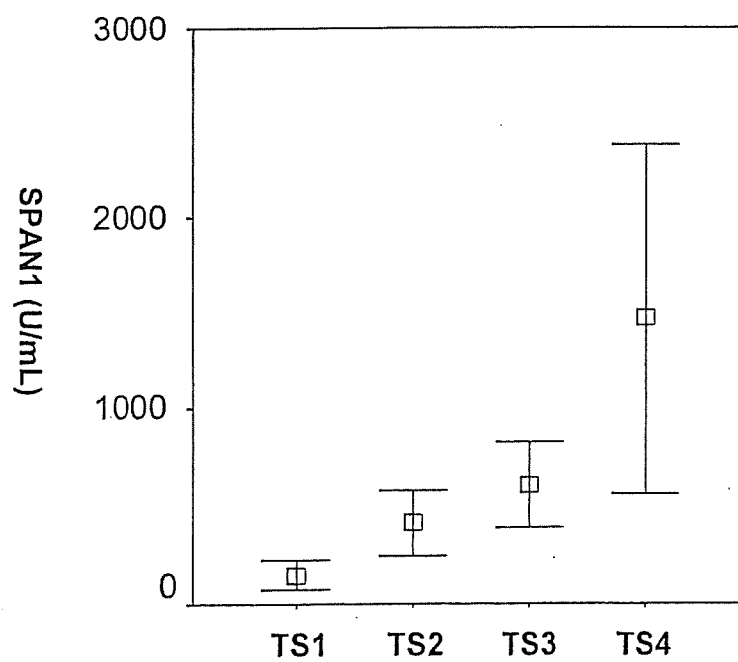


図 5.2.c.5 腫瘍サイズと SPAN1 値 Tumor size and SPAN1 value



III. 腫瘍進展度 Tumor extent

a. 局所進展 Local extent

表 5.3.a.1 腫瘍サイズと膵内胆管浸潤 Tumor size and choledochal infiltration

Choledochal infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	CH(-)	306 (40.6%)	791 (21.9%)	289 (17.4%)	110 (19.2%)	1496 (22.7%)
	CH(+)	447 (59.4%)	2828 (78.1%)	1370 (82.6%)	462 (80.8%)	5107 (77.3%)
	Total	753 (100.0%)	3619 (100.0%)	1659 (100.0%)	572 (100.0%)	6603 (100.0%)
Cancer in the body and the tail of the pancreas	CH(-)	227 (98.3%)	786 (96.2%)	575 (92.7%)	316 (87.1%)	1904 (93.7%)
	CH(+)	4 (1.7%)	31 (3.8%)	45 (7.3%)	47 (12.9%)	127 (6.3%)
	Total	231 (100.0%)	817 (100.0%)	620 (100.0%)	363 (100.0%)	2031 (100.0%)

表 5.3.a.2 腫瘍サイズと十二指腸浸潤 Tumor size and duodenal infiltration

Duodenal infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	DU(-)	584 (77.1%)	1911 (52.5%)	581 (34.5%)	141 (22.9%)	3217 (48.0%)
	DU(+)	173 (22.9%)	1732 (47.5%)	1105 (65.5%)	474 (77.1%)	3484 (52.0%)
	Total	757 (100.0%)	3643 (100.0%)	1686 (100.0%)	615 (100.0%)	6701 (100.0%)
Cancer in the body and the tail of the pancreas	DU(-)	233 (99.6%)	800 (96.7%)	576 (91.1%)	317 (82.3%)	1926 (92.7%)
	DU(+)	1 (0.4%)	27 (3.3%)	56 (8.9%)	68 (17.7%)	152 (7.3%)
	Total	234 (100.0%)	827 (100.0%)	632 (100.0%)	385 (100.0%)	2078 (100.0%)

表 5.3.a.3 腫瘍サイズと膵前面被膜浸潤 Tumor size and serosal infiltration

Serosal infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	S(-)	639 (84.6%)	2078 (57.1%)	568 (33.3%)	104 (15.6%)	3389 (50.1%)
	S(+)	116 (15.4%)	1559 (42.9%)	1140 (66.7%)	562 (84.4%)	3377 (49.9%)
	Total	755 (100.0%)	3637 (100.0%)	1708 (100.0%)	666 (100.0%)	6766 (100.0%)
Cancer in the body and the tail of the pancreas	S(-)	167 (69.6%)	223 (27.1%)	64 (10.0%)	27 (6.5%)	481 (22.7%)
	S(+)	73 (30.4%)	600 (72.9%)	578 (90.0%)	389 (93.5%)	1640 (77.3%)
	Total	240 (100.0%)	823 (100.0%)	642 (100.0%)	416 (100.0%)	2121 (100.0%)

表 5.3.a.4 腫瘍サイズと膵後方組織浸潤 Tumor size and retroperitoneal infiltration

Retroperitoneal infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	RP(-)	557 (75.6%)	1726 (49.1%)	482 (30.1%)	99 (17.7%)	2864 (44.7%)
	RP(+)	180 (24.4%)	1789 (50.9%)	1117 (69.9%)	460 (82.3%)	3546 (55.3%)
	Total	737 (100.0%)	3515 (100.0%)	1599 (100.0%)	559 (100.0%)	6410 (100.0%)
Cancer in the body and the tail of the pancreas	RP(-)	169 (72.8%)	255 (31.6%)	87 (14.4%)	27 (7.4%)	538 (26.8%)
	RP(+)	63 (27.2%)	551 (68.4%)	519 (85.6%)	338 (92.6%)	1471 (73.2%)
	Total	232 (100.0%)	806 (100.0%)	606 (100.0%)	365 (100.0%)	2009 (100.0%)

表 5.3.a.5 腫瘍サイズと門脈系静脈浸潤 Tumor size and portal venous system infiltration

Portal vein infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	PV(-)	607 (79.8%)	1890 (51.8%)	505 (29.7%)	107 (18.1%)	3109 (46.4%)
	PV(+)	154 (20.2%)	1757 (48.2%)	1194 (70.3%)	483 (81.9%)	3588 (53.6%)
	Total	761 (100.0%)	3647 (100.0%)	1699 (100.0%)	590 (100.0%)	6697 (100.0%)
Cancer in the body and the tail of the pancreas	PV(-)	193 (81.4%)	387 (46.5%)	168 (26.7%)	104 (28.0%)	852 (41.1%)
	PV(+)	44 (18.6%)	446 (53.5%)	461 (73.3%)	268 (72.0%)	1219 (58.9%)
	Total	237 (100.0%)	833 (100.0%)	629 (100.0%)	372 (100.0%)	2071 (100.0%)

表 5.3.a.6 腫瘍サイズと動脈浸潤 Tumor size and arterial infiltration

Arterial infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	A(-)	722 (95.1%)	2977 (82.2%)	981 (59.8%)	209 (37.5%)	4889 (74.3%)
	A(+)	37 (4.9%)	645 (17.8%)	660 (40.2%)	348 (62.5%)	1690 (25.7%)
	Total	759 (100.0%)	3622 (100.0%)	1641 (100.0%)	557 (100.0%)	6579 (100.0%)
Cancer in the body and the tail of the pancreas	A(-)	220 (92.4%)	462 (55.5%)	177 (28.5%)	94 (25.1%)	953 (46.2%)
	A(+)	18 (7.6%)	370 (44.5%)	443 (71.5%)	280 (74.9%)	1111 (53.8%)
	Total	238 (100.0%)	832 (100.0%)	620 (100.0%)	374 (100.0%)	2064 (100.0%)

表 5.3.a.7 腫瘍サイズと膵周囲神経叢浸潤 Tumor size and peripancreatic nerve plexus infiltration

Plexus infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	PL(-)	629 (91.0%)	2241 (75.5%)	635 (57.2%)	125 (45.5%)	3630 (71.9%)
	PL(+)	62 (9.0%)	729 (24.5%)	476 (42.8%)	150 (54.5%)	1417 (28.1%)
	Total	691 (100.0%)	2970 (100.0%)	1111 (100.0%)	275 (100.0%)	5047 (100.0%)
Cancer in the body and the tail of the pancreas	PL(-)	211 (93.0%)	476 (71.4%)	212 (49.3%)	82 (42.9%)	981 (64.8%)
	PL(+)	16 (7.0%)	191 (28.6%)	218 (50.7%)	109 (57.1%)	534 (35.2%)
	Total	227 (100.0%)	667 (100.0%)	430 (100.0%)	191 (100.0%)	1515 (100.0%)

表 5.3.a.8 腫瘍サイズと他臓器浸潤 Tumor size and other organ infiltration

Other organ infiltration		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	OO(-)	744 (7.5%)	3384 (92.5%)	1367 (79.3%)	342 (51.5%)	5837 (85.7%)
	OO(+)	19 (2.5%)	275 (7.5%)	356 (20.7%)	322 (48.5%)	972 (14.3%)
	Total	763 (100.0%)	3659 (100.0%)	1723 (100.0%)	664 (100.0%)	6809 (100.0%)
Cancer in the body and the tail of the pancreas	OO(-)	232 (96.3%)	660 (80.5%)	387 (59.7%)	137 (32.9%)	1416 (66.6%)
	OO(+)	9 (3.7%)	160 (19.5%)	261 (40.3%)	280 (67.1%)	710 (33.4%)
	Total	241 (100.0%)	820 (100.0%)	648 (100.0%)	417 (100.0%)	2126 (100.0%)

表 5.3.a.9 腫瘍サイズと JPS T 因子 Tumor size and JPS T factor

JPS T factor		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	JPS T1	160 (22.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	160 (2.5%)
	JPS T2	0 (0.0%)	176 (5.1%)	41 (2.5%)	6 (0.9%)	223 (3.5%)
	JPS T3	357 (49.9%)	1166 (34.0%)	242 (14.7%)	45 (7.0%)	1810 (28.1%)
	JPS T4	198 (27.7%)	2091 (60.9%)	1360 (82.8%)	592 (92.1%)	4241 (65.9%)
	Total	715 (100.0%)	3433 (100.0%)	1643 (100.0%)	643 (100.0%)	6434 (100.0%)
Cancer in the body and the tail of the pancreas	JPS T1	110 (48.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	110 (5.3%)
	JPS T2	0 (0.0%)	83 (10.3%)	16 (2.5%)	4 (1.0%)	103 (5.0%)
	JPS T3	58 (25.8%)	137 (17.0%)	41 (6.5%)	9 (2.2%)	245 (11.8%)
	JPS T4	57 (25.3%)	588 (72.8%)	576 (91.0%)	396 (96.8%)	1617 (77.9%)
	Total	225 (100.0%)	808 (100.0%)	633 (100.0%)	409 (100.0%)	2075 (100.0%)

表 5.3.a.10 腫瘍サイズと申告による UICC T 因子 Tumor size and declared UICC T factor

Declared UICC T factor		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	UICC T1	358 (48.3%)	15 (0.4%)	1 (0.1%)	0 (0.0%)	374 (5.7%)
	UICC T2	9 (1.2%)	663 (18.2%)	109 (6.6%)	18 (3.2%)	799 (12.1%)
	UICC T3	311 (42.0%)	1965 (54.1%)	715 (43.3%)	163 (29.1%)	3154 (47.9%)
	UICC T4	63 (8.5%)	991 (27.3%)	826 (50.0%)	380 (67.7%)	2260 (34.3%)
	Total	741 (100.0%)	3634 (100.0%)	1651 (100.0%)	561 (100.0%)	6587 (100.0%)
Cancer in the body and the tail of the pancreas	UICC T1	128 (55.2%)	4 (0.5%)	1 (0.2%)	0 (0.0%)	133 (6.4%)
	UICC T2	5 (2.2%)	119 (14.3%)	26 (4.1%)	6 (1.6%)	156 (7.5%)
	UICC T3	78 (33.6%)	345 (41.4%)	195 (31.0%)	99 (26.3%)	717 (34.6%)
	UICC T4	21 (9.1%)	366 (43.9%)	407 (64.7%)	271 (72.1%)	1065 (51.4%)
	Total	232 (100.0%)	834 (100.0%)	629 (100.0%)	376 (100.0%)	2071 (100.0%)

図 5.3.a.11 TS1 腫瘍における JPS T 因子と生存率 Cumulative survival of the patients with TS1 cancer according to JPS T factor

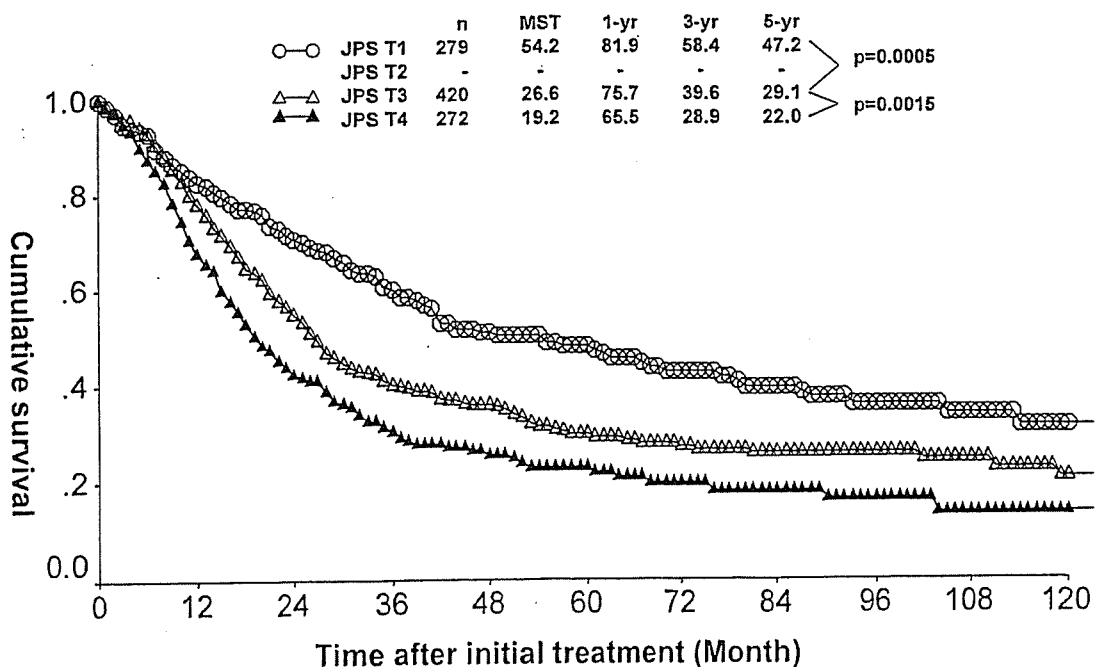
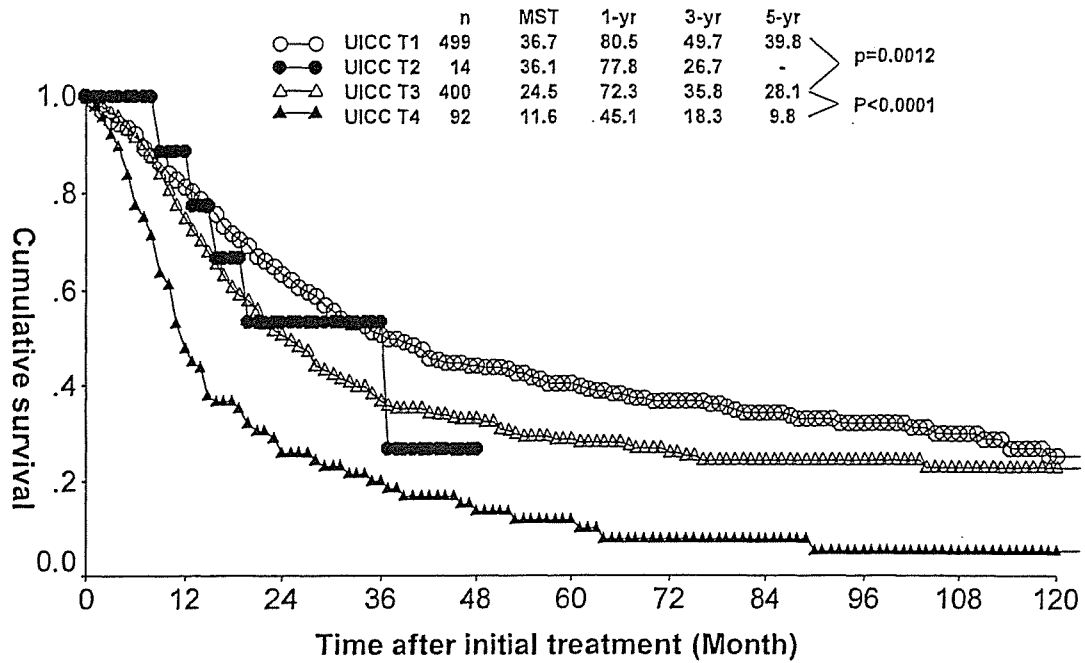


図 5.3.a.12 TS1 腫瘍における UICC T 因子と生存率 Cumulative survival of the patients with TS1 cancer according to UICC T factor



b. リンパ節転移 Lymph node metastasis

表 5.3.b.1 腫瘍サイズと JPS N 因子 Tumor size and JPS N factor

JPS N factor		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	JPS N0	390 (55.4%)	1130 (33.7%)	330 (23.7%)	77 (20.8%)	1927 (33.1%)
	JPS N1	139 (19.7%)	804 (24.0%)	297 (21.3%)	54 (14.6%)	1294 (22.2%)
	JPS N2	119 (16.9%)	859 (25.6%)	377 (27.1%)	106 (28.6%)	1461 (25.1%)
	JPS N3	56 (8.0%)	558 (16.7%)	388 (27.9%)	133 (35.9%)	1135 (19.5%)
	Total	704 (100.0%)	3351 (100.0%)	1392 (100.0%)	370 (100.0%)	5817 (100.0%)
Cancer in the body and the tail of the pancreas	JPS N0	139 (68.1%)	333 (48.1%)	185 (38.1%)	76 (30.5%)	733 (44.9%)
	JPS N1	46 (22.5%)	179 (25.9%)	115 (23.7%)	50 (20.1%)	390 (23.9%)
	JPS N2	10 (4.9%)	48 (6.9%)	50 (10.3%)	20 (8.0%)	128 (7.8%)
	JPS N3	9 (4.4%)	132 (19.1%)	136 (28.0%)	103 (41.4%)	380 (23.3%)
	Total	204 (100.0%)	692 (100.0%)	486 (100.0%)	249 (100.0%)	1631 (100.0%)

表 5.3.b.2 腫瘍サイズと申告による UICC N 因子 Tumor size and declared UICC N factor

Declared UICC N factor		TS1 (<2.0cm)	TS2 (2.1-4.0cm)	TS3 (4.1cm-6.0cm)	TS4 (>6.0cm)	Total
Cancer in the head of the pancreas	UICC N0	391 (55.6%)	1136 (33.7%)	334 (23.8%)	77 (20.6%)	1938 (33.2%)
	UICC N1	312 (44.4%)	2230 (66.3%)	1068 (76.2%)	296 (79.4%)	3906 (66.8%)
	Total	703 (100.0%)	3366 (100.0%)	1402 (100.0%)	373 (100.0%)	5844 (100.0%)
Cancer in the body and the tail of the pancreas	UICC N0	145 (69.4%)	342 (48.4%)	189 (38.2%)	77 (30.2%)	753 (45.2%)
	UICC N1	64 (30.6%)	365 (51.6%)	306 (61.8%)	178 (69.8%)	913 (54.8%)
	Total	209 (100.0%)	707 (100.0%)	495 (100.0%)	255 (100.0%)	1666 (100.0%)

図 5.3.b.3 TS1 腫瘍における JPS N 因子と生存率 Cumulative survival of the patients with TS1 cancer according to JPS N factor

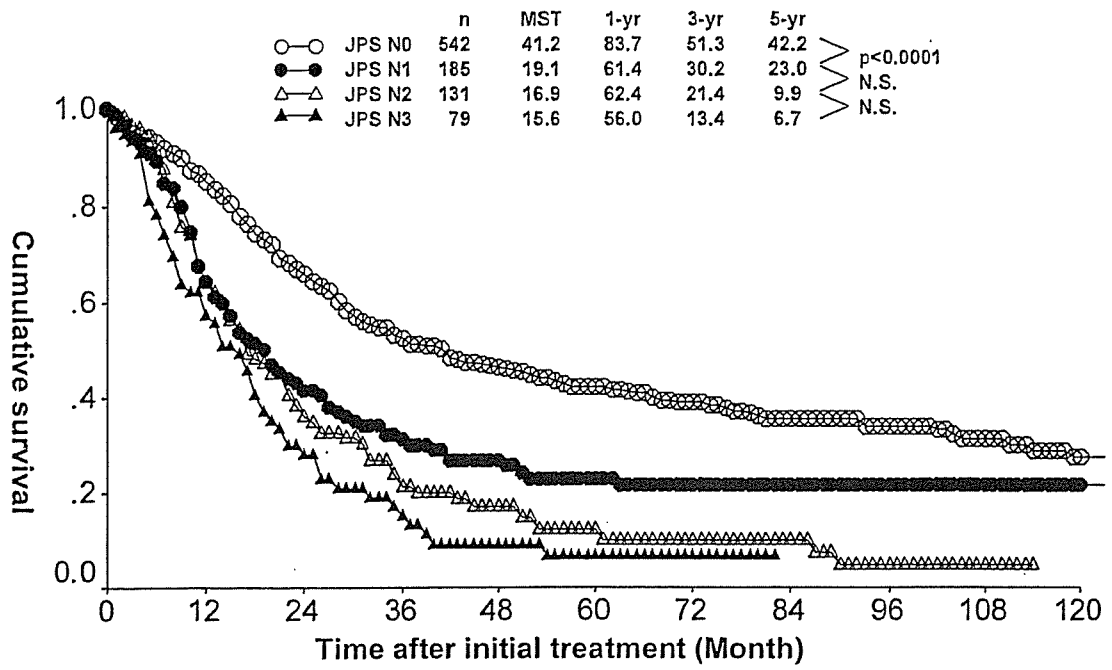


図 5.3.b.4 TS1 腫瘍における UICC N 因子と生存率 Cumulative survival of the patients with TS1 cancer according to UICC N factor

