Comprehensive Registry of Esophageal Cancer in Japan

(1995,1996,1997)

2nd Edition

The Japanese Society for Esophageal Diseases

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Preface

The 2nd edition of Comprehensive Registry of Esophageal Cancer contains the total results for the 3 years from 1995 to 1997. Data were collected using a new meta-analysis type collection method based on various databases (see Appendix).

A total 8234 patients were registered, 2502 patients from 108 institutions in 1995, 2829 patients from 212 institutions in 1996, 2903 patients from 209 institutions in 1997.

All patients were divided into 4 groups according to treatment methods (endoscopic treatment, chemotherapy and/or radiotherapy, palliative operation, esophagectomy). The clinicopathological findings and cancer staging were made according to the criteria of the 9th edition Guidelines of the Japanese Society for Esophageal Diseases and the 5th edition of the TNM classification (UICC). The results were analyzed by year. Epidemiological analysis of all patients and clinical findings of the patients groups according to year are shown in Chapter I. The treatment procedures and the results of endoscopic treatment in Chapter II, chemotherapy and/or radiotherapy in Chapter III, palliative operation in Chapter IV, and esophagectomy in Chapter V. Finally, the incidence of lymph node metastasis in the comprehensive registry of cases in Japan between 1995 and 1997 was added as a supplement.

In the period covered by this edition, extended lymphadenectomy was performed safely in esophagectomy but less invasive surgery was performed in patients without metastasis. It can be said that in this period we are beginning to see increased individualization of treatment based on each separate case.

In addition to the recent results of surgical treatment, we showed the results of endoscopic treatment for superficial cancer, as well as esophageal stents for advanced cancer and chemoradiotherapy. It is our hope that this book will be of value to doctors who are treating patients with esophageal cancer.

Comprehensive Registry of Esophageal cancer in Japan in 1995

JSED

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I. Clinical Factors of Esophageal Cancer Patients treated in 1995

1. Institutions registrating cases in 1995

Institutions (No.1)

Inst#	Institutions
03a11	Dept. of Surg. Showa Univ. School of Med. Toyosu Hospital
03d01	Second Dept. of Surg. Kyorin Univ. School of Med.
03e01	Dept. of Surg. Tokai Univ. School of Med. Tokyo Hospital
1101	First Dept. of Surg. Hokkaido Univ. School of Med.
1102	Second Dept. of Surg. Hokkaido Univ. School of Med.
1201	First Dept. of Surg. Sapporo Med. Univ.
1203	First Dept. of Medicne. Sapporo Med. Univ.
1401	First Dept. of Surg. Hirosaki Med. Univ. School of Med.
1405	Second Dept. of Surg.Hirosaki Med. Univ. School of Med.
1501	First Dept. of Surg. Iwate Med. Univ. School of Med.
1601	First Dept. of Surg. Yamagata Univ.School of Med.
1702	Second Dept. of Surg. Akita Univ. School of Med.
1802	Second Dept. of Surg. Akita Univ. School of Med.
1901	First Dept. of Surg. Fukushima Medical School
2101	First Dept. of Surg. Gunma Univ. School of Med.
2102	Second Dept. of Surg. Gunma Univ.School of Med.
2104	Dept. Radiology Gunma Univ. School of Med.
2106	First Dept. of Medicne. Gunma Univ.School of Med.
2301	First Dept. of Surg. Dokkyo Med. Univ. School of Med.
2311	Dept of Surg. Dokkyo Med. Univ. School of Med. Koshigaya Hospital
2401	Dept.of Surg. Tsukuba Univ. School of Med.
2501	First Dept. of Surg. Saitama Medical Univ.
2602	Second Dept. of Surg National Defense Medical College
2701	First Dept. of Surg. Chiba Univ. School of Med.
2801	Dept. of Surgery Tokyo Dental Univ. Ichikawa General Hospitral
3001	First Dept. of Surg. Nihon Univ. School of Med.
3003	Third. Dept. of Surg. Nihon Univ. School of Med.
3301	First Dept. of Surg. Tokyo Univ. School of Med.
3303	First Dept. of Surg. Tokyo Univ.School of Med.
3401	First Dept. of Surg. Juntendo Univ.School of Med.
3601	Dept. of Surg. Keio Univ.School of Med.
3703	Therd Dept. of Surg. Tokyo Medical Univ.
3811	Dept. Surg. Institute of Gastroenterology Tokyo Women's Medical Univ.
3821	Dept. Surg. Tokyo Women's Medical Univ. Second Hospital
4001	First Dept.of Surg. Yamanashi Med. Univ. School of Med.
4201	Dept of Surg. Tokai Univ. School of Med.
4301	First Dept. of Surg. Yokohama City Univ.School of Med.
4402	Second Dept. of Surg. St.Marianna Univ.School of Med.
4501	Dept of Surg. Kitasato Univ. School of Med.
4511	Dept. of Digestive Surg. Kitasato Univ. East Hospital
4601	Dept. of Surg. Juntendo Univ. Nagaoka Hospital
4701	Dept. of Surg. Teikyo Univ. Ichihara Hospital
5301	First Dept. of Surg. Shinsyu Univ.School of Med.
5302	Second Dept. of Surg. Juntendo Univ.School of Med.
5402	Secondt Dept. of Surg. Hamamatsu Medical.School
5501	First Dept. of Surg. Nagoya Univ.School of Med.
5502	Secondt Dept. of Surg. Nagoya Univ.School of Med.
5506	Second Dept. of Medicine. Nagoya Univ.School of Med.
5701	First Dept. of Surg. Gifu Univ.School of Med.
5801	Dept. of Surg. Fujita Health Univ. School of Med.
5803	Dept. of Funabiki-Surg. Fujita Health Univ. School of Med.
5811	Fujita Health Univ. School of Med. Houtokukai Hospital
5901	First Dept. of Surg Aich Medical Univ.
6101	First Dept. of Surg. Shiga Univ. School of Med.
6304	Dept. of Radiology Kyoto Univ. School of Med.
6311	Dept. of Surgical oncology Kyoto Univ. School of Med.

Institutions (No.2)

Inst#	Institutions
6401	First Dept. of Surg. Nara Medical Univ.
6502	Second Dept. of Surg. Kansai Medical Univ.
6701	First Dept. of Surg. Osaka City Univ. School of Med.
6702	Second Dept. of Surg. Osaka City Univ. School of Med.
6704	Dept. of Radiology Osaka City Univ. School of Med.
6801	First Dept. of Surg. Kinki Univ. School of Med.
6802	Second Dept. of Surg. Kinki Univ. School of Med.
7101	First Dept. of Surg. Kanazawa Univ. School of Med.
7301	First Dept. of Surg. Kobe Univ. School of Med.
7302	Secondt Dept. of Surg. Kobe Univ. School of Med.
7401	First Dept. of Surg. Hyogo Medical Univ.
8001	First Dept. of Surg. Okayama Univ. School of Med.
8002	Second Dept. of Surg. Okayama Univ. School of Med.
8201	First Dept. of Surg. Tottori Univ. School of Med.
8302	Second Dept. of Surg. Shimane Medical Univ.
8402	Second Dept. of Surg.Hiroshima Univ. School of Med.
8411	Dept. of Surg. Reserch Inst. foir Nucler Med. & Biology Hiroshima Univ.
8601	First Dept. of Surg. Tokushima Univ. School of Med.
8701	First Dept. of Surg. Kagawa Nedical Univ.
8802	Second Dept. of Surg. Ehime Univ. School of Med.
9102	Second Dept. of Surg. Kyushu Univ. School of Med.
9104	Dept of Radiology Kyushu Univ. School of Med.
9201	Firstd Dept. of Surg. Fukuoka Univ. School of Med.
9202	Second Dept. of Surg. Fukuoka Univ. School of Med.
9211	Dept. of Surg. Fukuoka Univ. School of Med. Tsukushi Hospital
9301	Dept. of Surg. Kurume Univ. School of Med.
9302	Dept. of Medicalcenter Kurume Univ. School of Med.
9401	Dept. of Digestivesurg. Saga Medical Univ.

Inst#	Institutions
9502	Second Dept. of Surg. Nagasaki Univ. School of Med
9802.	First Dept. of Second Dept. of Surg. Miyazaki Medical Univ.
9901	First Dept. of Surg. Kagoshima Univ. School of Med.
9994	Dept. of Radiology. Ryukyu Univ. School of Med.
10014	Sapporo National Hospital Hokkaido Cancer Center
10021	National Cancer Center Central Hospital
10031	National Cancer Center East Hospital
10081	Dept of Surg. Shikoku National Cancer Center Hospital
10101	Dept of Surg. Hakodate National Hospital
11201	Dept of Surg. Sendai National Hospital
11301	Dept of Surg. Mito National Hospital
12101	Dept of Surg. Numata National Hospital
12401	Dept of Surg. Narashino National Hospital
13204	Dept of Radiology. Second National Hospital
13301	Dept of Surg. International Medical Center In Japan
14201	Dept of Surg. Kofu National Hospital
14401	Dept of Surg. Kasumigaura National Hospital
15101	Dept of Surg. Nagoya National Hospital
17301	Dept of Surg. Fukuyama National Hospital
17401	Dept of Surg. Kure National Hospital
17601	Dept of Surg. Iwakuni National Hospital
19021	Dept of Surg. Kumamoto National Hospital
19061	Dept of Surg. Miyakonojo National Hospital
19071	Dept of Surg. Ibusuki National Hospital
19081	Dept of Surg. Kyusyu Medical Center National Hospital
21011	Dept of Surg. Aomori Prefectual Central Hospital
21031	Dept of Surg. Yamagata Prefectual Shonai Hospital
21041	Dept of Surg. Yamagata Prefectual Central Hospital
21061	Dept of Surg. Fukushima Prefectual Aizu Sogo Hospital

Institutions (No.3)

Inst#	Institutions
21091	Dept of Surg. Iwaki City Sogo Iwakikyoritul Hospital
22011	Dept of Surg. Niigata Cancer Center Hospital
22021	Dept of Surg. Niigata Prefectual Shibata Hospital
22031	Dept of Surg. Niigata Prefectual Central Hospital
23021	Dept of Surg. Metroporitan Hiroo Hospital
23031	Dept of Surg. Metroporitan Fucyu Hospital
24011	Dept of Surg. Gunma Cancer Center Toumou Hospital
24021	Ibaraki Prefectual Central Hospital Ibaraki Cancer Center
24031	Dept of Surg. Tochigi Cancer Center
24051	Dept of Digestive Surg. Chiba Cancer Center
24101	Dept of Surg. West Hamamatsu Medical Cancer Center
25032	Dept of Thoracic Surg. Aichi Cancer Center
25041	Dept of Surg. Fukui Prefectual Hospital
26011	Osaka Adult Disease Center
26031	Dept of Surg. Osaka National Hospital
27012	Dept of Surg. Hyogo Adult Disease Center
27014	Dept of Radiology Hyogo Adult Disease Center
27031	Dept of Surg. Hyogo Prefectual Kakogawa Hospital
27041	Dept of Surg. Tottori Prefectual Central Hospital
28021	Dept of Surg. Kochi Prefectual Central Hospital
29011	Dept of Surg. Saga Prefectual Kouseikan Hospital
30031	Dept of Surg. Asahikawa City Hospital
31011	Dept of Surg. Aomori City Hospital
31061	Dept of Surg. Tsuruoka City Syounai Hospital
31071	Dept of Surg. Nagai City Sogo Hospital
34031	Dept of Surg. Koshigaya City Hospital
34051	Dept of Surg. Numazu City Hospital

Inst#	Institutions
34061	Dept of Surg. Kakegawa City Sogo Hospital
34081	Dept of Surg. Funabashi City Medical Center Hospital
34141	Dept of Surg. Odawara City Hospital
34161	Dept of Surg. Fujieda City Sogo Hospital
35031	Dept of Surg. Ogaki City Hospital
35041	Dept of Surg. Gifu City Hospital
35081	Dept of Surg. Nagahama City Hospital
36041	Dept of Surg. Suita City Hospital
36061	Dept of Surg. Kaizuka City Hospital
36081	Dept of Surg. Izumi City Hospital
36111	Dept of Surg. Kyoto City Hospital
37111	Dept of Surg. Kobe City Central Hospital
37141	Dept of Surg. Takamatsu City Hospital
37211	Dept of Surg. Matsue City Hospital
37411	Dept of Surg. & Medicine Iwakuni City Medical Center Hospital
38111	Dept of Surg. Tokushima City Hospital
39111	Dept of Surg. Kitakyusyu City Medical Center Hospital
39121	Dept of Surg. Kitakyusyu City Yahata Hospital
39711	Dept of Surg. Izumi City Hospital
40011	Dept of Surg. Tonan Hospital
40311	Dept of Surg. Toranomon Hospital
40711	Dept of Surg. Kinki Center Hospital
41621	Dept of Surg. Kyoto Prefectual Saiseikai Hospital
41711	Dept of Surg. Okayama Saiseikai Hospital
41731	Dept of Surg. Okayama Rousai Hospital
42211	Dept of Surg. Nagaoka Red Cross Hospital
42411	Dept of Surg. Ashikaga Red Cross Hospital

Institutions (No.4)

Inst#	Institutions
42621	Dept of Surg. Kyoto Second Red Cross Hospital
42651	Dept of Surg. Yamada Red Cross Hospital
42711	Dept of Surg. Hiroshima Red Cross Hospital
42911	Dept of Surg. Oita Red Cross Hospital
43021	Dept of Surg. Kushiro Rosai Hospital
43121	Dept of Surg. Kanto Rosai Hospital
43211	Dept of Surg. Niigata Rosai Hospital
43711	Dept of Surg. Kansai Rosai Hospital
43911	Dept of Surg. Kyushu Rosai Hospital
44311	Dept of Surg. Social Insurance General Center Hospital
44411	Dept of Surg. Social Insurance Saitama Center Hospital
44451	Dept of Surg. Social Insurance Kofu Yamanashi Hospital
44721	Dept of Surg. Social Insurance Shimonoseki Kosei Hospital
44911	Dept of Surg. Social Insurance Ogura Memorial Hospital
45111	Dept of Medicine Yamamoto Union General Hospital
45121	Dept of Surg. Akita Union General Hospital
45411	Dept of Surg. Kokuho Seitou Hospital
46011	Obihiro Kousei Hospital
46421	Dept. of Surg. Kiryu Kousei Hospital
46611	Dept. of Surg. Osaka Kousei Hospital
47111	Dept. of Surg. Tohokukosai Hospital
47311	Dept. of Surg. Tachikawa Hospital
48111	Dept. of Surg. NTT Tohoku Hospital
48611	Dept. of Surg. Osaka Teishin Hospital
50001	Dept. of Surg. Cancer Reserch Hospital
53302	Dept. of Surg. Tamananbu-Chiiki Hospital
60019	Dept. of Surg. Nikko Memorial Hospital

Inst#	Institutions
60041	Dept. of Surg. Keiyukai Sapporo Hospital
61011	Dept. of Surg. Ota nishinouchi Hospital
61041	Dept. of Surg. Takeda Sogo Hospital
61051	Dept. of Surg. Hirashika Sogo Hospital
63011	Dept. of Surg. Mitsui Memorial Hospital
63021	Dept. of Surg. Kousei Hospital
64441	Dept. of Surg. NKK Hospital
64521	Dept. of Surg.Showainan Sogo Hospital
65121	Dept. of Surg. Yasusiro Kosei Hospital
65131	Dept. of Surg. Sogo Daiyukai Hospital
65311	Dept. of Surg. Nissei Hospital
65331	Dept. of Surg. Kansai Electric Hospital
66351	Dept. of Surg. Matsushita Memorial Hospital
67111	Dept. of Surg.Kobekogyo(Koko) Hospital
67311	Dept. of Surg.Kure Kyosai Hospital

2. Patient Background

Table 1) Age, gender and treatment

Age	Cases (%)	Male	Female	Unknown	EMR*/ Stenting	Chemotherapy/ Radiotherapy	Pallative operation	Esopha-gectomy	Unknown
~29	1 (0.04%)	0	1	0	0	0	0	1	0
30~39	6 (0.24%)	4	2	0	0	0	0	5	1
40~49	177 (7.1%)	155	21	1	7	18	6	139	7
50~59	656 (26.2%)	585	68	3	29	66	17	512	32
60~69	953 (38.1%)	854	95	4	55	131	22	682	66
70~79	537 (21.5%)	447	90	0	48	95	7	337	50
80~89	115 (4.6%)	86	28	1	6	19	2	49	36
90~	7 (0.28%)	6	1	0	0	3	0	3	1
Unknown	50 (2.0%)	45	5	0	-	-	-	-	50
Total	2502 (100%)	2182 (87.2%)	311 (12.4%)	9 (0.36%)	145 (5.8%)	332 (13.3%)	54 (2.2%)	1728 (69.1%)	243 (9.7%)

*EMR:endoscopic mucosal resection

Table 2) Area of patient's residence and occupation

Area	No. of cases (%)	Area	No. of cases (%)
Total	**2502 (100%)**	Miyazaki	15 (0.6%)
Aichi	57 (2.3%)	Nagano	30 (1.2%)
Akita	62 (2.5%)	Nagasaki	21 (0.8%)
Aomori	22 (0.9%)	Nara	26 (1.0%)
Chiba	101 (4.0%)	Niigata	67 (2.7%)
Ehime	20 (0.8%)	Oita	6 (0.2%)
Fukui	6 (0.2%)	Okayama	16 (0.6%)
Fukuoka	121 (4.8%)	Okinawa	3 (0.1%)
Fukushima	60 (2.4%)	Osaka	169 (6.8%)
Gifu	26 (1.0%)	Saga	32 (1.3%)
Gunma	67 (2.7%)	Saitama	137 (5.5%)
Hiroshima	54 (2.2%)	Shiga	12 (0.5%)
Hokkaido	184 (7.4%)	Shimane	23 (0.9%)
Hyogo	120 (4.8%)	Shizuoka	46 (1.8%)
Ibaraki	40 (1.6%)	Tochigi	44 (1.8%)
Ishikawa	13 (0.5%)	Tokushima	8 (0.3%)
Iwate	39 (1.6%)	Tokyo	378 (15.1%)
Kagawa	4 (0.2%)	Tottori	18 (0.7%)
Kagoshima	53 (2.1%)	Toyama	0 (0%)
Kanagawa	163 (6.5%)	Wakayama	5 (0.2%)
Kouchi	7 (0.3%)	Yamagata	40 (1.6%)
Kumamoto	5 (0.2%)	Yamaguchi	16 (0.6%)
Kyoto	45 (1.8%)	Yamanashi	14 (0.6%)
Mie	5 (0.2%)	Others	0 (0.0%)
Miyagi	73 (2.9%)	Unknown	29 (1.2%)

Occupation	Cases (%)
None	337 (13.5%)
Professional	278 (11.1%)
Management	222 (8.9%)
Office worker	407 (16.3%)
Sales worker	112 (4.5%)
Farm/Forestry/Marine product	198 (7.9%)
Mining and Quarrying	24 (1.0%)
Transport and communication	13 (0.5%)
Industrial technician	72 (2.9%)
General worker	196 (7.8%)
Service industry	160 (6.4%)
Others	46 (1.8%)
Unclassified	11 (0.4%)
Unknown	426 (17.0%)
Total	2502 (100%)

Table 3) Familial history of carcinoma

Familial history	Cases (%)
No	1443 (57.7%)
Yes	730 (29.2%)
Unknown	329 (13.1%)
Total	2502 (100%)

Table 4) Tumors of familial history of carcinoma

Diseases	No. of cases (%)	Diseases	No. of cases (%)
Malig. lymphoma	4 (0.4%)	Duodenal ca..	3 (0.3%)
Leukemia	11 (1.1%)	Gallbladder ca.	9 (0.9%)
Brain tumor	7 (0.7%)	Pancreas ca.	36 (3.6%)
Mandibular ca.	2 (0.2%)	Colon ca.	58 (5.8%)
Thyroid ca.	1 (0.1%)	Rectal ca.	35 (3.5%)
Breast ca.	47 (4.7%)	Uterus ca.	45 (4.5%)
Lung ca.	96 (9.5%)	Ovarian ca.	10 (1.0%)
Maxillary ca.	2 (0.2%)	Renal ca.	6 (0.6%)
Tongue ca.	3 (0.3%)	Bladder ca.	11 (1.1%)
Pharyngeal ca.	26 (2.6%)	Prostate ca.	10 (1.0%)
Laryngeal ca.	6 (0.6%)	Spinal tumor	1 (0.1%)
Esophgeal ca.	101 (10.0%)	Osteosarcoma	1 (0.1%)
Stomach ca.	329 (32.6%)	Skin ca..	4 (0.4%)
Stomach sarcoma	2 (0.2%)	Malig. melanoma	1 (0.1%)
Hepatoma	58 (5.8%)	Unknown	81 (8.0%)
Cholangio ca.	5 (0.5%)	Total cases(%)	1008 (100%)
		No. of patients	730

Table 5) Chance and basis of diagnosis according to clinical T-category

Chances of diagnosis	Superficial cancer (cTis,cT1)	Advanced cancer (cT2,cT3,cT4)	Total (%)
Chief complains	457 (62.9%)	1190 (72.3%)	1647 (69.4%)
Detection survey / dock	146 (20.1%)	232 (14.1%)	378 (15.9%)
Examination for other disease	93 (12.8%)	161 (9.8%)	254 (10.7%)
Unkown	31 (4.3%)	62 (3.8%)	93 (3.9%)
Total	727 (100%)	1645 (100%)	2372* (100%)

Detection methods	Superficial cancer (cTis,cT1)	Advanced cancer (cT2,cT3,cT4)	Total (%)
Esohagography	214 (29.4%)	612 (37.2%)	826 (34.8%)
Esohagoscopy	478 (65.8%)	945 (57.4%)	1423 (60.0%)
CT-scann	4 (0.6%)	7 (0.4%)	11 (0.5%)
Biopsy	1 (0.1%)	6 (0.3%)	7 (0.3%)
Others	1 (0.1%)	4 (0.2%)	5 (0.2%)
Unkown	29 (4.0%)	71 (4.3%)	100 (4.2%)
Total	727 (100%)	1645 (100%)	2372* (100%)

*: excluding 130 cTX, cT0, cT unknown cases

Table 6) Symptoms according to clinical T-category

Symptom	cTis, cT1		cT2,cT3,cT4		Total (%)	
	Cases (%)		Cases (%)			
None	215	(25.0%)	353	(17.9%)	543	(21.7%)
Chest pain	39	(4.5%)	81	(4.1%)	243	(9.7%)
Sense of stricture	183	(21.3%)	510	(25.9%)	800	(32.0%)
Unusual sensation	49	(5.7%)	97	(4.9%)	94	(3.8%)
Dysphagia	168	(19.6%)	493	(25.1%)	511	(20.4%)
Nausea / Vomiting	32	(3.7%)	70	(3.6%)	42	(1.7%)
Appetite loss	28	(3.3%)	58	(2.9%)	37	(1.5%)
Weight loss	36	(4.2%)	60	(3.1%)	20	(0.8%)
Swollen of lymph node	6	(0.7%)	13	(0.7%)	12	(0.5%)
Hoarseness	13	(1.5%)	47	(2.4%)	19	(0.8%)
Others	65	(7.6%)	142	(7.2%)	131	(5.2%)
Unkown	25	(2.9%)	43	(2.2%)	50	(2.0%)
Total	859	(100%)	1967	(100%)	2502	(100%)
Total cases	727		1645		2372*	

*; excluding 130 cTX, cT0, cT unkown cases

Table 7) Double / multiple primary cancers

	Endoscopical treatment (EMR/Stenting)	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
None	126 (67.0%)	400 (80.0%)	47 (82.5%)	1387 (79.0%)	1960 (78.3%)
Double	31 (16.5%)	48 (9.6%)	7 (12.3%)	175 (10.0%)	261 (10.5%)
Metachronous					
Before E-Ca	25 (13.3%)	43 (8.6%)	1 (1.8%)	149 (8.4%)	218 (8.7%)
After E-Ca	2 (1.1%)	1 (0.2%)		21 (1.2%)	24 (1.0%)
Multiple	3 (1.6%)	2 (0.4%)		18 (1.0%)	23 (0.9%)
Unknown	1 (0.5%)	6 (1.2%)	2 (3.5%)	7 (0.4%)	16 (0.6%)
Total	188 (100 %)	500 (100 %)	57 (100 %)	1757 (100 %)	2502 (100 %)

Table 8) Double / multiple primary cancers and Organs

Organs	Synchronous		Metachronous		Total	
Larynx/Maxillary	16	(4.3%)	22	(7.2%)	38	(5.6%)
Pharynx	41	(11.0%)	27	(8.8%)	68	(10.0%)
Oral cavity/Gum/Tongue	21	(5.6%)	6	(2.0%)	27	(4.0%)
Stomach	157	(42.1%)	120	(39.1%)	277	(40.7%)
Colon/Rectum	41	(11.0%)	41	(13.4%)	82	(12.1%)
Liver	13	(3.5%)	3	(1.0%)	16	(2.3%)
Choledochus/Gallbladder	3	(0.8%)	0		3	(0.5%)
Pancreas	3	(0.8%)	0		3	(0.5%)
Lung/Trachea/Bronchus	24	(6.4%)	17	(5.5%)	41	(6.0%)
Remnunt esophagus	3	(0.8%)	9	(2.9%)	12	(1.8%)
Uterus/Ovarium	0		2	(0.6%)	2	(0.3%)
Breast	2	(0.5%)	14	(4.6%)	16	(2.3%)
Prostate	8	(2.1%)	3	(1.0%)	11	(1.6%)
Urinary bladder	5	(1.4%)	13	(4.2%)	18	(2.6%)
Leukemia	2	(0.5%)	1	(0.3%)	3	(0.4%)
Skin	1	(0.3%)	1	(0.3%)	2	(0.3%)
Brain	0		0		0	
Thyroid	7	(1.9%)	1	(0.3%)	8	(1.2%)
Bone	1	(0.3%)	1	(0.3%)	1	(0.3%)
Kidney	6	(1.6%)	4	(1.3%)	2	(1.5%)
Others	15	(4.0%)	19	(6.2%)	10	(5.0%)
Unknown	4	(1.1%)	3	(1.0%)	7	(1.0%)
Lesions	373	(100%)	307	(100%)	680	(100%)
Cases	284		242		526	

Table 9) Double / multiple primary cancer - Organs (in endoscopically treated cases)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After E-Ca	
Larynx/Maxillary	3 (8.3%)	3 (12.0%)		1 (16.7%)
Pharynx	3 (8.3%)	4 (16.0%)		
Oral cavity/Gum/Tongue	6 (16.7%)	1 (4.0.%)	1 (14.3%)	
Stomach	16 (44.4%)	10 (40.0%)	2 (28.6%)	2 (33.3%)
Colon/Rectum	5 (13.9%)	2 (8.0%)	1 (14.3%)	2 (33.3%)
Liver		2 (8.0%)		
Choledochus/Gallbladder				
Pancreas			1 (14.3%)	
Lung/Trachea/Bronchus			2 (28.6%)	
Remnunt esophagus				
Uterus/Ovarium				
Breast				
Prostate				
Urinary bladder				
Leukemia				
Skin				
Brain				
Thyroid				
Bone				
Kidney				
Others	3 (8.3%)	2 (8.0%)		1 (16.7%)
Unknown		1 (4.0%)		
Lesions	36 (100%)	25 (100%)	7 (100%)	6 (100%)
Cases	31	21	6	3

Table 10) Double / multiple primary cancer - Organs (in cases of chemotherapy and/or radiotherapy)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After e-Ca	
Larynx/Maxillary	2 (3.4%)	7 (11.9%)		2 (50.0%)
Pharynx	7 (12.1%)	4 (6.8%)		2 (50.0%)
Oralcavity/Gum/Tongue	1 (1.7%)			
Stomach	27 (46.6%)	18 (30.5%)		
Colon/Rectum	4 (6.9%)	3 (5.1%)		
Liver	1 (1.7%)	3 (5.1%)	1 (100%)	
Choledocus/Gallbladder				
Pancreas	1 (1.7%)	1 (5.1%)		
Lung/Trachea/Bronchus	6 (10.3%)			
Remnunt esophagus				
Uterus/Ovarium				
Breast		3 (5.1%)		
Prostate		1 (1.7%)		
Urinary bladder		3 (5.1%)		
Leukemia	1 (1.7%)	1 (1.7%)		
Skin				
Brain				
Thyroid		1 (1.7%)		
Bone				
Kidney		3 (5.1%)		
Others	2 (3.4%)	5 (8.5%)		
Unknown	6 (10.3%)	6 (10.2%)		
Lesions	58 (100%)	59 (100%)	1 (100%)	4 (100%)
Cases	48	43	1	2

Table 11) Double / multiple primary cancer - Organs (in cases of palliative operation)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After E-Ca	
Larynx/Maxillary				
Pharynx	1 (11.1%)			
Oral cavity/Gum/Tongue				
Stomach	2 (22.2%)			
Colon/Rectum	2 (22.2%)			
Liver	2 (22.2%)			
Choledocus/Gallbladder				
Pancreas				
Lung/Trachea/Bronchus	2 (22.2%)			
Remnunt esophagus				
Uterus/Ovarium				
Breast				
Prostate				
Urinary bladder				
Leukemia				
Skin				
Brain				
Thyroid				
Bone				
Kidney				
Others				
Unknown	1 (11.1%)	1 (100%)		
Lesions	10 (100%)	1 (100%)		
Cases	7	1	0	0

Table 12) Double / multiple primary cancer - Organs (in cases of esophagectomy)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After E-Ca	
Larynx/Maxillary	8 (3.4%)	10 (6.4%)	1 (4.5%)	6 (14.6%)
Pharynx	37 (16.2%)	20 (12.8%)	3 (13.6%)	9 (22.0%)
Oral cavity/Gum/Tongue	11 (4.8%)	4 (2.6%)		4 (9.8%)
Stomach	96 (41.9%)	37 (23.7%)	2 (9.1%)	10 (24.4%)
Colon/Rectum	22 (9.6%)	15 (9.6%)	2 (9.1%)	3 (7.3%)
Liver	2 (0.9%)			
Choledocus/Gallbladder	2 (0.9%)			
Pancreas	1 (0.4%)			1 (2.4%)
Lung/Trachea/Bronchus	11 (4.8%)	7 (4.5%)		1 (2.4%)
Remnunt esophagus	1 (0.4%)	2 (1.3%)		
Uterus/Ovarium	1 (0.4%)	1 (0.6%)	1 (4.5%)	
Breast	1 (0.4%)	6 (3.8%)	2 (9.1%)	
Prostate	3 (1.3%)	1 (0.6%)	1 (4.5%)	1 (2.4%)
Urinary bladder	4 (1.7%)	4 (2.6%)		3 (7.3%)
Leukemia		4 (2.6%)	2 (9.1%)	
Skin		3 (1.9%)		
Brain				
Thyroid	9 (3.9%)	2 (1.3%)		
Bone	1 (0.4%)			
Kidney	6 (2.6%)	2 (1.3%)	1 (4.5%)	1 (2.4%)
Others	12 (5.2%)	15 (9.6%)	6 (27.2%)	2 (4.9%)
Unknown	1 (0.4%)	23 (14.7%)	1 (4.5%)	
Lesions	229 (100%)	156 (100%)	22 (100%)	41 (100%)
Cases	175	149	21	18

Table 13) Location of tumor

Location	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
Pharynx		3 (0.6%)		14 (0.8%)	17 (0.7%)
Cervical esophagus		33 (6.6%)	2 (3.5%)	70 (4.0%)	105 (4.2%)
Upper thoracic eso.	32 (17.0%)	99 (19.8%)	13 (22.8%)	181 (10.3%)	325 (13.0%)
Middle thoracic eso.	112 (59.6%)	266 (53.2%)	30 (52.6%)	970 (55.2%)	1378 (55.1%)
Lower thoracic eso.	39 (20.7%)	77 (15.4%)	7 (12.3%)	404 (23.0%)	527 (21.1%)
Abdominal esophagus	3 (1.6%)	9 (1.8%)	5 (8.8%)	97 (5.5%)	114 (4.6%)
EG-Junction (E=G)		2 (0.4%)		13 (0.7%)	15 (0.6%)
Cardia (G)				1 (0.06%)	1 (0.04%)
Unknown	2 (1.1%)	11 (2.2%)		7 (0.4%)	20 (0.8%)
Total	188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

Table 14) Longitudinal tumor length on esophagography

Length	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
not examined	62 (33.0%)	19 (3.8%)	0	0	81 (3.2%)
~1cm	9 (10.6%)	4 (0.8%)	0	26 (1.5%)	39 (1.6%)
~2cm	20 (11.2%)	10 (2.0%)	2 (3.5%)	89 (5.1%)	121 (4.8%)
~3cm	21 (6.4%)	25 (5.0%)	1 (1.8%)	161 (9.2%)	208 (8.3%)
~4cm	12 (3.2%)	34 (6.8%)	1 (1.8%)	201 (11.4%)	248 (9.9%)
~5cm	6 (3.2%)	41 (8.2%)	3 (5.3%)	219 (12.5%)	269 (10.8%)
~6cm	6 (3.2%)	55 (11.0%)	2 (3.5%)	261 (14.9%)	324 (12.9%)
~7cm	6 (3.2%)	51 (10.2%)	7 (12.3%)	180 (10.2%)	244 (9.8%)
~8cm	3 (1.6%)	51 (10.2%)	6 (10.5%)	156 (8.9%)	216 (8.6%)
~9cm	6 (3.2%)	52 (10.4%)	12 (21.1%)	109 (6.2%)	179 (7.2%)
~10cm	4 (2.1%)	35 (7.0%)	8 (14.0%)	54 (3.1%)	101 (4.0%)
~11cm	5 (2.7%)	36 (7.2%)	9 (15.8%)	46 (2.6%)	96 (3.8%)
~12cm	0	11 (2.2%)	0	16 (0.9%)	27 (1.1%)
~13cm	2 (1.1%)	10 (2.0%)	0	12 (0.7%)	24 (1.0%)
~14cm	3 (1.6%)	5 (1.0%)	1 (1.8%)	12 (0.7%)	21 (0.8%)
~15cm	1 (0.5%)	4 (0.8%)	0	4 (0.2%)	9 (0.4%)
~16cm	0	9 (1.8%)	0	4 (0.2%)	13 (0.5%)
~17cm	0	0	0	0	0
17.1cm~	0	4 (0.8%)	0	3 (0.2%)	7 (0.3%)
Unknown	11 (5.9%)	24 (4.8%)	5 (8.8%)	204 (11.6%)	244 (9.8%)
Total	188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

Table 15) Endoscopic features

Type	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
Not examined	1 (0.5%)	8 (1.6%)	0	0	9 (0.4%)
0-I	2 (1.1%)	10 (2.0%)	0	101 (5.7%)	113 (4.5%)
0-IIa	18 (9.5%)	6 (1.2%)	2 (3.5%)	108 (6.1%)	134 (5.4%)
0-IIb	31 (16.5%)	6 (1.2%)	0	51 (2.9%)	88 (3.5%)
0-IIc	93 (49.5%)	28 (5.6%)	1 (1.8%)	208 (11.8%)	330 (13.2%)
0-III	1 (0.5%)	6 (1.2%)	0	21 (1.2%)	28 (1.1%)
0-V	0	1 (0.2%)	0	12 (0.7%)	13 (0.5%)
1	0	36 (7.2%)	0	133 (7.6%)	169 (6.8%)
2	14 (7.4%)	150 (30.0%)	19 (33.3%)	542 (30.8%)	725 (29.0%)
3	21 (11.2%)	191 (38.2%)	25 (43.9%)	458 (26.1%)	695 (27.8%)
4	4 (2.1%)	16 (3.2%)	5 (8.8%)	43 (2.4%)	68 (2.7%)
5	0	8 (1.6%)	0	15 (0.9%)	23 (0.9%)
Unkown	3 (1.6%)	34 (6.8%)	5 (8.8%)	65 (3.7%)	107 (4.3%)
Total	188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

0- I : superficical and protruding type
0- IIa : superficical and slight elevated type
0- IIb : superficical and flat type
0- IIc : superficical and slightly depressed
0- III : superficical and distinctly depressed

1 : protruding type
2 : ulcerative and localized type
3 : ulcerative and infiltrating type
4 : diffusely infiltrating type
5 : miscellameous type

Table 16) Histologic types of biopsy

Histologic types		Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
				Palliative operation	Esophagectomy	
Not examined		14 (7.4%)	10 (2.0%)	2 (3.5%)	18 (1.0%)	44 (1.8%)
SCC	SCC	86 (45.7%)	217 (43.4%)	21 (36.8%)	674 (38.4%)	998 (39.9%)
	Well diff.	21 (11.2%)	41 (8.2%)	6 (10.5%)	262 (14.9%)	330 (13.2%)
	Moderately diff	50 (26.6%)	113 (22.6%)	16 (28.1%)	508 (28.9%)	687 (27.5%)
	Poorly diff.	7 (3.7%)	62 (12.4%)	8 (14.0%)	161 (9.2%)	238 (9.5%)
Adenocarcinoma		1 (0.5%)	4 (0.8%)	0	27 (1.5%)	32 (1.3%)
Undifferenciated		3 (1.6%)	16 (3.2%)	0	8 (0.5%)	27 (1.1%)
So-called carcinosarcoma		0	1 (0.2%)	0	6 (0.3%)	7 (0.3%)
Malignant .melanoma		0	0	0	2 (0.1%)	2 (0.1%)
Others		2 (1.1%)	2 (0.4%)	0	12 (0.7%)	16 (0.6%)
Dysplasia		0	0	0	1 (0.06%)	1 (0.04%)
Unknown		4 (2.1%)	34 (6.8%)	4 (7.0%)	78 (4.4%)	120 (4.8%)
Total		188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

Table 17) Depth of tumor invasion cT (Clinical TNM-classification)

cT	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
cTx	1 (0.5%)	14 (2.8%)	0	7 (0.4%)	22 (0.9%)
cT0	2 (1.1%)	1 (0.2%)	0	15 (0.9%)	18 (0.7%)
cTis	0	6 (1.2%)	0	37 (2.1%)	43 (1.7%)
cT1	54 (28.7%)	21 (4.2%)	0	284 (16.2%)	359 (14.3%)
cT1a	26 (13.8%)	4 (0.8%)	0	50 (2.8%)	80 (3.2%)
cT1b	54 (28.7%)	21 (4.2%)	3 (5.3%)	131 (7.5%)	209 (8.4%)
cT2	10 (5.3%)	49 (9.8%)	0	315 (17.9%)	374 (14.9%)
cT3	13 (6.9%)	180 (36.0%)	13 (22.8%)	701 (39.9%)	907 (36.3%)
cT4	25 (13.3%)	177 (35.4%)	39 (68.4%)	169 (9.6%)	410 (16.4%)
Unknown	3 (1.6%)	27 (5.4%)	2 (3.5%)	48 (2.7%)	80 (3.2%)
Total	188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

Table 18) Lymph node metastasis, cN; and Organ metastasis, cM (Clinical TNM-classification)

cN	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
cNx	9 (4.8%)	26 (5.2%)	2 (3.5%)	53 (3.0%)	90 (3.6%)
cN0	145 (77.1%)	130 (26.0%)	10 (17.5%)	807 (45.9%)	1092 (43.6%)
cN1	28 (14.9%)	320 (64.0%)	41 (71.9%)	843 (48.0%)	1232 (49.2%)
Unknown	6 (3.2%)	24 (4.8%)	4 (7.0%)	54 (3.1%)	88 (3.5%)
Total	188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

cM	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
cMx	4 (2.1%)	9 (1.8%)	2 (3.5%)	9 (0.5%)	24 (1.0%)
cM0	166 (88.3%)	300 (60.0%)	34 (59.6%)	1557 (88.6%)	2057 (82.2%)
cM1	4 (2.1%)	74 (14.8%)	13 (22.8%)	56 (3.2%)	147 (5.9%)
cM1a	3 (1.6%)	23 (4.6%)	1 (1.8%)	32 (1.8%)	59 (2.4%)
cM1b	8 (4.3%)	77 (15.4%)	6 (10.5%)	63 (3.6%)	154 (6.2%)
Unknown	3 (1.6%)	17 (3.4%)	1 (1.8%)	40 (2.3%)	61 (2.4%)
Total	188 (100%)	500 (100%)	57 (100%)	1757 (100%)	2502 (100%)

Table 19) Metastatic Organs of cM1 (Clinical TNM classification)

Metastatic organs	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
PUL	5 (17.2%)	42 (20.5%)	4 (15.4%)	11 (5.5%)	62 (13.5%)
OSS	1 (3.4%)	11 (5.4%)	2 (7.7%)	1 (0.5%)	15 (3.3%)
HEP	5 (17.2%)	38 (18.5%)	3 (11.5%)	16 (8.0%)	62 (13.5%)
BRA	0	4 (2.0%)	1 (3.8%)	1 (0.5%)	6 (1.3%)
LYM	10 (34.5%)	85 (41.5%)	10 (38.5%)	98 (49.0%)	203 (44.1%)
MAR	0	2 (1.0%)	1 (3.8%)	1 (0.5%)	4 (0.9%)
PLE	0	2 (1.0%)	1 (3.8%)	3 (1.5%)	6 (1.3%)
PER	0	1 (0.5%)	0	4 (2.0%)	5 (1.1%)
SKI	0	1 (0.5%)	0	1 (0.5%)	2 (0.4%)
OTH	0	12 (5.9%)	0	5 (2.5%)	17 (3.7%)
Unknown	8 (27.6%)	7 (3.4%)	4 (15.4%)	59 (29.5%)	78 (17.0%)
Lesions	29 (100%)	205 (100%)	26 (100%)	200 (100%)	460 (100%)
One organ	8 (36.4%)	125 (75.8%)	11 (55.0%)	128 (66.3%)	272 (68.0%)
Two organs	5 (22.7%)	24 (14.5%)	4 (20.0%)	5 (2.6%)	38 (9.5%)
Three organs	1 (4.5%)	8 (4.8%)	1 (5.0%)	1 (0.5%)	11 (2.8%)
Four organs~	0	1 (0.6%)	0	0	1 (0.2%)
Unknown	8 (36.4%)	7 (4.2%)	4 (20.0%)	59 (30.6%)	78 (19.5%)
Total cases	22 (100%)	165 (100%)	20 (100%)	193 (100%)	400 (100%)

Table 20) Clinical Stage (Clinical TNM-classificacation)

cStage	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
0	55	(29.3%)	5	(1.0%)	0		43	(2.4%)	103	(4.1%)
I	81	(43.1%)	36	(7.3%)	2	(3.5%)	356	(20.3%)	475	(19.0%)
IIA	3	(1.6%)	46	(9.2%)	2	(3.5%)	370	(21.1%)	421	(16.8%)
IIB	3	(1.6%)	17	(3.4%)	0		198	(11.3%)	218	(8.7%)
III	13	(6.9%)	169	(33.8%)	24	(42.1%)	514	(29.3%)	720	(28.8%)
IV	3	(1.6%)	63	(12.6%)	13	(22.8%)	54	(3.1%)	133	(5.3%)
IVA	3	(1.6%)	23	(4.6%)	1	(1.8%)	32	(1.8%)	59	(2.4%)
IVB	7	(3.7%)	86	(17.2%)	6	(10.5%)	62	(3.5%)	161	(6.4%)
Unknown	20	(10.6%)	55	(11.0%)	9	(15.8%)	128	(7.3%)	212	(8.5%)
Total	188	(100%)	500	(100%)	57	(100%)	1757	(100%)	2502	(100%)

II. Clinical Results of Patients treated with Endoscopically in 1995

Table 21) Treatment details in patients with endoscopic treatment

Treatment details	Cases	(%)
Endoscopic treatment only	148	(78.7%)
Endoscopic treatment + Radiotherapy	13	(6.9%)
Endoscopic treatment + Chemotherapy	12	(6.4%)
Endoscopic treatment + Hyperthermia	1	(0.5%)
Endoscopic treatment + Chemoradiotherapy	14	(7.4%)
Total	188	(100%)

Treatment details	Cases	(%)
EMR	144	(76.6%)
EMR+PDT	2	(1.1%)
YAG laser	1	(0.5%)
YAG laser + esophageal stenting	3	(1.6%)
Esophageal stenting	34	(18.1%)
Esophageal stenting + tracheal stenting	1	(0.5%)
Esophageal stenting + hyperthermia	2	(1.1%)
Others	2	(1.1%)
Total	188	(100%)

EMR: endoscopic mucosal resection
PDT: photodynamic therapy

Table 22) Endoscopic mucosal resection (EMR)

Method of EMR	Cases	(%)
One piece resection	74	(50.7%)
Piecemeal resection	64	(43.8%)
Unknown	8	(5.5%)
Total	146	(100%)

No. of lesions treated by EMR	Cases	(%)
1	98	(67.1%)
2	17	(11.6%)
3	6	(4.1%)
4	1	(0.7%)
5	1	(0.7%)
6	0	
7	1	(0.7%)
8	0	
9	1	(0.7%)
10 and/or over	0	
Unknown	21	(14.4%)
Total	146	(100%)

Radicality of EMR	Cases	(%)
Complete resection	124	(84.9%)
Non-complete resection	15	(10.3%)
Unknown	7	(4.8%)
Total	146	(100%)

Complications of EMR	Cases	(%)
None	128	(87.7%)
Perforation	2	(1.4%)
Bleeding	2	(1.4%)
Mediastinitis	8	(5.4%)
Stenosis	0	
Others	0	
Unknown	6	(4.1%)
Total	146	(100%)

Table 23) Prognosis of patients underwent endoscopic mucosal resection (EMR)

Outcome	Cases	(%)
Alive	117	(80.1%)
Dead	17	(11.6%)
Lost of follow up	8	(5.5%)
Unknown	4	(2.7%)
Total	146	(100%)

Causes of Death	Cases	(%)
Death due to esophageal cancer	2	(11.8%)
Death due to other cancer	7	(41.2%)
Death due to other disease (rec+)	0	
Death due to other disease (rec-)	6	(35.3%)
Death due to other disease (rec?)	1	(5.9%)
Death related to treatment within 30days	0	
Death related to treatment after 30 days	0	
Unknown	1	(5.9%)
Total	17	(100%)

Type of recurrence	Cases	(%)
None	126	(86.3%)
Lymph node	2	(1.4%)
Lung	0	
Liver	0	
Bone	0	
Brain	0	
Local	1	(1.4%)
Dissemination	0	
Stump	1	(0.7%)
Other	0	
Unknown	15	(10.3%)
Total	146	(100%)

rec : reccurence

Table 24) Histologic findings of EMR specimen (tumor size, histologic type, and depth of tumor invasion)

Size of lesion	Cases (%)
~ 9mm	13 (8.9%)
10 ~19mm	30 (20.5%)
20~29mm	28 (19.2%)
30~39mm	12 (8.2%)
40~49mm	3 (2.1%)
50~59mm	3 (2.1%)
60~69mm	2 (1.4%)
70mm~`	0
Unknown	55 (37.7%)
Total	146 (100%)

Histologic type of EMR specimen	Cases (%)
Squamous cell ca (SCC)	43 (29.5%)
Well diff. SCC	25 (17.1%)
Moderately diff. SCC	45 (30.8%)
Poorly diff. SCC	8 (5.5%)
Adenocarcinima	1 (0.7%)
Barrett's carcinoma	1 (0.7%)
Dysplasia	4 (2.7%)
Others	1 (0.7%)
Unknown	18 (12.3%)
Total	146 (100%)

Pathological depth of tumor invasion (pT)	Cases (%)
pTis	43 (29.5%)
pT1a(lpm)	37 (25.3%)
pT1a(mm)	33 (22.6%)
pt1b	10 (6.8%)
Unknown	23 (15.8%)
Total	146 (100%)

Sub-classification of histological depth of invasion in superficial cancer	Cases (%)
m1(ep)	47 (32.2%)
m2(lpm)	44 (30.1%)
m3(mm)	23 (15.8%)
sm1	3 (2.1%)
sm2	3 (2.1%)
sm3	1 (0.7%)
Unknown	25 (17.1%)
Total	146 (100%)

ep: epithelium
lpm: lamina propria mucosa
mm: muscularis mucosa

Table 25) Histologic findings of EMR specimen (intraepithelial spread, vessel invasion, multiple cancer, and multiple lesion)

Intraepithelial spread (ie)	Cases	(%)
(-)	68	(46.6%)
(+)	6	(4.1%)
(+++) superficial spread	1	(0.7%)
Unknown	71	(48.6%)
Total	146	(100%)

Lympatic vessel invasion (ly)	Cases	(%)
(-)	100	(68.5%)
(+)	7	(4.8%)
Unknown	39	(26.7%)
Total	146	(100%)

Blood vessel invasion (v)	Cases	(%)
(-)	106	(72.6%)
(+)	2	(1.4%)
Unknown	38	(26.0%)
Total	146	(100%)

Multiple primary cancer	Cases	(%)
(-)	81	(55.5%)
(+)	12	(8.2%)
Unknown	53	(36.3%)
Total	146	(100%)

Multiple malignant lesions	Cases	(%)
(-)	83	(56.8%)
(+)	10	(6.8%)
Unknown	53	(36.3%)
Total	146	(100%)

No. of multiple primary lesions	Cases	(%)
2	8	(80.0%)
3	2	(20.0%)
4	0	
Total	10	(100%)

Figure 1) Survival of patients treated with endoscopy

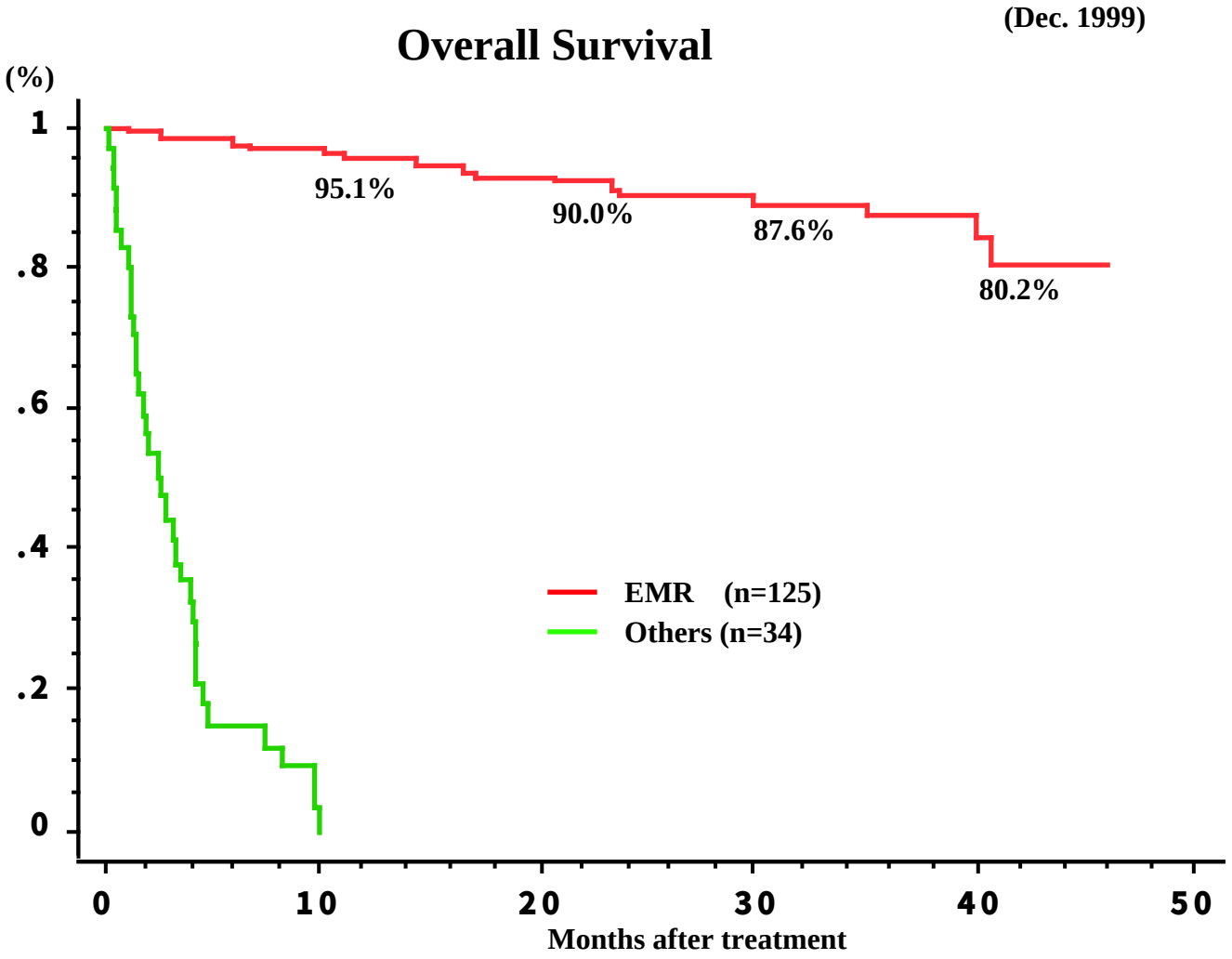


Figure 2) Survival of patients treated with EMR

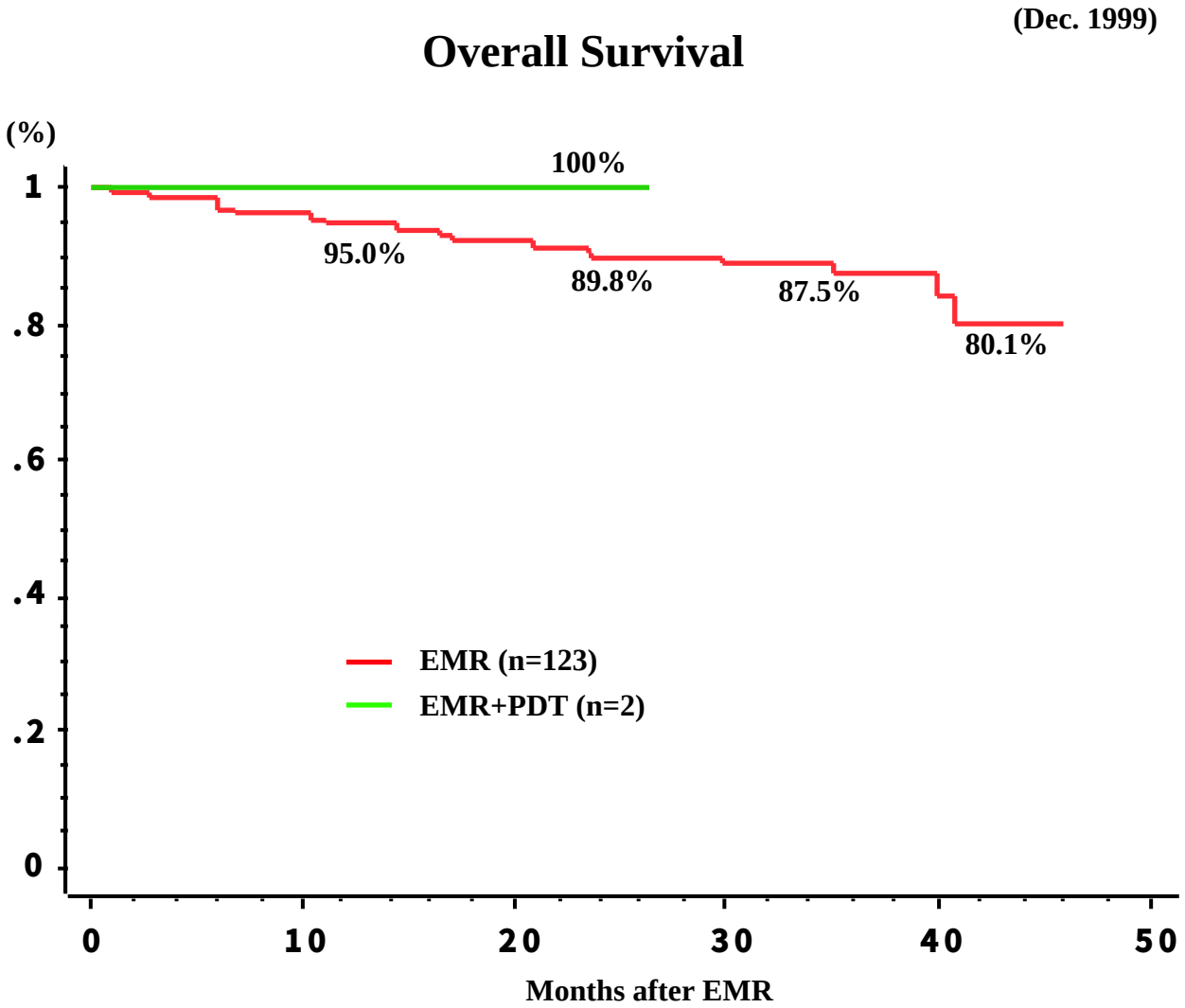
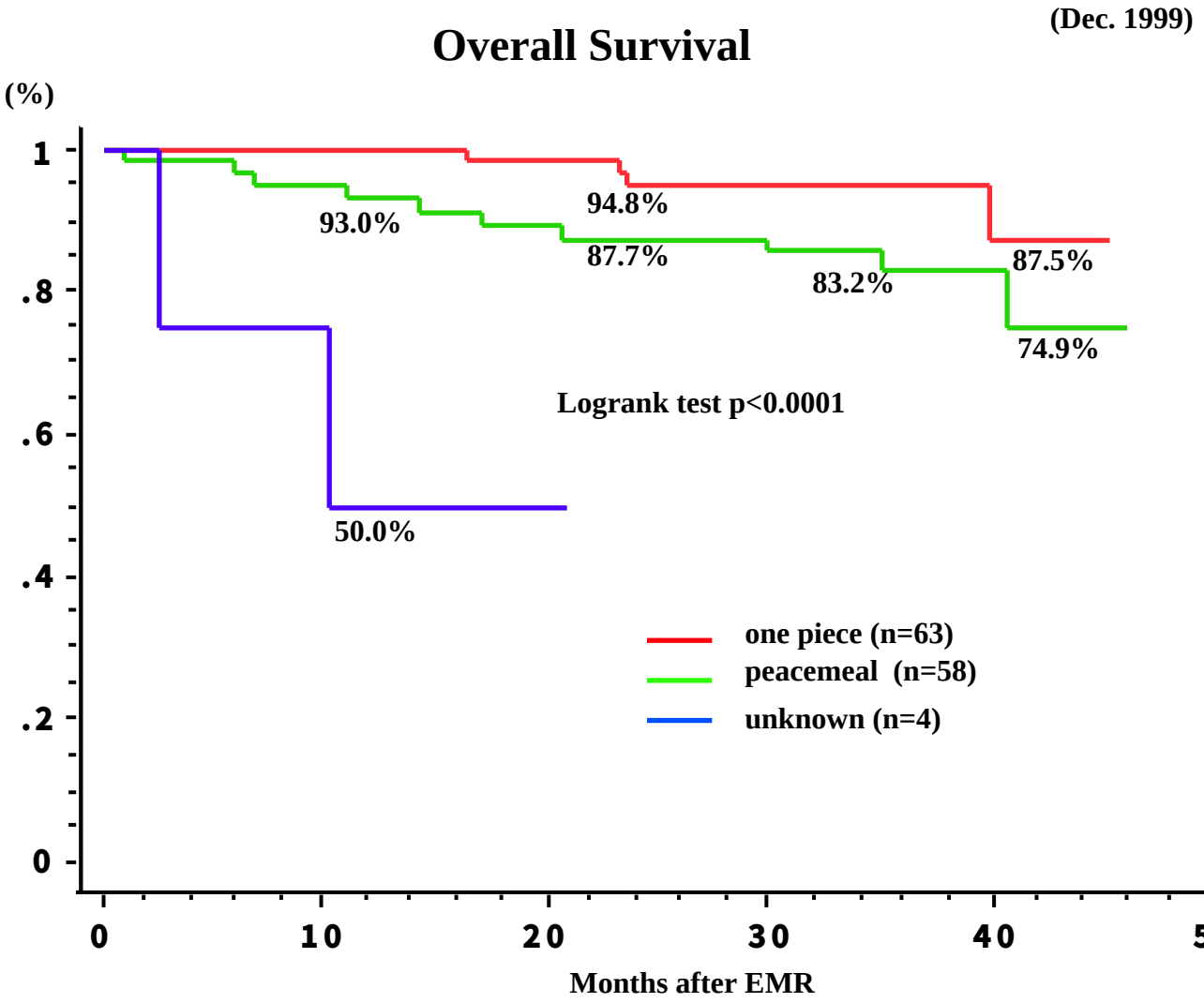


Figure 3) Survival of patients according to type of EMR



III. Clinical Results in Patients treated with Chemotherapy and/or Radiotherapy in 1995

Table 26) Radiotherapy and/or chemotherapy (non surgically treated cases)

Treatment	Cases	(%)
Radiotherapy alone	222	(44.4%)
Chemoradiotherapy	217	(43.4%)
Chemotherapy alone	61	(12.2%)
Total	500	(100%)

Radiotherapy	Cases	(%)
Non irradiation	58	(11.6%)
Curative radiation	252	(50.4%)
Palliative radiation	171	(34.2%)
Others	12	(2.4%)
Unknown	7	(1.4%)
Total	500	(100%)

Endo-irradiation	Cases	(%)
Non irradiation	58	(11.6%)
(-)	273	(54.6%)
(+)	62	(12.4%)
Unknown	107	(21.4%)
Total	500	(100%)

Doses of irradiation (Gy)	Cases	(%)
0	58	(11.6%)
~ 19	15	(3.0%)
20 ~ 39	40	(8.0%)
40 ~ 59	94	(18.8%)
60 ~ 79	252	(50.4%)
80 ~ 99	9	(1.8%)
100 ~	2	(0.4%)
Unknown	30	(6.0%)
Total	500	(100%)

Table 27) Effectiveness of radiotherapy and/or chemotherapy (non surgically treated cases)

Chemotherapy	Cases (%)
(-)	222 (44.4%)
(+)	278 (55.6%)
Total	500 (100%)

Response to radiotherapy	Cases (%)
CR	42 (18.9%)
PR	86 (38.7%)
NC	26 (11.7%)
PD	28 (7.6%)
Not evaluated	23 (10.4%)
Unknown	6 (12.6%)
Total	222 (100%)

Response to chemoradiotherapy	Cases (%)
CR	18 (8.3%)
PR	91 (41.9%)
NC	45 (20.7%)
PD	26 (12.0%)
Not evaluated	16 (7.4%)
Unknown	21 (9.7%)
Total	217 (100%)

Response to chemotherapy	Cases (%)
CR	3 (4.2%)
PR	11 (18.0%)
NC	19 (31.1%)
PD	13 (21.3%)
Not evaluated	5 (8.2%)
Unknown	10 (16.4%)
Total	61 (100%)

Figure 4) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy

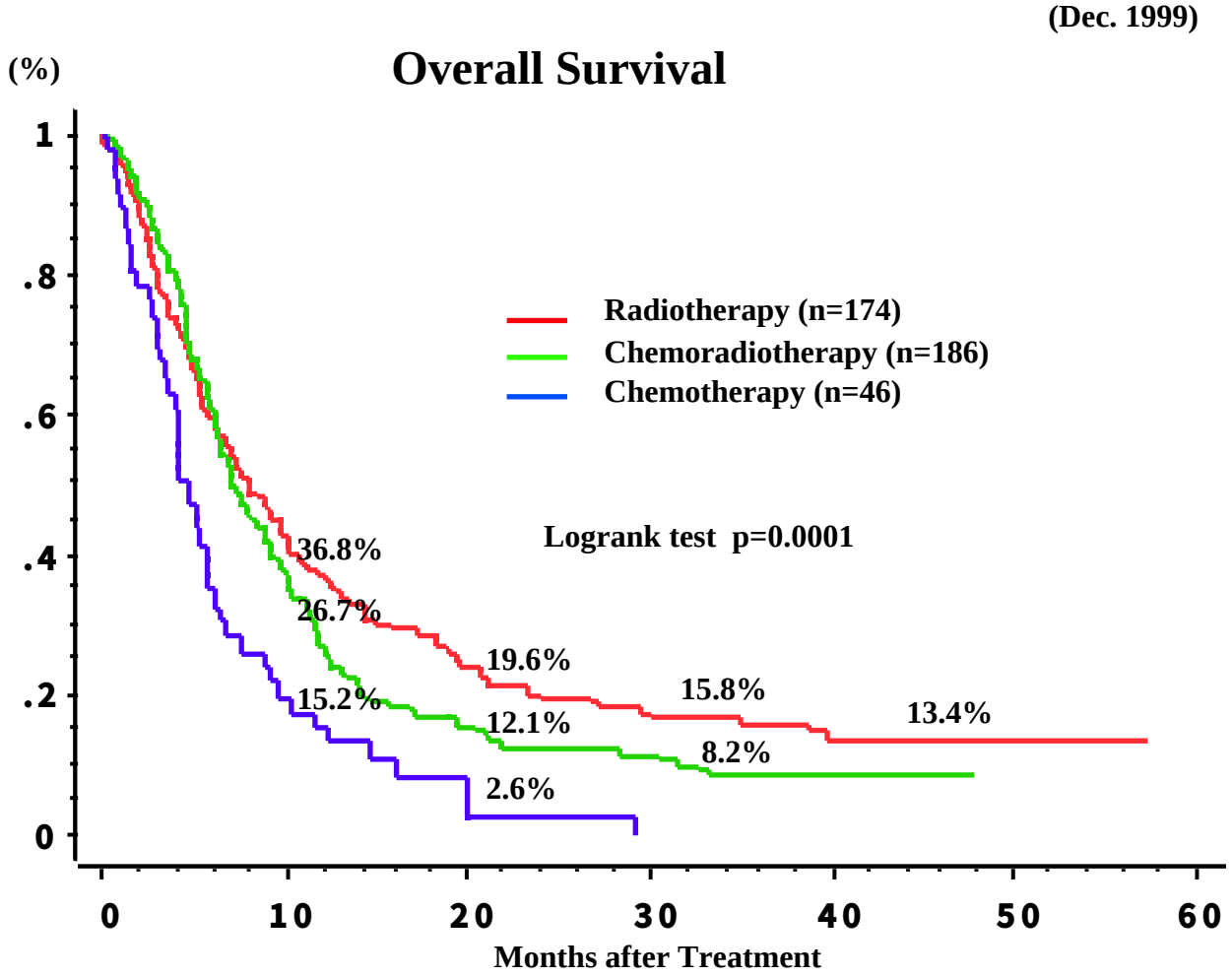


Figure 5) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage I-IIA)

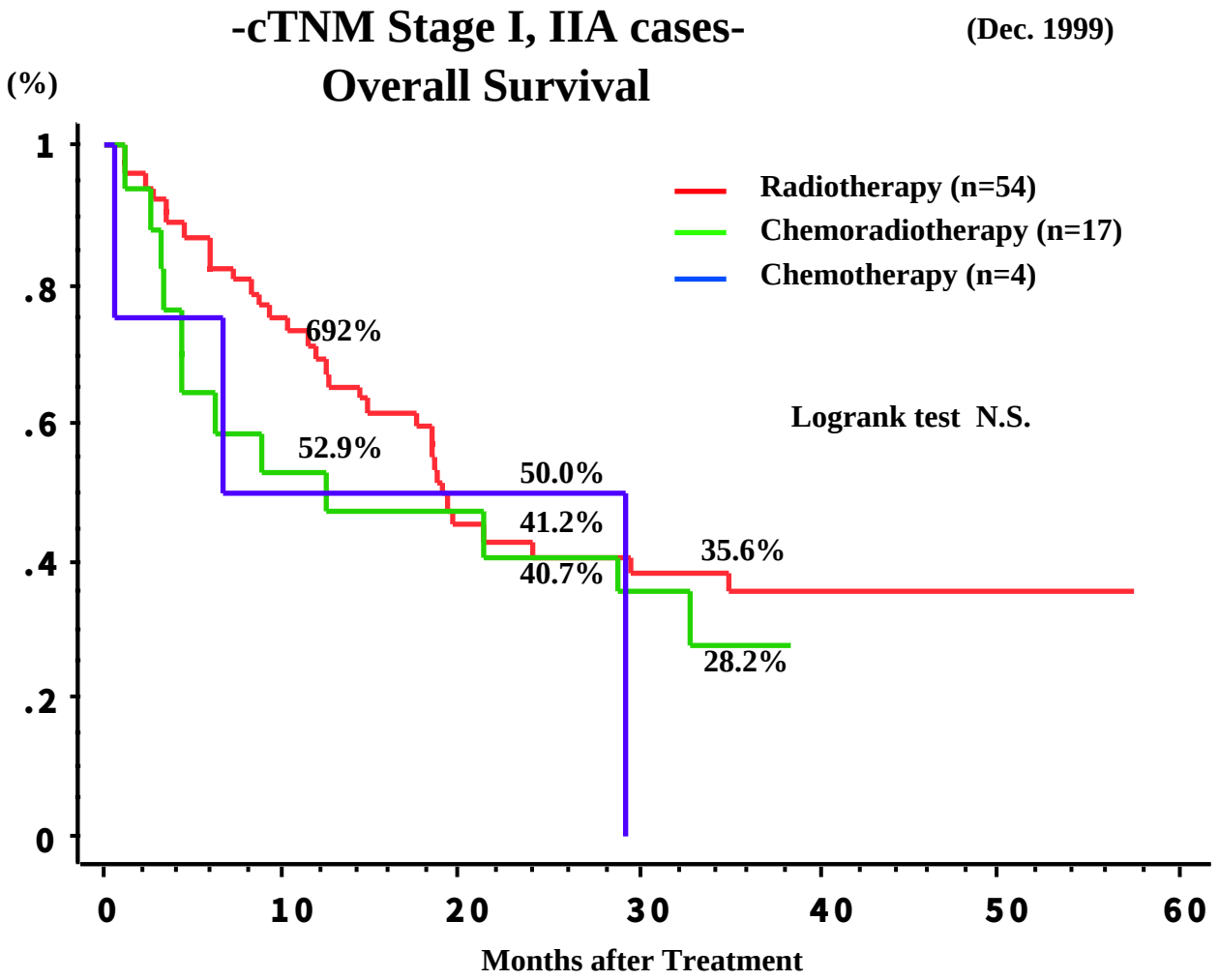
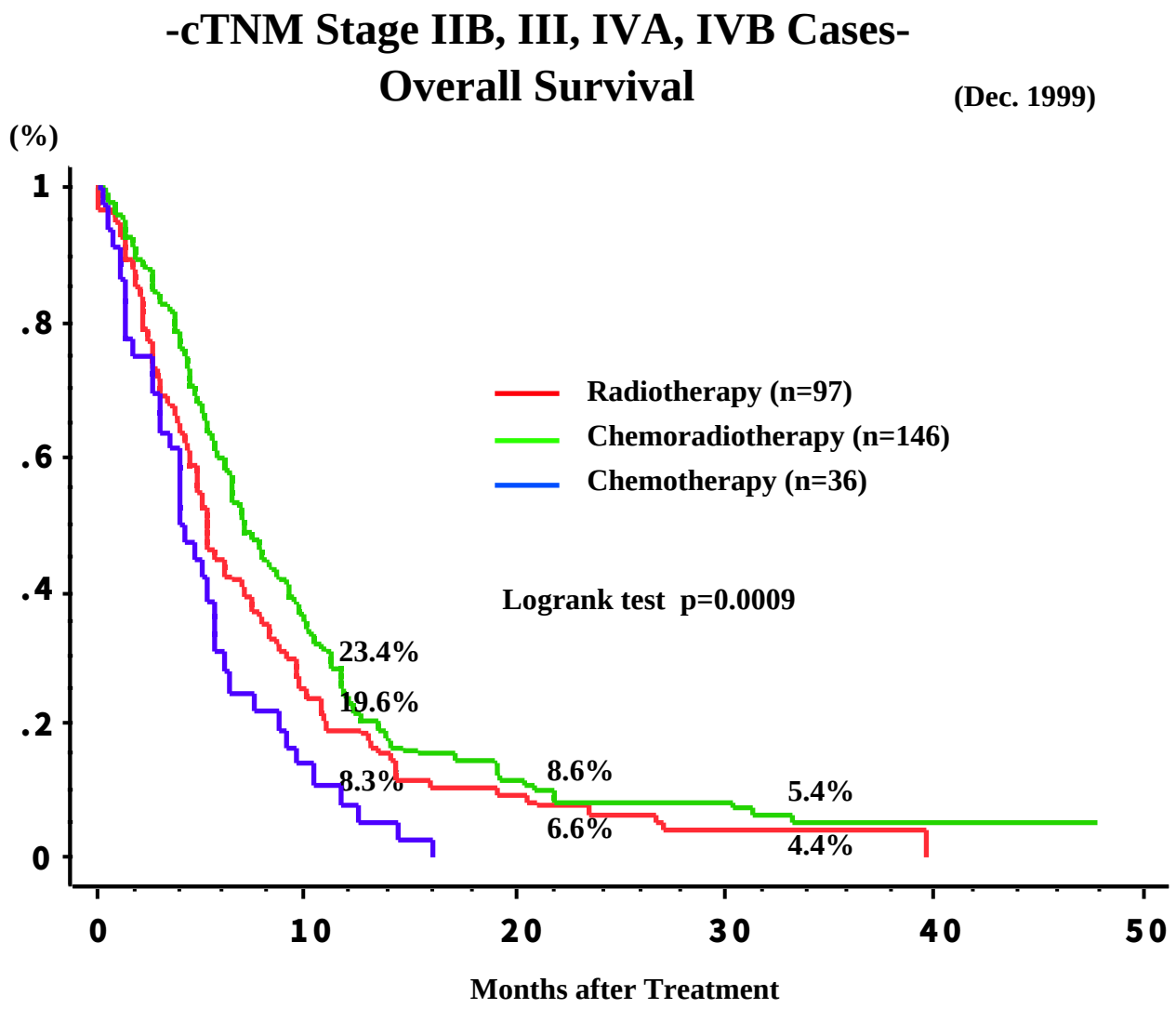


Figure 6) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage IIB-IVB)



IV. Clinical Results in Patients treated by Palliative Operation in 1995

Table 28) Palliative operation cases without esophagectomy

Treatment	Cases (%)
Surgery	12 (21.1%)
Surgery +radiotherapy	15 (26.3%)
Surgery + radiotherapy + endoscopic treatment	1 (1.8%)
Surgery + chemoradiotherapy	17 (29.8%)
Surgery + chemortherapy	12 (21.1%)
Total	57 (100%)

Surgical treatment	Cases (%)
Probe thoraco / laparotomy	15 (26.3%)
Bypass-operation	34 (59.7%)
Gastrostomy / Jejunostomy	8 (14.0%)
Total	57 (100%)

Radiotherapy	Cases (%)
No-irradiation	15 (26.3%)
Curative irradiation	11 (19.3%)
Palliative irradiation	31 (54.4%)
Total	57 (100%)

Total doses (Gy)	Cases (%)
0	15 (26.3%)
2 - 19	3 (5.3%)
20 - 39	10 (17.5%)
40 - 59	10 (17.5%)
60 - 79	10 (17.5%)
80 - 99	1 (1.8%)
100 - `	0
Unknown	8 (14.0%)
Total	57 (100%)

Table 29) Effectiveness of treatments (Palliative operation cases without esophagectomy)

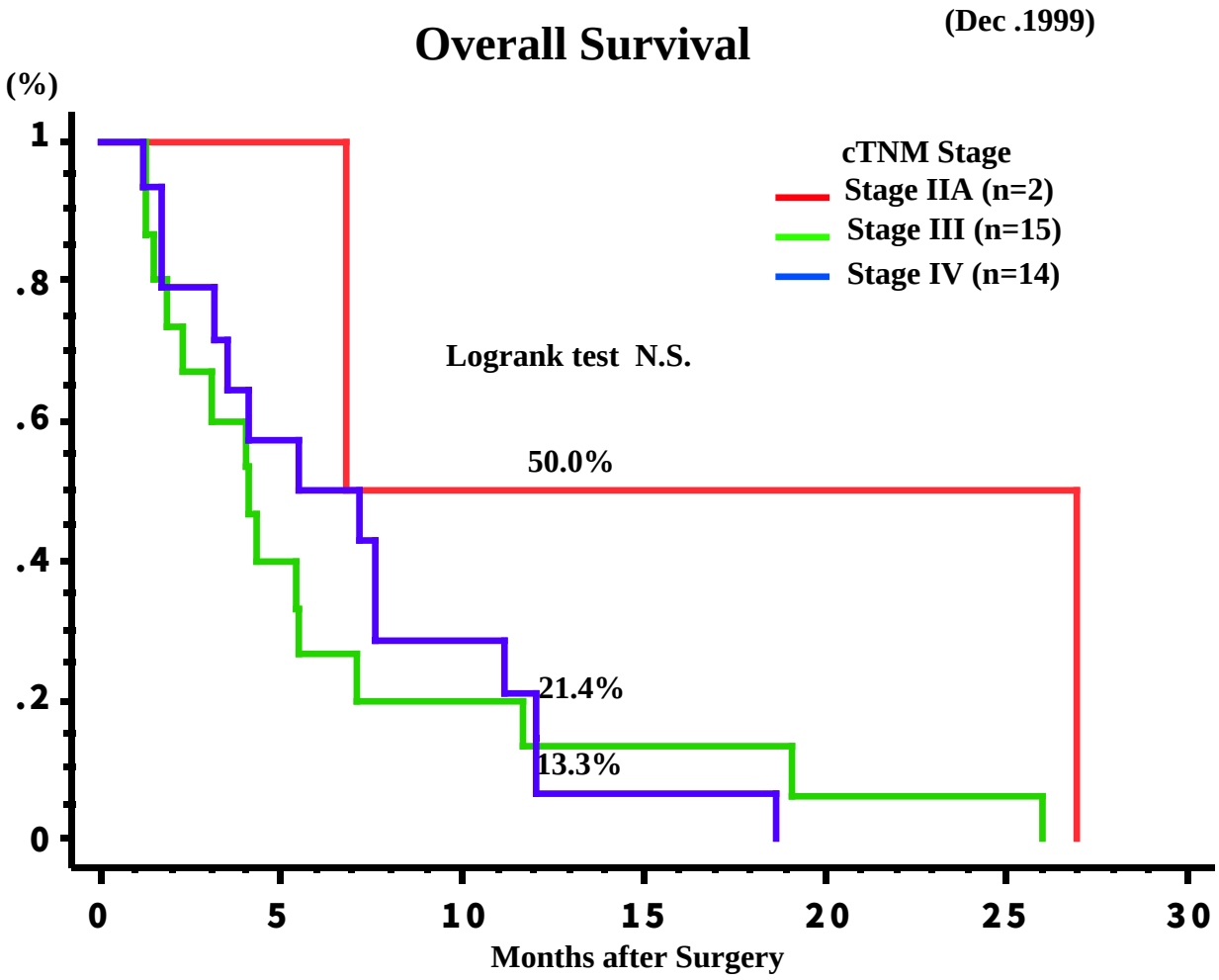
Chemotherapy	Cases (%)
(-)	28 (49.1%)
(+)	29 (50.9%)
Total	57 (100%)

Surgery + radiotherapy	Cases (%)
CR	0
PR	3 (18.8%)
NC	6 (37.5%)
PD	1 (6.2%)
Not evaluated	1 (6.2%)
Unknown	5 (31.3%)
Total	16 (100%)

Surgery + chemoradiotherapy	Cases (%)
CR	0
PR	3 (17.6%)
NC	5 (29.4%)
PD	1 (5.9%)
Not evaluated	2 (11.8%)
Unknown	6 (35.3%)
Total	17 (100%)

Surgery + chemotherapy	Cases (%)
CR	0
PR	0
NC	3 (25.0%)
PD	5 (41.7%)
Not evaluated	1 (8.3%)
Unknown	3 (25.0%)
Total	12 (100%)

Figure 7) Cumurative survival curves of patients treated by palliative surgery (cTNM)



V. Clinical Results in Patients treated with Esophagectomy in 1995

Table 30) Cases of esophagectomy (treatment, surgical procedure, and location of the tumor)

Treatment	Cases (%)
Esophagectomy	910 (51.8%)
Esophagectomy + radiotherapy*	224 (12.7%)
Esophagectomy + chemoradiotherapy**	272 (15.5%)
Esophagectomy + chemotherapy	344 (19.6%)
Esophagectomy + endoscopic treatment	7 (0.4%)
Total	1757 (100%)

*: + endoscopic treatment (2cases)
**: + hyperthermia (9cases), +endoscopic treatment (4cases)

Surgical procedures	Cases (%)
Esophagectomy without reconstruction	7 (0.4%)
Esophagectomy + reconstruction (2-stage operation)	29 (1.7%)
Esophagectomy with reconstruction	1721 (98.0%)
Total	1757 (100%)

Location	Cases (%)
Pharynx	14 (0.8%)
Cervical esophagus	71 (4.0%)
Upper thoracic esophagus	174 (9.9%)
Middle thoracic esophagus	971 (55.3%)
Lower thoracic esophagus	404 (23.0%)
Abdominal esophagus	103 (5.9%)
EG Junction	13 (0.7%)
Cardia	1 (0.06%)
Unknown	6 (0.3%)
Total	1757 (100%)

Table 31) Cases of esophagectomy (surgical approach and region of lymphadenectomy)

Approach	Cases	(%)
Cervical approach	50	(2.8%)
Right thoracotomy	1415	(80.5%)
Left thoracotomy	43	(2.4%)
Left thoracoabdominal apprroarch	47	(2.6%)
Laparotomy	25	(1.4%)
Transhiatal (without blunt dissection)	14	(0.8%)
Transhiatal (with blunt dissection)	136	(7.7%)
Sternotomy	11	(0.6%)
Others	6	(0.3%)
Unknown	10	(0.6%)
Total	1757	(100%)

Region of lymphadenectomy	Cases	(%)
(-)	74	(4.2%)
C	47	(2.7%)
C+UM	13	(0.7%)
C+UM+MLM	27	(1.5%)
C+UM+MLM+A	548	(31.2%)
C+UM+A	8	(0.5%)
C+MLM	1	(0.06%)
C+MLM+A	17	(1.0%)
C+A	11	(0.6%)
UM	12	(0.7%)
UM+MLM	33	(1.9%)
UM+MLM+A	575	(32.7%)
MLM+A	5	(0.3%)
MLM	38	(2.2%)
MLM+A	234	(13.3%)
A	71	(4.0%)
Unknown	43	(2.4%)
Total	1757	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM:middlel-lower mediastinal nodes
A:abdominal nodes

Table 32) Cases of esophagectomy (esophageal reconstruction)

Reconstruction route	Cases	(%)
(-)	8	(0.5%)
Antethoracic	265	(15.1%)
Retrosternal	657	(37.4%)
Posterior mediastinal	458	(26.1%)
High intrathoracic*	193	(11.0%)
Low intrathoracic**	92	(5.2%)
Transhiatal	26	(1.5%)
Cervical	31	(1.7%)
Others	25	(1.4%)
Unknown	2	(0.1%)
Total	1757	(100%)

* with upper mediastinal anastomosis

** with middle/lower mediastinal anastomosis

Organs for esophageal replacement	Cases	(%)
(-)	8	(0.5%)
Whole stomach*	73	(4.2%)
Gastric tube**	1371	(78.0%)
Jejunum	82	(4.7%)
Free junum	29	(1.7%)
Colon	128	(7.3%)
Free colon	4	(0.2%)
Skin graft	0	
Others	1	(0.1%)
Unknown	61	(3.5%)
Total	1757	(100%)

* : Free colon+Whole stamach (1 case)
**: Gastric tube+Jejunum (5 cases), Free jujunum+Gastric tube (10 cases), Colon+Gastric tube (5 cases), Free jejunum+Gastric tube (1 case)

Table 33) Cases of intrathoracic esophagectomy (location of the tumor and reconstrucion route)

Location	Upper thoracic		Middle thortacic		Lower thoracic		Total thoracic	
Reconstruction route	Cases	(%)	Cases	(%)	Cases	(%)	Cases	(%)
(-)	2	(1.1%)	6	(0.6%)	0		8	(0.5%)
Antethoracic	23	(13.2%)	175	(18.0%)	54	(13.4%)	252	(16.2%)
Retrosternal	86	(49.4%)	415	(42.7%)	126	(31.2%)	627	(40.5%)
Posterior mediastinal	56	(32.2%)	250	(25.7%)	99	(24.5%)	405	(26.1%)
High intrathoracic*	5	(2.9%)	97	(10.0%)	70	(17.3%)	172	(11.1%)
Low intrathoracic**	0		8	(0.8%)	45	(11.1%)	53	(3.4%)
Transhiatal	0		3	(0.3%)	6	(1.5%)	9	(0.6%)
Cervical	2	(1.1%)	1	(0.1%)	1	(0.2%)	4	(0.3%)
Others	0		0		0		0	
Unknown	0		16	(1.6%)	3	(0.7%)	19	(1.2%)
Total	174	(100%)	971	(100%)	404	(100%)	1549	(100%)

* with upper mediastinal anastomosis

** with middle/lower mediastinal anastomosis

Table 34) Cases of esophagectomy for external lesion of the thorax (location of the tumor and reconstrucion route)

Location	Pharynx		Cervical esophagus		Abdominal esophagus		EGJ/Cardia	
Reconstruction route	Cases	(%)	Cases	(%)	Cases	(%)	Cases	(%)
(-)	0		0		0		0	
Antethoracic	0		6	(8.5%)	6	(5.8%)	1	(7.1%)
Retrosternal	1	(7.1%)	8	(11.3%)	19	(18.4%)	1	(7.1%)
Posterior mediastinal	4	(28.6%)	35	(49.3%)	12	(11.7%)	2	(14.3%)
High intrathoracic*	0		1	(1.4%)	18	(17.5%)	2	(14.3%)
Low intrathoracic**	0		1	(1.4%)	34	(33.0%)	4	(28.6%)
Transhiatal	0		0		14	(13.6%)	3	(21.4%)
Cervical	8	(57.1%)	19	(26.8%)	0		0	
Others	1	(7.1%)	0		0		0	
Unknown	0		1	(1.4%)	0		1	(7.1%)
Total	14	(100%)	71	(100%)	103	(100%)	14	(100%)

* with upper mediastinal anastomosis

** with middle/lower mediastinal anastomosis

Table 35) Cases of intrathoracic esophagectomy (location of the tumor and lymph node dissection)

Location	Upper thoracic		Middle thoracic		Lower thoracic		Total	
Region of lymphadenectomy	Cases	(%)	Cases	(%)	Cases	(%)	Cases	%)
(-)	13	(7.5%)	34	(3.5%)	19	(4.7%)	66	(4.3%)
C	3	(1.7%)	9	(0.9%)	5	(1.2%)	17	(1.1%)
C+UM	0		1	(0.1%)	0		1	(0.07%)
C+UM+MLM	7	(4.0%)	10	(1.0%)	3	(0.7%)	20	(1.3%)
C+UM+MLM+A	81	(46.6%)	351	(36.1%)	85	(21.0%)	517	(33.4%)
C+UM+A	1	(0.6%)	2	(0.2%)	1	(0.2%)	4	(0.3%)
C+MLM	0		1	(0.1%)	0		1	(0.07%)
C+MLM+A	1	(0.6%)	9	(0.9%)	4	(1.0%)	14	(0.9%)
C+A	0		3	(0.3%)	2	(0.5%)	5	(0.3%)
UM	2	(1.1%)	7	(0.7%)	2	(0.5%)	11	(0.7%)
UM+MLM	7	(4.0%)	17	(1.7%)	9	(2.2%)	33	(2.1%)
UM+MLM+A	39	(22.4%)	356	(36.7%)	162	(40.0%)	557	(36.0%)
MLM+A	0		5	(0.5%)	0		5	(0.3%)
MLM	3	(1.7%)	21	(2.2%)	13	(3.2%)	37	(2.4%)
MLM+A	9	(5.2%)	93	(9.6%)	80	(19.8%)	182	(11.8%)
A	8	(4.6%)	26	(2.7%)	15	(3.7%)	49	(3.2%)
Unknown	0		26	(2.7%)	4	(1.0%)	30	(1.9%)
Total	174	(100%)	971	(100%)	404	(100%)	1549	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes

Table 36) Cases of esophagectomy for external lesion of the thorax (location of the tumor and lymph node dissection)

Location	Pharynx		Cervical esophagus		Abdominal esophagus		EGJ/Cardia	
Region of lymphadenectomy	Cases	(%)	Cases	(%)	Cases	(%)	Cases	(%)
(-)	1	(7.1%)	4	(5.6%)	2	(1.9%)	0	
C	11	(78.6%)	18	(25.4%)	0		1	(7.1%)
C+UM	1	(7.1%)	11	(15.5%)	0		0	
C+UM+MLM	0		7	(9.9%)	0		0	
C+UM+MLM+A	0		15	(21.1%)	16	(15.5%)	0	
C+UM+A	0		4	(5.6%)	0		0	
C+MLM	0		0		0		0	
C+MLM+A	0		2	(2.8%)	1	(1.0%)	0	
C+A	0		6	(8.5%)	0		0	
UM	0		1	(1.4%)	0		0	
UM+MLM	0		0		0		0	
UM+MLM+A	0		1	(1.4%)	15	(14.6%)	2	(14.3%)
MLM+A	0		0		0		0	
MLM	0		0		1	(1.0%)	0	
MLM+A	0		0		46	(44.7%)	6	(42.9%)
A	0		1	(1.4%)	17	(16.5%)	4	(28.6%)
Unknown	1	(7.1%)	1	(1.4%)	5	(4.9%)	1	(7.1%)
Total	14	(100%)	71	(100%)	103	(100%)	14	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes

Table 37) Cases of esophagectomy (vascular anastomosis and endoscopic surgery)

Vascular anastomosis	Cases	(%)
(-)	1630	(92.8%)
(+)	86	(4.9%)
Unknoun	41	(2.3%)
Total	1757	(100%)

Endoscopic surgery	Cases	(%)
(-)	1632	(92.9%)
Thoracoscopy	13	(0.7%)
Laparoscopy assist	20	(1.1%)
Mediastinoscopy assist	10	(0.6%)
Unknown	82	(4.7%)
Total	1757	(100%)

Table 38) Cases of esophagectomy (operative findings of cT and combined resected organs)

Macroscopic T-category (cT)	Cases	(%)
T0	41	(2.3%)
T1	372	(21.2%)
T2	405	(23.1%)
T3	692	(39.4%)
T4	232	(13.2%)
Unnkown	15	(0.9%)
Total	1757	(100%)

cT4 by metastatic lymph node	Cases	(%)
(-)	1527	(86.9%)
N1(T4)	23	(1.3%)
N2(T4)	66	(3.8%)
N3(T4)	28	(1.6%)
N4(T4)	41	(2.3%)
Nx(T4)	3	(0.2%)
Unnkown	69	(3.9%)
Total	1757	(100%)

Organs*	Cases	(%)
(-)	89	(40.5%)
Larynx	18	(8.1%)
Trachea	13	(5.9%)
Aorta	2	(0.9%)
Lung	13	(5.9%)
Pericardium	10	(4.5%)
Diaphragm	13	(5.9%)
Stomach	7	(3.2%)
Pancreas+spleen	4	(1.8%)
Thoracic duct	19	(8.6%)
Reccurent nerve	5	(2.3%)
Reccurrent nerve (main trunk)	0	
Others	26	(11.8%)
Unkown	1	(0.5%)
Total of resected organs	220	(100%)
Total of cT4 cases	232	

*: Organs resected in addition to the esophagus

Table 39) Cases of esophagectomy (operative findings of the tumor feature and size)

Macroscopic type	Cases	(%)
0-Ip	36	(2.0%)
0-Ipl	55	(3.1%)
0-Isep	18	(1.0%)
0-IIa	110	(6.3%)
0-IIb	59	(3.4%)
0-IIc	205	(11.7%)
0-III	20	(1.1%)
0-V	16	(0.9%)
1p	28	(1.6%)
1c	10	(0.6%)
1pl	65	(3.7%)
1sep	2	(0.1%)
2	495	(28.2%)
3	444	(25.3%)
4s	37	(2.1%)
4ns	5	(0.2%)
5c	19	(1.1%)
5s	0	
5u	25	(1.4%)
Unknown	108	(6.1%)
Total	1757	(100%)

Size of Tumor (mm)	Cases	(%)
~ 9	21	(1.2%)
10~19	122	(6.9%)
20~29	213	(12.1%)
30~39	244	(13.9%)
40~49	262	(14.9%)
50~59	278	(15.8%)
60~69	194	(11.0%)
70~79	121	(6.9%)
80~89	93	(5.3%)
90~99	41	(2.3%)
100~	68	(3.9%)
Unknown	100	(5.7%)
Total	1757	(100%)

0- I : superficical and protruding type
0- IIa : superficical and slight elevated type
0- IIb : superficical and flat type
0- IIc : superficical and slightly depressed
0- III : superficical and distinctly depressed

1 : protruding type
2 : ulcerative and localized type
3 : ulcerative and infiltrating type
4 : diffusely infiltrating type
5 : miscellameous type

Table 40) Histologic types of resected specimen and multiple primary cancer

Histologic types		Cases	(%)
Not examined		3	(0.2%)
SCC	SCC	112	(6.4%)
	Well diff.	431	(24.5%)
	Moderately diff.	780	(44.4%)
	Poorly diff.	291	(16.6%)
Adenocarcinoma		25	(1.4%)
Barrett's adenocarcinoma		4	(0.2%)
Adenosquamous cell carcinoma		13	(0.7%)
Epidermoid carcinoma		3	(0.2%)
Adenoid cystic carcunoma		7	(0.4%)
Basoloid carcinoma		10	(0.6%)
Undiff. carcinoma (small cell)		13	(0.7%)
Undiff. carcinoma		8	(0.5%)
Sarcoma		1	(0.06%)
So-called carcinosarcoma		12	(0.7%)
True carcinosarcoma		3	(0.2%)
Malignant melanoma		2	(0.5%)
Dysplasia		1	(0.06%)
Other		5	(0.3%)
Unknown		33	(1.9%)
Total		1757	(100%)

Multiple primary cancer	Cases	(%)
(-)	1496	(85.1%)
(+)	227	(12.9%)
Unknown	34	(1.9%)
Total	1757	(100%)

Table 41) Pathological findings of resected specimen (residual cancer, intraepithelial spread, and infiltrative growth pattern)

Residual cancer cells at the transected stump

proximal (p)/distal (d)	Cases (%)
p / d (-)	1619 (92.2%)
p / d (+)	85 (4.8%)
Unknown	53 (3.0%)
Total	1757 (100%)

Residual cancer cell in the cut surface of the esophageal wall (ew) of the resected specimen

ew	Cases (%)
ew (-)	1610 (91.6%)
ew (+)	85 (4.8%)
Unknown	62 (3.5%)
Total	1757 (100%)

Intraepithelial spread (ie)

ie	Cases (%)
ie (-)	1010 (57.5%)
ie (+)	558 (31.6%)
ie (++)superficial	37 (2.1%)
Unknown	152 (8.7%)
Total	1757 (100%)

Infiltrative growth pattern (inf)

inf	Cases (%)
inf **α**	281 (16.0%)
inf **β**	865 (49.2%)
inf **γ**	217 (12.4%)
Unknown	394 (22.4%)
Total	1757 (100%)

Table 42) Pathological findings of resected specimen (vessel invasion and intramural metastasis)

Lympatic vessel invasion (ly)		Cases	(%)
ly0		523	(29.8%)
ly(+)	ly(+)	141	(8.0%)
	ly1	496	(28.2%)
	ly2-3	16	(29.4%)
Unknown		81	(4.6%)
Total		1757	(100%)

Blood vessel invasion (v)		Cases	(%)
v0		858	(48.8%)
v(+)	v(+)	99	(5.6%)
	v1	447	(25.4%)
	v2-3	263	(15.0%)
Unknown		90	(5.1%)
Total		1757	(100%)

Intramural metastasis in the esophageal wall (im-e)	Cases	(%)
im-e (-)	1514	(86.2%)
im-e (+)	163	(9.3%)
Unknown	80	(4.6%)
Total	1757	(100%)

Intramural metastasis in the stomach wall (im-st)	Cases	(%)
im-st (-)	1623	(92.4%)
im-st (+)	46	(2.6%)
Unknown	88	(5.0%)
Total	1757	(100%)

Table 43) Pathological findings of resected specimen (pT)

Depth of tumor invasion

pT-category	Cases	(%)
Not examined	6	(0.3%)
pT0	2	(0.1%)
pTis	43	(2.4%)
pT1a	139	(7.9%)
pT1b	366	(20.8%)
pT2	241	(13.7%)
pT3	751	(42.7%)
pT4	168	(9.6%)
Unknown	41	(2.3%)
Total	1757	(100%)

Subclassification of superficial carcinoma

Subclassification	Cases	(%)
m1 (pTis)*	43	(7.8%)
m2 (pT1a)**	33	(6.0%)
m3 (pT1a)***	106	(6.0%)
sm1(pT1b)	61	(19.3%)
sm2 (pT1b)	101	(18.4%)
sm3 (pT1b)	114	(20.8%)
Unknown (pT1b)	90	(16.4%)
Total	548	(100%)

* ep = epithelium
** lpm = lamina propria mucosa
*** mm = muscularis mucosa

Table 44) Pathological findings of resected specimen (lymph node metastasis)

Lymph node metastasis	Cases	(%)
n(-)	694	(39.5%)
n1+)	93	(5.3%)
n2(+)	443	(25.2%)
n3(+)	242	(13.8%)
n4(+)	216	(12.3%)
Unknown	69	(3.9%)
Total	1757	(100%)

Number of lymph node metastasis	Cases	(%)
0	694	(39.5%)
1~3	446	(24.5%)
4~7	235	(13.4%)
8~	155	(8.8%)
Unknown	227	(12.9%)
Total	1757	(100%)

Table 45) Pathological findings of resected specimen (grade of lymph node metastasis corrected using number of metastasis and fields of lymph node metastasis)

Grade of lymph node metastasis (corrected using number of metastasis)

Grade of metastasis	Cases (%)
gN0	694 (39.5%)
gN1(n1a)	67 (3.8%)
gN2(n2a)	266 (15.1%)
gN2(n1b)	3 (0.2%)
gN3(n1c)	3 (0.2%)
gN3(n2b)	84 (4.7%)
gN3(n3a)	77 (4.4%)
gN4(n2c)	26 (1.4%)
gN4(n3b)	71 (4.0%)
gN4(n3c)	49 (2.8%)
gN4(n4a)	35 (2.0%)
gN4(n4b)	69 (3.9%)
gN4(n4c)	81 (4.6%)
Unknown	232 (13.2%)
Total	1757 (100%)

Number of lymph node metastasis
a : 1~3
b : 4~7
c : 8~

Fields of lymph node metastasis

Field of metastasis	Cases (%)
n(-)	694 (39.5%)
C	41 (2.3%)
A+C	56 (3.2%)
A+B+C	76 (4.3%)
B+C	10 (0.6%)
A	199 (11.3%)
A+B	258 (14.7%)
B	196 (11.2%)
Unknown	227 (12.9%)
Total	1757 (100%)

A: mediastinal lymph nodes
B: abdominal lymph nodes
C: cervical lymph nodes

Fig. 8) N-category in Japanese Classification (JSED 1998 ~)

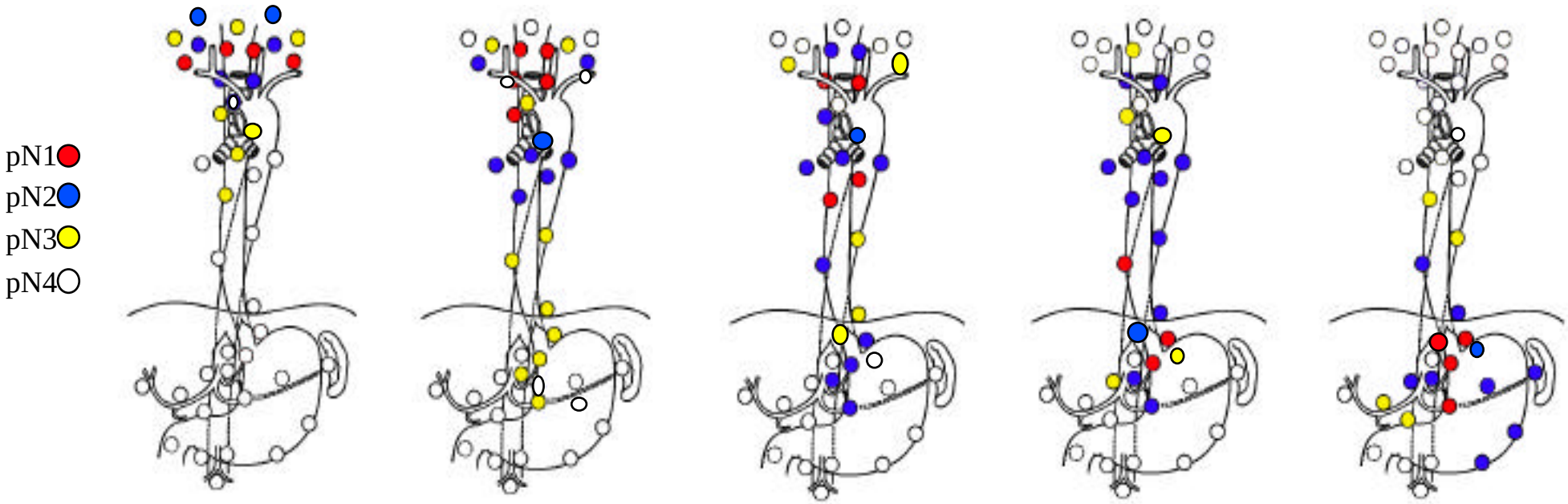


Fig. 9) Grade of metastasis (gN) corrected by number of metastatic node (JSED 1998 ~)

pN-category of JSED	Number of lymph node metastasis			
	0	a:(1~3)	b:(4~7)	c:(8~)
pN0	gN0			
pN1		gN1	gN2	gN3
pN2		gN2	gN3	
pN3		gN3	gN4	
pN4				

Fig. 10) Pathorogical Stage of JSED (1998 ~)

	gN0	gN1	gN2	gN3	gN4	M1
Tis	0					
T1a		I				
T1b	I					
T2		II	III		IVa	IVb
T3						
T4	III					

Table 46) Pathological findings of resected specimen (distant metastasis, stage, grade of dissection, and curability)

Distant metastasis (pM)	Cases	(%)
pM0	1610	(91.6%)
pM1	47	(2.7%)
Unknown	100	(5.7%)
Total	1757	(100%)

Pathological stage	Cases	(%)
0	160	(9.1%)
I	215	(12.2%)
II	349	(19.9%)
III	341	(19.4%)
IVa	332	(18.9%)
IVb	47	(2.7%)
Unknown	313	(17.8%)
Total	1757	(100%)

Grade of dissection (D)	Cases	(%)
D0	159	(9.1%)
DI	190	(10.8%)
DII	530	(30.2%)
DIII	794	(45.2%)
Unknown	84	(4.8%)
Total	1757	(100%)

Curability	Cases	(%)
Absolutely curative (a)	920	(52.4%)
Relatively curative (b)	496	(28.2%)
Absolutely non-curative (c)	227	(12.9%)
Unknown	114	(6.5%)
Total	1757	(100%)

Table 47) Pathological findings of resected specimen (residual tumor, multiple cancers, and multiple lesions)

Residual tumor (R)	Cases	(%)
R0	1337	(76.1%)
R1	134	(7.6%)
R2	156	(8.9%)
Rx	130	(7.4%)
Total	1757	(100%)

Primary multiple cancers	Cases	(%)
(-)	1429	(81.3%)
(+)	233	(13.3%)
Unknown	95	(5.4%)
Total	1757	(100%)

Multiple malignant lesions	Cases	(%)
(-)	1487	(84.6%)
(+)	202	(11.5%)
Unknown	68	(3.9%)
Total	1757	(100%)

Number of malignant lesions	Cases	(%)
0	1487	(84.6%)
1	75	(4.3%)
2	78	(4.4%)
3	23	(1.3%)
4	7	(0.4%)
5~	6	(0.3%)
Unknown	81	(4.6%)
Total	1757	(100%)

Table 48) Adjuvant therapy for cases of esophagectomy

Radiotherapy	Cases	(%)
(-)	1174	(66.8%)
Preoperative	119	(6.8%)
Pre+post-operative	20	(1.1%)
Intraoperative(IOR)	5	(0.3%)
IOR+postoperative	10	(0.6%)
Postoperative	307	(17.5%)
Time to recurrence	88	(5.0%)
Others	1	(0.06%)
Unknown	33	(1.9%)
Total	1757	(100%)

Doses of irradiation (Gy)	Cases	(%)
0	1174	(66.8%)
1 ~ 19	12	(0.7%)
20 ~ 39	78	(4.4%)
40 ~ 59	233	(13.3%)
60 ~ 79	100	(5.7%)
80 ~ 99	7	(0.4%)
100~	7	(0.4%)
Unknown	146	(8.3%)
Total	1757	(100%)

Chemotherapy	Cases	(%)
(-)	1016	(57.8%)
Preoperative	166	(9.4%)
Pre+post-operative	39	(2.2%)
Intraoperative (IOR)	4	(0.2%)
IOR+postoperative	3	(0.2%)
Postoperative	432	(24.6%)
Time to recurrence	43	(2.4%)
Others	0	
Unknown	54	(3.1%)
Total	1757	(100%)

Type of chemotherapy	Cases	(%)
(-)	1016	(57.8%)
Chemotherapy alone	430	(24.5%)
Concurrent chemoradiotherapy	136	(7.7%)
Sequential chemoradiotherapy	75	(4.3%)
Others	2	(0.1%)
Unknown	98	(5.6%)
Total	1757	(100%)

Table 49) Outcome of cases with esophagectomy

Outcome	Cases (%)
Alive	756 (43.0%)
Dead	874 (49.7%)
Lost of information	88 (5.0%)
Unknown	39 (2.2%)
Total	1757 (100%)

Courses of death	Cases (%)
Death due to recurrence	635 (72.7%)
Death due to other cancer	26 (3.0%)
Death due to other diseases(rec+)	14 (1.6%)
Death due to other diseases(rec-)	64 (7.3%)
Death due to other diseases(rec?)	17 (1.9%)
Operative death*	31 (3.5%)
Postoperative hospital death**	52 (6.0%)
Unknown	35 (4.0%)
Total death cases	874 (100%)

Initial recurrence lesion of death cases	Cases (%)
None	150 (12.9%)
Lymph node	284 (24.5%)
Lung	122 (10.5%)
Liver	133 (11.5%)
Bone	88 (7.6%)
Brain	15 (1.3%)
Primary lesion	111 (9.6%)
Dissemination	63 (5.4%)
Anastomotic region	3 (0.3%)
Others	41 (3.5%)
Unknown	151 (13.0%)
Total of recurrence lesion	1161 (100%)
Total death cases	874

* Death within 30 days
** Death over 30 days

Figure 11) Overall survival curves of patients treated by esophagectomy (1995)

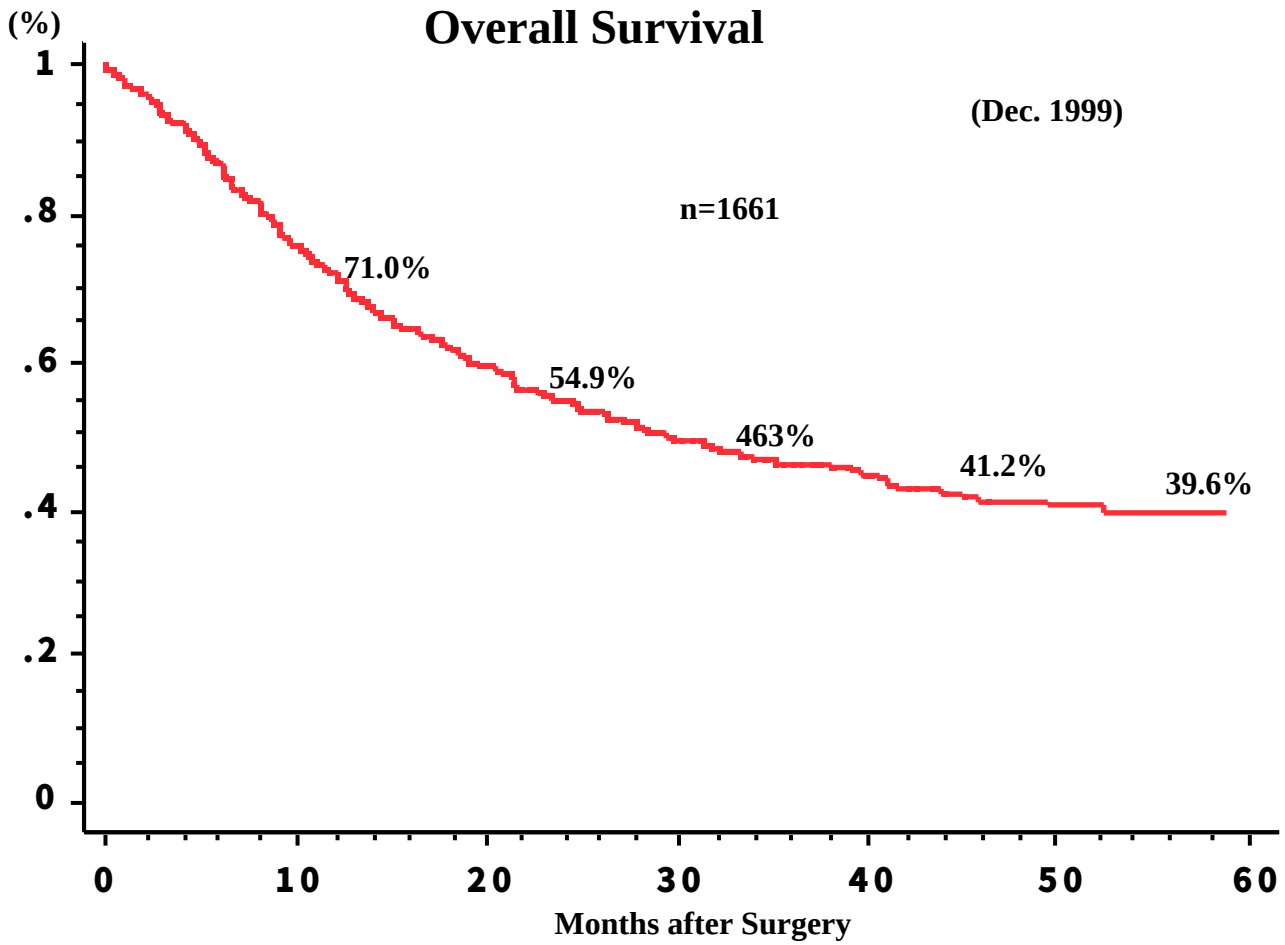


Figure 12) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)

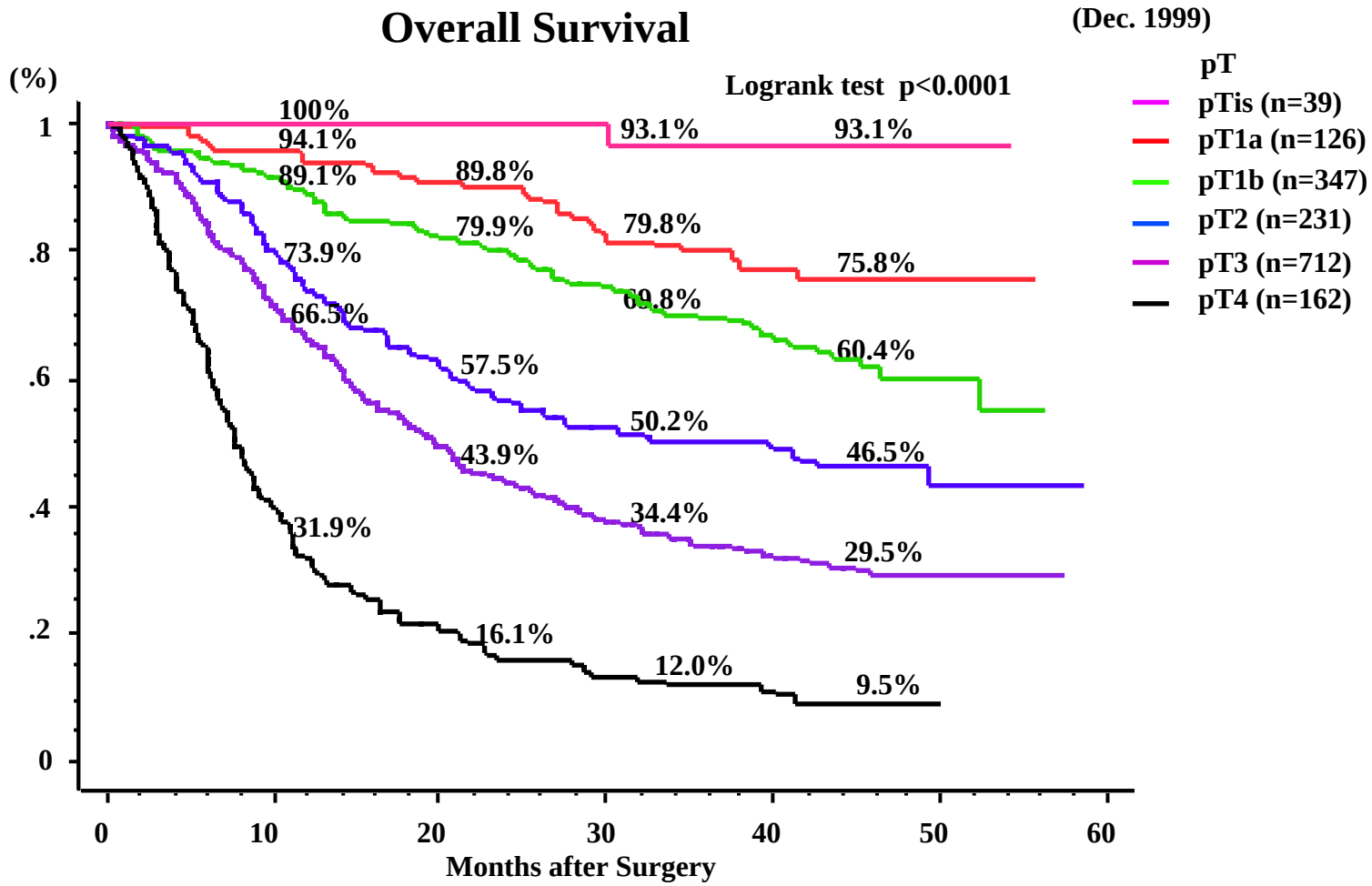


Figure 13) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN)

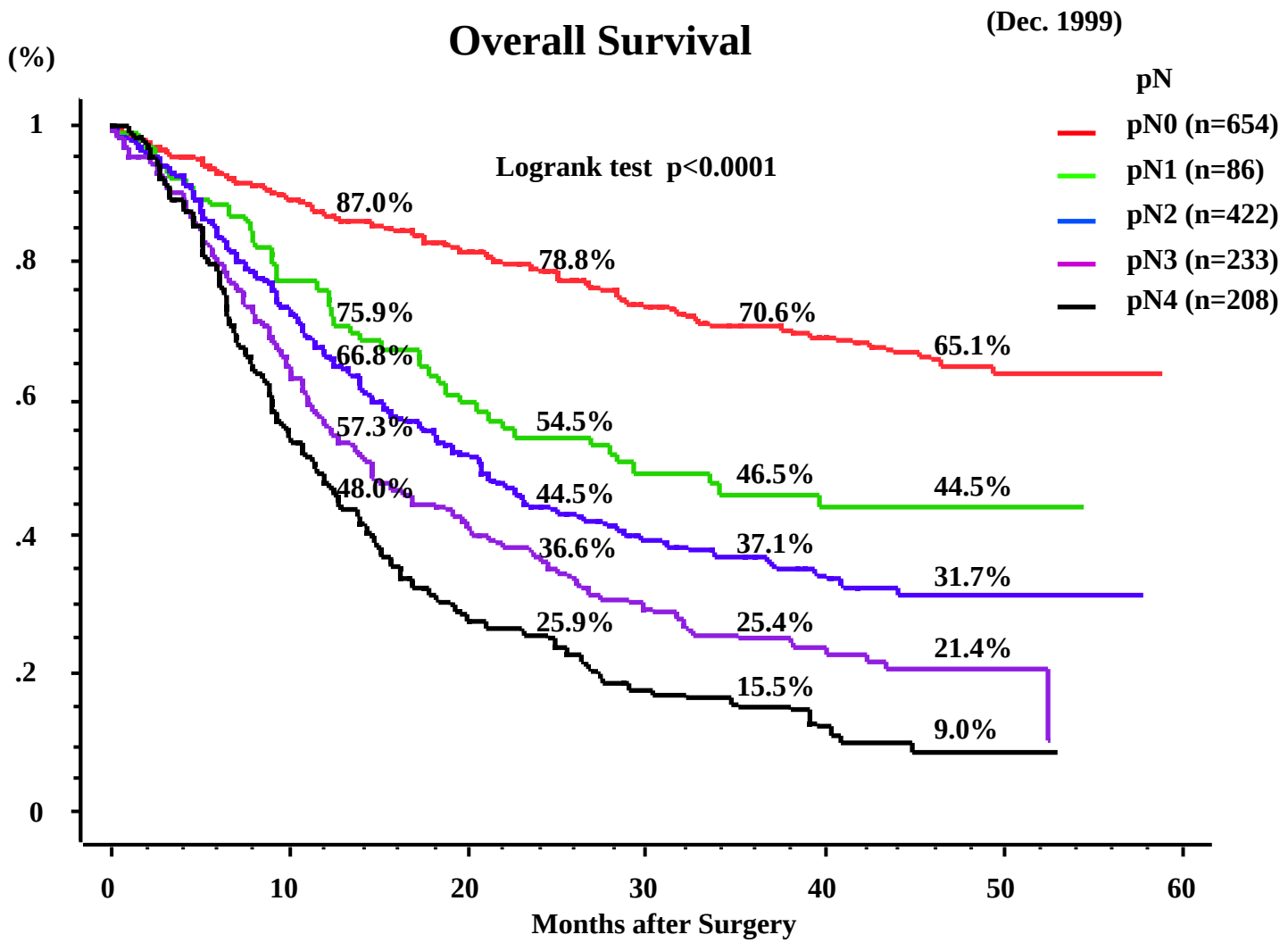


Figure 14) Survival of patients treated by esophagectomy in relation to pathological stage

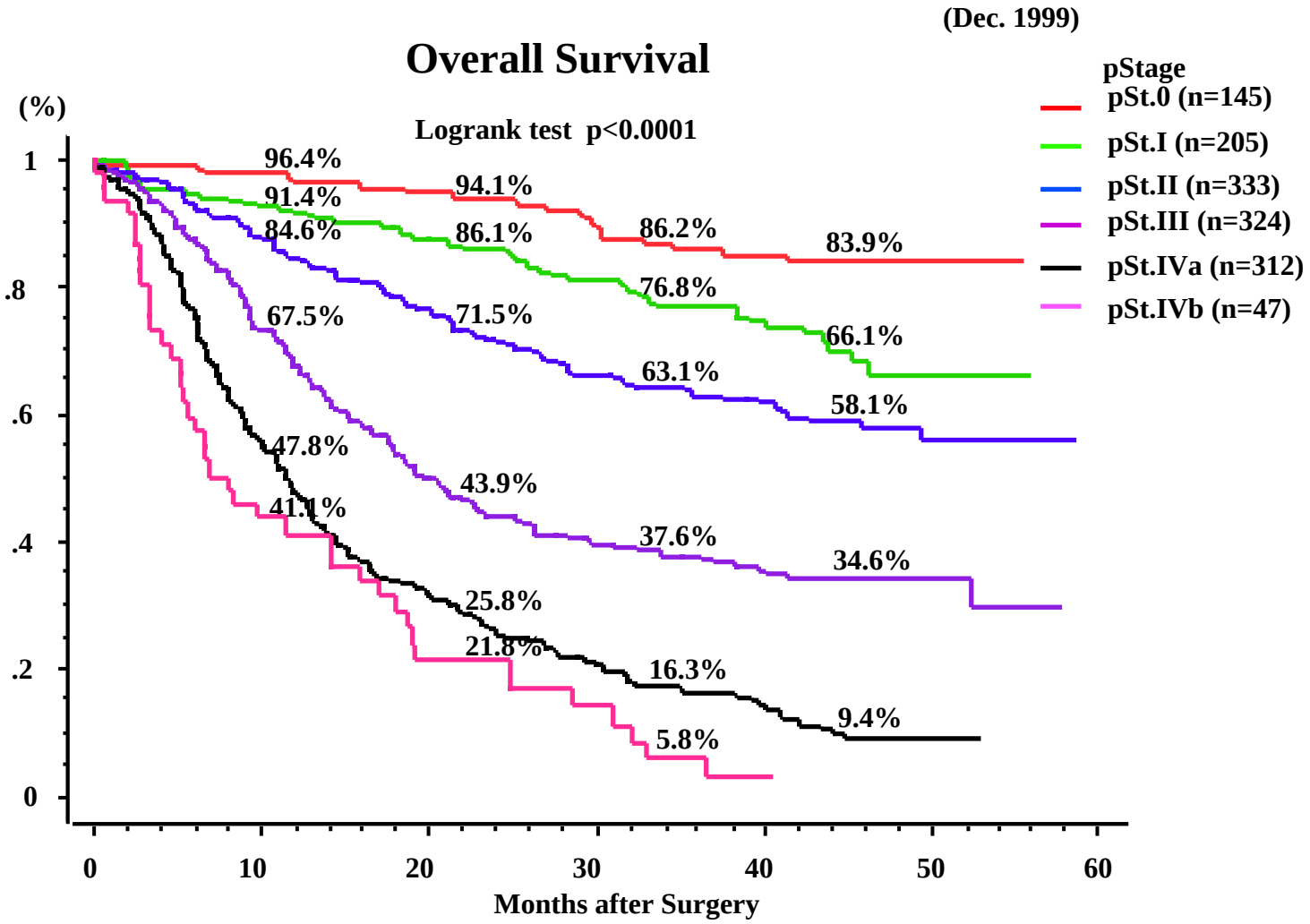


Figure 15) Survival of patients treated by esophagectomy in relation to residual tumor (R)

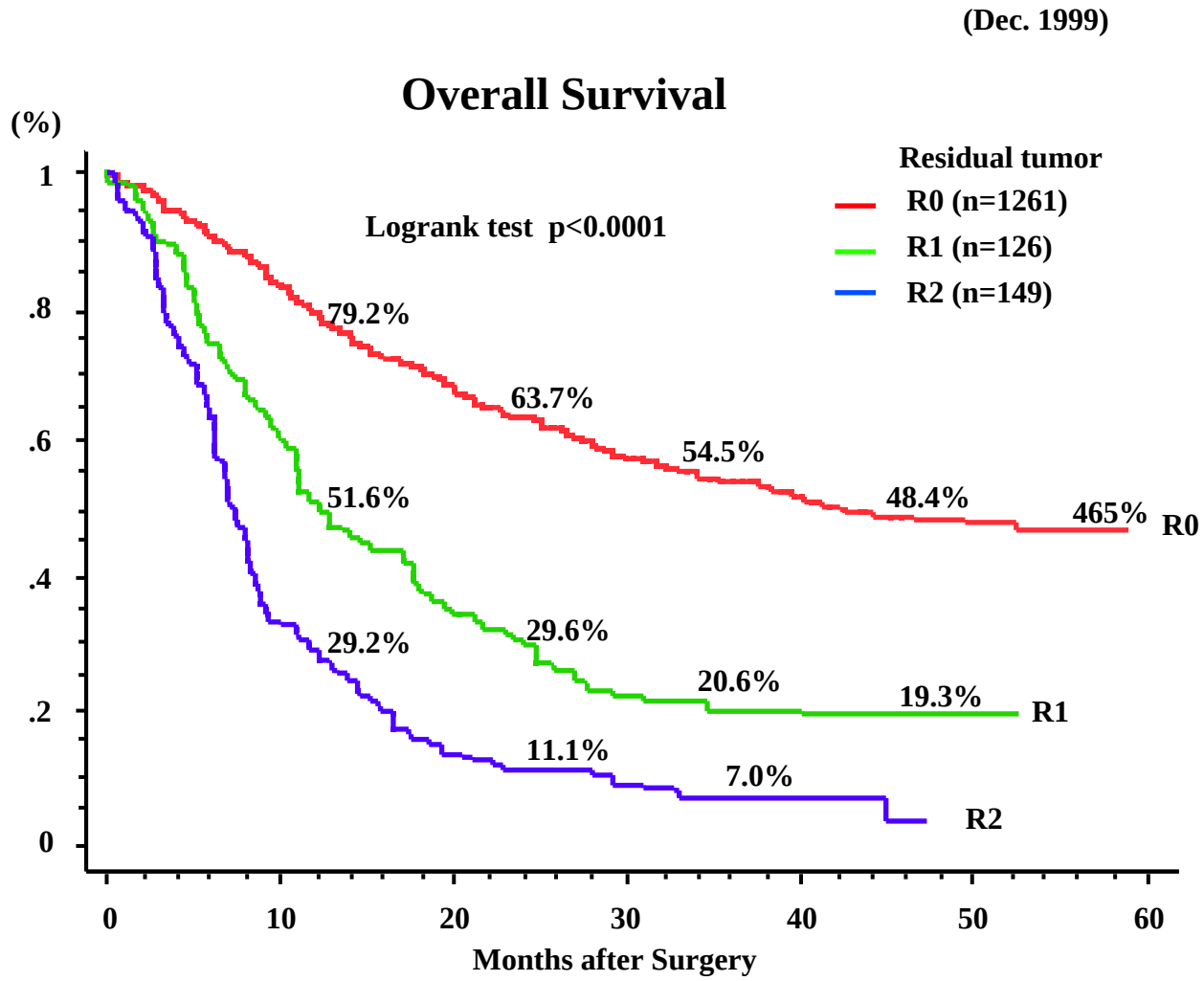


Figure 16) Survival of patients treated by esophagectomy in relation to number of metastatic node

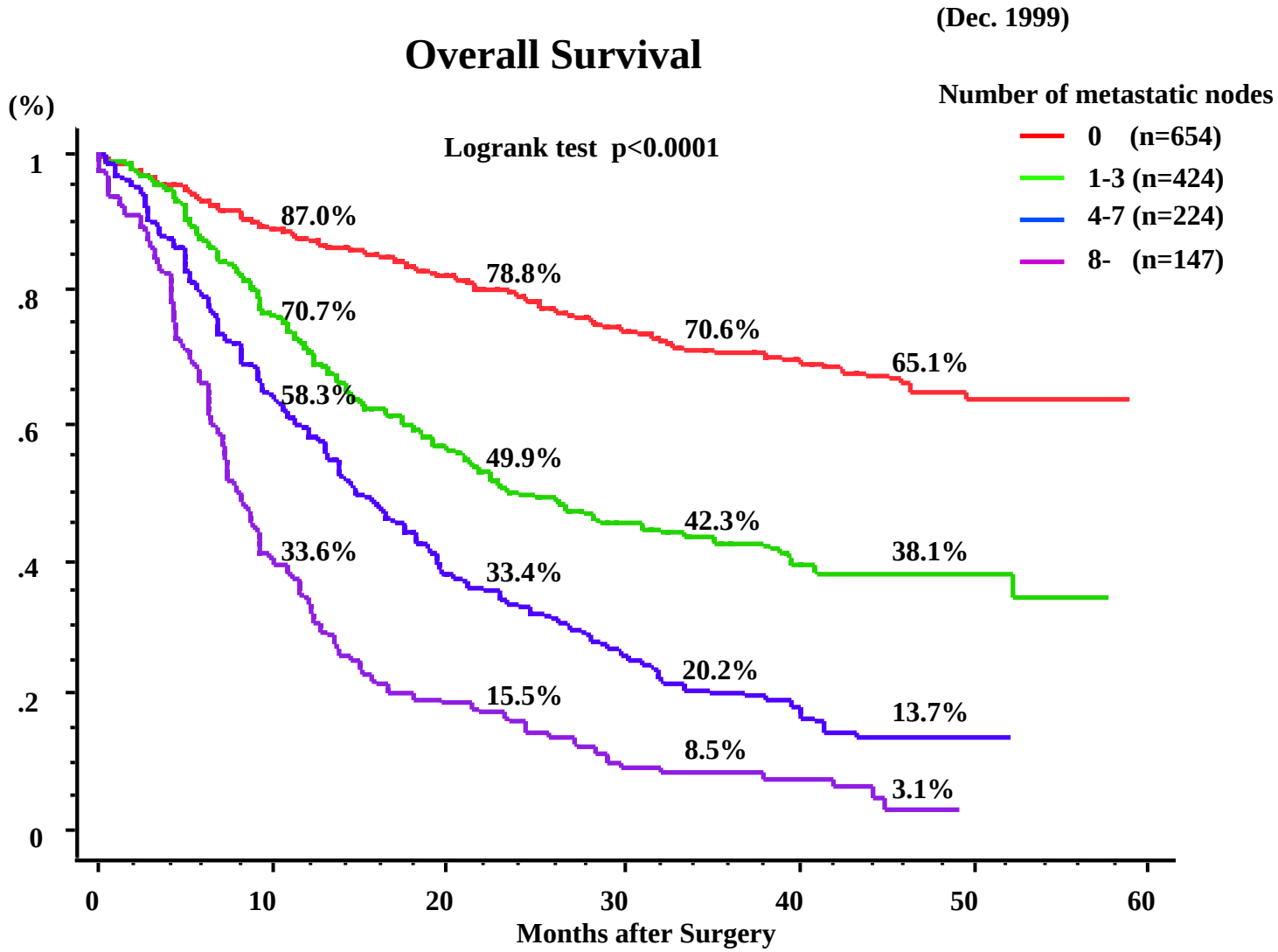
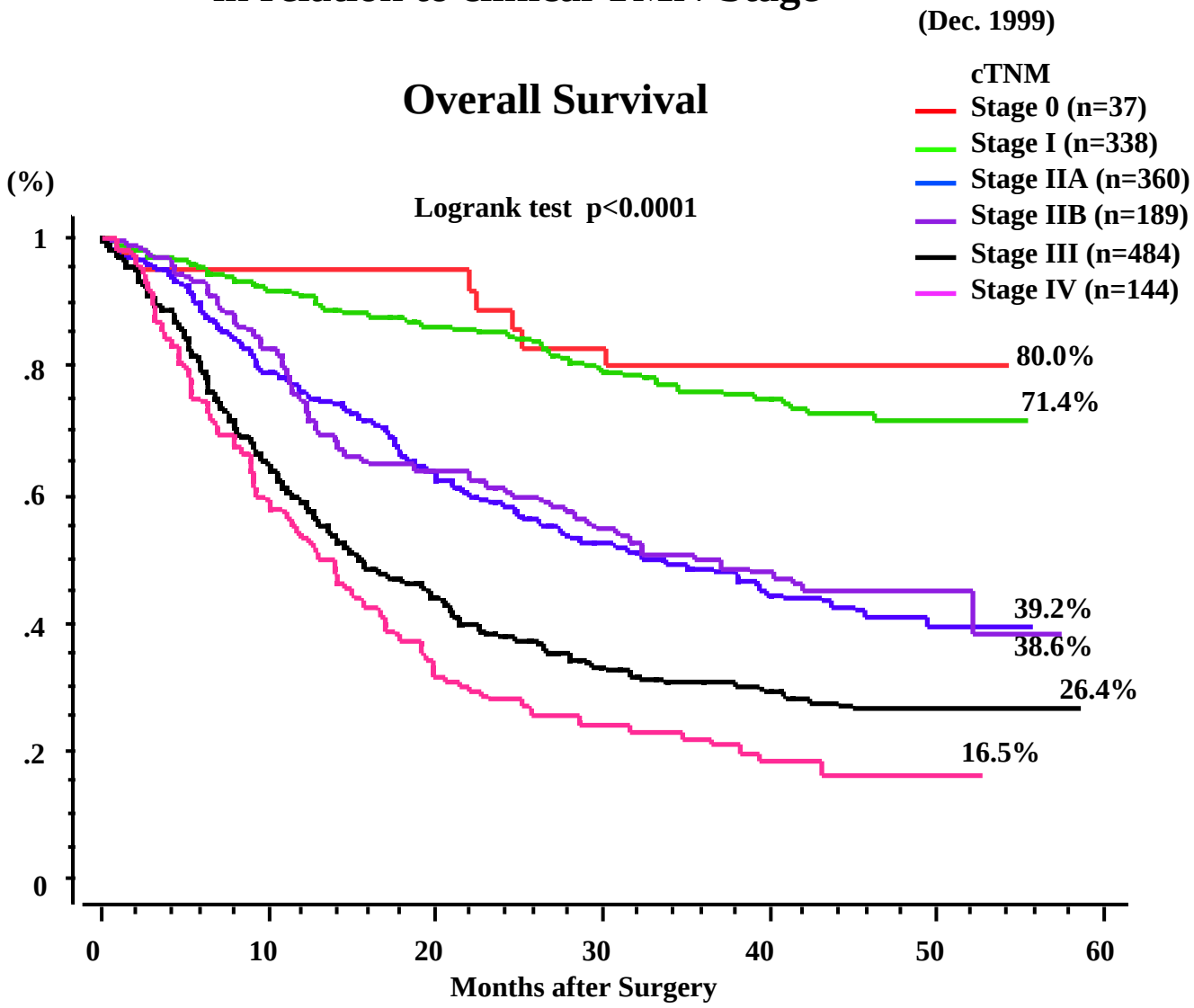


Figure 17) Survival of patients treated by esophagectomy in relation to clinical TMN-Stage



Comprehensive Registry of Esophageal cancer in Japan in 1996

JSED

Contents

IV. Clinical Results in Patients treated by Palliative Operation in 1996

V. Clinical Results in Patients treated with Esophagectomy in 1996

I. Clinical Factors of Esophageal Cancer Patients treated in 1996

1. Institutions registrating cases in 1996

Institutions (No. 1)

Inst#	Institutions
03a11	Dept. of Surg. Showa Univ. School of Med. Toyosu Hospital
03d01	Second Dept. of Surg. Kyorin Univ. School of Med.
03e01	Dept. of Surg. Tokai Univ. School of Med. Tokyo Hospital
1101	First Dept. of Surg. Hokkaido Univ. School of Med.
1102	Second Dept. of Surg. Hokkaido Univ. School of Med.
1201	First Dept. of Surg. Sapporo Med. Univ.
1203	First Dept. of Medicne. Sapporo Med. Univ.
1302	Second Dept. of Surg. Asahikawa Med. Univ.
1401	First Dept. of Surg. Hirosaki Med. Univ. School of Med.
1402	First Dept. of Medicne. Hirosaki Med. Univ. School of Med.
1405	Second Dept. of Surg.Hirosaki Med. Univ. School of Med.
1501	First Dept. of Surg. Iwate Med. Univ. School of Med.
1601	First Dept. of Surg. Yamagata Univ. School of Med.
1702	Second Dept. of Surg. Akita Univ. School of Med.
1802	Second Dept. of Surg. Akita Univ. School of Med.
1901	First Dept. of Surg. Fukushima Medical School
2101	First Dept. of Surg. Gunma Univ. School of Med.
2102	Second Dept. of Surg. Gunma Univ.School of Med.
2104	Dept. Radiology Gunma Univ. School of Med.
2301	First Dept. of Surg. Dokkyo Med. Univ. School of Med.
2311	Dept of Surg. Dokkyo Med. Univ. School of Med. Koshigaya Hospital
2401	Dept.of Surg. Tsukuba Univ. School of Med.
2501	First Dept. of Surg. Saitama Medical Univ.
2602	Second Dept. of Surg National Defense Medical College
2701	First Dept. of Surg. Chiba Univ. School of Med.
2801	Dept. of Surgery Tokyo Dental Univ. Ichikawa General Hospitral
3001	First Dept. of Surg. Nihon Univ. School of Med.
3003	Third. Dept. of Surg. Nihon Univ. School of Med.
3201	First Dept. of Surg. Nihon Med. Univ.

Inst#	Institutions
3301	First Dept. of Surg. Tokyo Univ. School of Med.
3303	First Dept. of Surg. Tokyo Univ.School of Med.
3601	Dept. of Surg. Keio Univ.School of Med.
3703	Therd Dept. of Surg. Tokyo Medical Univ.
3811	Dept. Surg. Institute of Gastroenterology Tokyo Women's Medical Univ.
3821	Dept. Surg. Tokyo Women's Medical Univ. Second Hospital
4001	First Dept.of Surg. Yamanashi Med. Univ. School of Med.
4201	Dept of Surg. Tokai Univ. School of Med.
4301	First Dept. of Surg. Yokohama City Univ.School of Med.
4402	Second Dept. of Surg. St.Marianna Univ.School of Med.
4501	Dept of Surg. Kitasato Univ. School of Med.
4511	Dept. of Digestive Surg. Kitasato Univ. East Hospital
4601	Dept. of Surg. Juntendo Univ. Nagaoka Hospital
4701	Dept. of Surg. Teikyo Univ. Ichihara Hospital
5301	First Dept. of Surg. Shinsyu Univ. School of Med.
5302	Second Dept. of Surg. Juntendo Univ. School of Med.
5402	Secondt Dept. of Surg. Hamamatsu Medical.School
5501	First Dept. of Surg. Nagoya Univ. School of Med.
5502	Secondt Dept. of Surg. Nagoya Univ. School of Med.
5506	Second Dept. of Medicine. Nagoya Univ. School of Med.
5607	First Dept. of Medicine. Nagoya City Univ. School of Med.
5701	First Dept. of Surg. Gifu Univ.School of Med.
5801	Dept. of Surg. Fujita Health Univ. School of Med.
5803	Dept. of Funabiki-Surg. Fujita Health Univ. School of Med.
5811	Fujita Health Univ. School of Med. Houtokukai Hospital
5901	First Dept. of Surg Aich Medical Univ.
6101	First Dept. of Surg. Shiga Univ. School of Med.
6304	Dept. of Radiology Kyoto Univ. School of Med.
6311	Dept. of Surgical oncology Kyoto Univ. School of Med.

Institutions (No. 2)

Inst#	Institutions
6401	First Dept. of Surg. Nara Medical Univ.
6502	Second Dept. of Surg. Kansai Medical Univ.
6701	First Dept. of Surg. Osaka City Univ. School of Med.
6702	Second Dept. of Surg. Osaka City Univ. School of Med.
6704	Dept. of Radiology Osaka City Univ. School of Med.
6801	First Dept. of Surg. Kinki Univ. School of Med.
6802	Second Dept. of Surg. Kinki Univ. School of Med.
7101	First Dept. of Surg. Kanazawa Univ. School of Med.
7301	First Dept. of Surg. Kobe Univ. School of Med.
7302	Secondt Dept. of Surg. Kobe Univ. School of Med.
7401	First Dept. of Surg. Hyogo Medical Univ.
8001	First Dept. of Surg. Okayama Univ. School of Med.
8002	Second Dept. of Surg. Okayama Univ. School of Med.
8201	First Dept. of Surg. Tottori Univ. School of Med.
8302	Second Dept. of Surg. Shimane Medical Univ.
8402	Second Dept. of Surg.Hiroshima Univ. School of Med.
8411	Dept. of Surg. Reserch Inst. foir Nucler Med. & Biology Hiroshima Univ.
8601	First Dept. of Surg. Tokushima Univ. School of Med.
8701	First Dept. of Surg. Kagawa Nedical Univ.
8802	Second Dept. of Surg. Ehime Univ. School of Med.
9102	Second Dept. of Surg. Kyushu Univ. School of Med.
9104	Dept of Radiology Kyushu Univ. School of Med.
9201	Firstd Dept. of Surg. Fukuoka Univ. School of Med.
9211	Dept. of Surg. Fukuoka Univ. School of Med. Tukushi Hospital
9301	Dept. of Surg. Kurume Univ. School of Med.
9302	Dept. of Medicalcenter Kurume Univ. School of Med.
9401	Dept. of Digestivesurg. Saga Medical Univ.
9502	Second Dept. of Surg. Nagasaki Univ. School of Med

Inst#	Institutions
9711	Dept. of Surg. Med. Institute of Bioregulation, Kyushu Univ.
9802.	First Dept. of Second Dept. of Surg. Miyazaki Medical Univ.
9901	First Dept. of Surg. Kagoshima Univ. School of Med.
9994	Dept. of Radiology. Ryukyu Univ. School of Med.
10014	Sapporo National Hospital Hokkaido Cancer Center
10021	National Cancer Center Central Hospital
10031	National Cancer Center East Hospital
10081	Dept of Surg. Shikoku National Cancer Center Hospital
10101	Dept of Surg. Hakodate National Hospital
11201	Dept of Surg. Sendai National Hospital
11301	Dept of Surg. Mito National Hospital
12101	Dept of Surg. Numata National Hospital
12401	Dept of Surg. Narashino National Hospital
13204	Dept of Radiology. Second National Hospital
13301	Dept of Surg. International Medical Center In Japan
14201	Dept of Surg. Kofu National Hospital
14401	Dept of Surg. Kasumigaura National Hospital
15101	Dept of Surg. Nagoya National Hospital
17301	Dept of Surg. Fukuyama National Hospital
17401	Dept of Surg. Kure National Hospital
17601	Dept of Surg. Iwakuni National Hospital
18101	Dept. of Surg. Zentuji National Hospital
19061	Dept of Surg. Miyakonojo National Hospital
19071	Dept of Surg. Ibusuki National Hospital
21011	Dept of Surg. Aomori Prefectual Central Hospital
21031	Dept of Surg. Yamagata Prefectual Shonai Hospital
21041	Dept of Surg. Yamagata Prefectual Central Hospital
21061	Dept of Surg. Fukushima Prefectual Aizu Sogo Hospital
21091	Dept of Surg. Iwaki City Sogo Iwakikyoritul Hospital

Institutions (No. 3)

Inst#	Institutions
22011	Dept of Surg. Niigata Cancer Center Hospital
22021	Dept of Surg. Niigata Prefectual Shibata Hospital
22031	Dept of Surg. Niigata Prefectual Central Hospital
23021	Dept of Surg. Metroporitan Hiroo Hospital
24011	Dept of Surg. Gunma Cancer Center Toumou Hospital
24021	Ibaraki Prefectual Central Hospital Ibaraki Cancer Center
24031	Dept of Surg. Tochigi Cancer Center
24051	Dept of Digestive Surg. Chiba Cancer Center
24101	Dept of Surg. West Hamamatsu Medical Cancer Center
25032	Dept of Thoracic Surg. Aichi Cancer Center
25041	Dept of Surg. Fukui Prefectual Hospital
26011	Osaka Adult Disease Center
26031	Dept of Surg. Osaka National Hospital
27012	Dept of Surg. Hyogo Adult Disease Center
27014	Dept of Radiology Hyogo Adult Disease Center
27031	Dept of Surg. Hyogo Prefectual Kakogawa Hospital
27041	Dept of Surg. Tottori Prefectual Central Hospital
28021	Dept of Surg. Kochi Prefectual Central Hospital
29011	Dept of Surg. Saga Prefectual Kouseikan Hospital
30031	Dept of Surg. Asahikawa City Hospital
31011	Dept of Surg. Aomori City Hospital
31061	Dept of Surg. Tsuruoka City Syounai Hospital
31071	Dept of Surg. Nagai City Sogo Hospital
34021	Dept. of Surg. Urawa City Hospital
34031	Dept of Surg. Koshigaya City Hospital
34051	Dept of Surg. Numazu City Hospital
34061	Dept of Surg. Kakegawa City Sogo Hospital

Inst#	Institutions
34081	Dept of Surg. Funabashi City Medical Center Hospital
34141	Dept of Surg. Odawara City Hospital
34161	Dept of Surg. Fujieda City Sogo Hospital
35031	Dept of Surg. Ogaki City Hospital
35041	Dept of Surg. Gifu City Hospital
35081	Dept of Surg. Nagahama City Hospital
36041	Dept of Surg. Suita City Hospital
36061	Dept of Surg. Kaizuka City Hospital
36081	Dept of Surg. Izumi City Hospital
36111	Dept of Surg. Kyoto City Hospital
37111	Dept of Surg. Kobe City Central Hospital
37141	Dept of Surg. Takamatsu City Hospital
37200	Dept. of Surg. Hiroshima Asa City Hospital
37211	Dept of Surg. Matsue City Hospital
37411	Dept of Surg. & Medicine Iwakuni City Medical Center Hospital
38111	Dept of Surg. Tokushima City Hospital
39111	Dept of Surg. Kitakyusyu City Medical Center Hospital
39121	Dept of Surg. Kitakyusyu City Yahata Hospital
39711	Dept of Surg. Izumi City Hospital
40311	Dept of Surg. Toranomon Hospital
40711	Dept of Surg. Kinki Center Hospital
41621	Dept of Surg. Kyoto Prefectual Saiseikai Hospital
41711	Dept of Surg. Okayama Saiseikai Hospital
41731	Dept of Surg. Okayama Rousai Hospital
42211	Dept of Surg. Nagaoka Red Cross Hospital
42411	Dept of Surg. Ashikaga Red Cross Hospital

Institutions (No. 4)

Inst#	Institutions
42621	Dept of Surg. Kyoto Second Red Cross Hospital
42651	Dept of Surg. Yamada Red Cross Hospital
42711	Dept of Surg. Hiroshima Red Cross Hospital
43021	Dept of Surg. Kushiro Rosai Hospital
43121	Dept of Surg. Kanto Rosai Hospital
43211	Dept of Surg. Niigata Rosai Hospital
43611	Dept. of Surg. Osaka Rosai Hospital
43711	Dept of Surg. Kansai Rosai Hospital
44311	Dept of Surg. Social Insurance General Center Hospital
44411	Dept of Surg. Social Insurance Saitama Center Hospital
44451	Dept of Surg. Social Insurance Kofu Yamanashi Hospital
44721	Dept of Surg. Social Insurance Shimonoseki Kosei Hospital
44911	Dept of Surg. Social Insurance Ogura Memorial Hospital
45111	Dept of Medicine Yamamoto Union General Hospital
45121	Dept of Surg. Akita Union General Hospital
45411	Dept of Surg. Kokuho Seitou Hospital
46011	Obihiro Kousei Hospital
46111	Dept. of Surg. Sendai Kosei Hospital
46421	Dept. of Surg. Kiryu Kousei Hospital
46611	Dept. of Surg. Osaka Kousei Hospital
47111	Dept. of Surg. Tohokukosai Hospital
47311	Dept. of Surg. Tachikawa Hospital
48111	Dept. of Surg. NTT Tohoku Hospital
48611	Dept. of Surg. Osaka Teishin Hospital
49331	Dept. of Surg. JR Tokyo General Hospital
50001	Dept. of Surg. Cancer Reserch Hospital
53302	Dept. of Surg. Tamananbu-Chiiki Hospital

Inst#	Institutions
60019	Dept. of Surg. Nikko Memorial Hospital
60041	Dept. of Surg. Keiyukai Sapporo Hospital
61011	Dept. of Surg. Ota nishinouchi Hospital
61041	Dept. of Surg. Takeda Sogo Hospital
61051	Dept. of Surg. Hirashika Sogo Hospital
63011	Dept. of Surg. Mitsui Memorial Hospital
63021	Dept. of Surg. Kousei Hospital
63031	Dept. of Surg. Kudansaka Hoshital
64441	Dept. of Surg. NKK Hospital
64521	Dept. of Surg.Showainan Sogo Hospital
65121	Dept. of Surg. Yasusiro Kosei Hospital
65131	Dept. of Surg. Sogo Daiyukai Hospital
65311	Dept. of Surg. Nissei Hospital
65331	Dept. of Surg. Kansai Electric Hospital
66351	Dept. of Surg. Matsushita Memorial Hospital
67111	Dept. of Surg.Kobekogyo(Koko) Hospital
67311	Dept. of Surg.Kure Kyosai Hospital

2. Patient Background

Table 1) Age, gender and treatment

Age	Cases (%)	Male	Female	EMR*/ Stenting	Chemotherapy/ Radiotherapy	Pallative operation	Esopha-gectomy
~29	2 (0.1%)	2	0	0	1	0	1
30~39	10 (0.4%)	7	3	0	2	1	7
40~49	185 (6.5%)	164	21	12	28	10	135
50~59	708 (25.0%)	627	81	49	111	22	526
60~69	1101 (38.9%)	997	104	87	191	43	780
70~79	615 (21.7%)	508	107	56	151	24	384
80~89	116 (4.1%)	85	31	17	57	3	39
90~	9 (0.2%)	5	4	3	3	0	3
Unknown	83 (3.0%)	66	17	8	20	7	48
Total	2829 (100%)	2461 (87.0%)	368 (13.0%)	232 (8.2%)	564 (19.9%)	110 (38.9%)	1923 (68.0%)

Table 2) Area of patient's residence and occupation

Area	No. of cases (%)		Area	No. of cases (%)	
Total	**2829**	**(100%)**	Miyazaki	12	(0.4%)
Aichi	74	(2.6%)	Nagano	34	(1.2%)
Akita	62	(2.2%)	Nagasaki	18	(0.6%)
Aomori	24	(0.8%)	Nara	18	(0.6%)
Chiba	142	(5.0%)	Niigata	88	(3.1%)
Ehime	23	(0.8%)	Oita	10	(0.4%)
Fukui	3	(0.1%)	Okayama	25	(0.9%)
Fukuoka	141	(5.0%)	Okinawa	1	(0.04%)
Fukushima	71	(2.5%)	Osaka	196	(6.9%)
Gifu	31	(1.1%)	Saga	26	(0.9%)
Gunma	52	(1.8%)	Saitama	99	(3.5%)
Hiroshima	53	(1.9%)	Shiga	11	(0.4%)
Hokkaido	240	(8.5%)	Shimane	30	(1.1%)
Hyogo	140	(4.9%)	Shizuoka	61	(2.2%)
Ibaraki	58	(2.1%)	Tochigi	61	(2.2%)
Ishikawa	1	(0.04%)	Tokusima	13	(0.5%)
Iwate	47	(1.7%)	Tokyo	487	(17.2%)
Kagawa	5	(0.2%)	Tottori	20	(0.7%)
Kagoshima	37	(1.3%)	Toyama	0	
Kanagawa	150	(5.3%)	Wakayama	5	(0.2%)
Kochi	15	(0.5%)	Yamagata	43	(1.5%)
Kumamoto	0		Yamaguchi	19	(0.7%)
Kyoto	57	(2.0%)	Yamanashi	24	(0.8%)
Mie	6	(0.2%)	Others	1	(0.04%)
Miyagi	75	(2.7%)	Unknow	19	(0.7%)

Occupation	Cases (%)	
None	343	(12.1%)
Professional	240	(8.5%)
Management	227	(8.0%)
Office worker	494	(17.5%)
Sales worker	140	(4.9%)
Farm/Forestry/Marine product	193	(6.8%)
Mining and Quarrying	25	(0.9%)
Transport and communication	22	(0.8%)
Industrial technician	84	(3.0%)
General worker	221	(7.8%)
Service industry	188	(6.6%)
Others	53	(1.9%)
Unclassified	10	(0.4%)
Unknown	589	(20.8%)
Total	2829	(100%)

Table 3) Familial history of carcinoma

Familial history	Cases (%)
No	1563 (55.2%)
Yes	831 (29.4%)
Unknown	435 (15.4%)
Total	2829 (100%)

Table 4) Tumors of familial history of carcinoma

Diseases	No. of cases (%)	Diseases	No. of cases (%)
Malig. lymphoma	4 (1.1%)	Duodenal ca..	89 (8.2%)
Leukemia	16 (1.5%)	Gallbladder ca.	3 (0.3%)
Brain tumor	9 (0.8%)	Pancreas ca.	4 (0.4%)
Mandibular ca.	1 (0.1%)	Colon ca.	55 (5.1%)
Thyroid ca.	3 (0.3%)	Rectal ca.	67 (6.2%)
Breast ca.	47 (4.4%)	Uterus ca.	39 (3.6%)
Lung ca.	102 (9.5%)	Ovarian ca.	60 (5.6%)
Maxillary ca.	2 (0.2%)	Renal ca.	2 (0.2%)
Tongue ca.	1 (0.1%)	Bladder ca.	7 (0.6%)
Pharyngeal ca.	3 (0.3%)	Prostate ca.	14 (1.3%)
Laryngeal ca.	6 (0.6%)	Spinal tumor	1 (0.1%)
Esophgeal ca.	28 (2.6%)	Osteosarcoma	11 (1.0%)
Stomach ca.	7 (0.6%)	Skin ca..	1 (0.1%)
Stomach sarcoma	76 (7.0%)	Malig. melanoma	2 (0.2%)
Hepatoma	342 (31.7%)	Unknown	1 (0.1%)
Cholangio ca.	1 (0.1%)		75 (6.9%)
		Total cases(%)	1079 (100%)
		No. of patients	831

Table 5) Chance and basis of diagnosis according to clinical T-category

Chances of diagnosis	Superficial cancer (cTis,cT1)	Advanced cancer (cT2,cT3,cT4)	Total(%)
Chief complains	555 (65.3%)	1353 (74.3%)	1908 (71.4%)
Detection survey / dock	135 (15.9%)	218 (12.0%)	353 (13.2%)
Examination for other disease	114 (13.4%)	180 (9.9%)	294 (11.0%)
Unkown	46 (5.4%)	70 (3.8%)	116 (4.3%)
Total	850 (100%)	1821 (100%)	2671* (100%)

Detection methods	Superficial cancer (cTis,cT1)	Advanced cancer (cT2,cT3,cT4)	Total(%)
Esohagography	209 (24.6%)	587 (32.2%)	796 (29.8%)
Esohagoscopy	613 (72.1%)	1164 (63.9%)	1777 (66.5%)
CT-scann	2 (0.2%)	21 (1.2%)	23 (0.9%)
US	0	1 (0.1%)	1 (0.04%)
Biopsy	3 (0.4%)	5 (0.3%)	8 (0.3%)
Others	4 (0.5%)	8 (4.4%)	12 (0.4%)
Unkown	19 (2.2%)	35 (1.9%)	54 (2.0%)
Total	850 (100%)	1821 (100%)	2671* (100%)

*: excluding 158 cTX, cT0, cTunknown cases

Table 6) Symptoms according to clinical T-category

Symptom	cTis, cT1	cT2,cT3,cT4	Total (%)
	Cases (%)	Cases (%)	
None	223 (22.1%)	336 (14.9%)	559 (17.1%)
Chest pain	68 (6.7%)	177 (7.8%)	245 (7.5%)
Sense of stricture	237 (23.4%)	611 (27.1%)	848 (26.0%)
Unusual sensation	56 (5.5%)	124 (5.5%)	180 (5.5%)
Dysphagia	195 (19.3%)	499 (22.1%)	694 (21.2%)
Nausea / Vomiting	34 (3.4%)	53 (2.3%)	87 (2.7%)
Appetite loss	34 (3.4%)	66 (2.9%)	100 (3.1%)
Weight loss	34 (3.4%)	78 (3.5%)	112 (3.4%)
Swollen of lymph node	3 (0.3%)	24 (1.1%)	27 (0.8%)
Hoarseness	14 (1.4%)	57 (2.5%)	71 (2.2%)
Others	69 (6.8%)	168 (7.4%)	237 (7.3%)
Unkown	44 (4.4%)	63 (2.8%)	107 (3.3%)
Total	1011 (100%)	2256 (100%)	3267 (100%)
Total cases	850	1821	2372*

*; excluding 158 cTX, cT0, cT unkown cases

Table 7) Double / multiple primary cancers

	Endoscopical treatment (EMR/Stenting)	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
None	179 (77.2%)	451 (80.0%)	87 (79.1%)	1547 (80.4%)	2264 (80.0%)
Double Synchronous	26 (11.2%)	41 (7.3%)	9 (8.2%)	190 (9.9%)	266 (9.4%)
Metachronous					
Before E-Ca	17 (7.3%)	47 (8.3%)	11 (10.0%)	123 (6.4%)	198 (7.0%)
After E-Ca	4 (1.7%)	7 (1.2%)	0	21 (1.1%)	32 (1.1%)
Multiple Synchronous	6 (2.6%)	10 (1.8%)	1 (0.9%)	28 (1.5%)	45 (1.6%)
Unknown	3	8 (1.4%)	2 (1.8%)	14 (0.7%)	24 (0.9%)
Total	232 (100 %)	564 (100 %)	110 (100 %)	1923 (100 %)	2829 (100 %)

Table 8) Double / multiple primary cancers and Organs

Organs	Synchronous		Metachronous		Total	
Larynx/Maxillary	19	(4.8%)	19	(7.5%)	38	(5.9%)
Pharynx	68	(17.5%)	31	(12.3%)	99	(15.4%)
Oral cavity/Gum/Tongue	21	(5.4%)	12	(4.7%)	33	(5.1%)
Stomach	149	(38.4%)	75	(29.6%)	224	(34.9%)
Colon/Rectum	36	(9.2%)	18	(7.1%)	54	(8.4%)
Liver	12	(3.1%)	5	(2.0%)	17	(2.7%)
Choledochus/Gallbladder	3	(0.8%)	0		3	(0.5%)
Pancreas	2	(0.5%)	0		2	(0.3%)
Lung/Trachea/Bronchus	19	(4.9%)	17	(6.7%)	36	(5.6%)
Remnunt esophagus	1	(0.3%)	3	(1.2%)	4	(0.6%)
Uterus/Ovarium	0		3	(1.2%)	3	(0.5%)
Breast	1	(0.3%)	14	(5.6%)	15	(2.3%)
Prostate	3	(0.7%)	1	(0.4%)	4	(0.6%)
Urinary bladder	5	(1.2%)	15	(5.9%)	20	(3.1%)
Leukemia	2	(0.5%)	2	(0.8%)	4	(0.6%)
Skin	1	(0.3%)	0		1	(0.2%)
Brain	0		0		0	
Thyroid	15	(3.9%)	0		15	(2.4%)
Bone	0		1	(0.4%)	1	(0.2%)
Kidney	6	(1.6%)	5	(2.0%)	11	(2.0%)
Others	19	(4.9%)	20	(7.9%)	39	(6.3%)
Unknown	6	(1.6%)	12	(4.7%)	18	(2.4%)
Lesions	388	(100%)	253	(100%)	641	(100%)
Cases	311		230		541	

Table 9) Double / multiple primary cancer - Organs (in endoscopically treated cases)

Organs	Double Synchronous	Metachronous		Multiple Synchronous
		Before E-Ca	After E-Ca	
Larynx/Maxillary	1 (3.3%)			1 (6.3%)
Pharynx	9 (30.0%)	1 (4.8%)		2 (12.5%)
Oral cavity/Gum/Tongue	3 (10.0%)	1 (4.8%)		
Stomach	10 (33.3%)	11 (52.4%)	1 (25.0%)	5 (31.3%)
Colon/Rectum	1 (3.3%)	2 (9.5%)	1 (25.0%)	2 (12.5%)
Liver				2 (12.5%)
Choledochus/Gallbladder				
Pancreas				
Lung/Trachea/Bronchus	1 (3.3%)	2 (9.5%)	1 (25.0%)	1 (6.3%)
Remnunt esophagus			1 (25.0%)	
Uterus/Ovarium				
Breast		1 (4.8%)		
Prostate	1 (3.3%)			
Urinary bladder		1 (4.8%)		
Leukemia	1 (3.3%)			
Skin				
Brain				
Thyroid				
Bone				
Kidney	1 (3.3%)			
Others	2 (6.7%)	1 (4.8%)		1 (6.3%)
Unknown		1 (4.8%)		2 (12.5%)
Lesions	30 (100%)	21 (100%)	4 (100%)	16 (100%)
Cases	26	17	4	6

Table 10) Double / multiple primary cancer - Organs (in cases of chemotherapy and/or radiotherapy)

Organs	Double Synchronous	Metachronous		Multiple Synchronous
		Before E-Ca	After e-Ca	
Larynx/Maxillary	1 (2.1%)	4 (7.4%)		1 (4.8%)
Pharynx	12 (25.5%)	2 (3.7%)	2 (28.6%)	8 (38.1%)
Oral cavity/Gum/Tongue	5 (10.6%)	2 (3.7%)		1 (4.8%)
Stomach	16 (34.0%)	18 (33.3%)		4 (19.0%)
Colon/Rectum	5 (10.6%)	6 (11.1%)	1 (14.3%)	1 (4.8%)
Liver	2 (4.3%)	1 (1.9%)		1 (4.8%)
Choledocus/Gallbladder				
Pancreas	1 (2.1%)			
Lung/Trachea/Bronchus	2 (4.3%)	6 (11.1%)		2 (9.5%)
Remnunt esophagus				
Uterus/Ovarium				
Breast		5 (9.3%)	1 (14.3%)	
Prostate				1 (4.8%)
Urinary bladder		5 (9.3%)	2 (28.6%)	
Leukemia	1 (2.1%)			
Skin				
Brain				
Thyroid				
Bone				
Kidney		1 (1.9%)		
Others	2 (4.3%)	3 (5.6%)	1 (14.3%)	1 (4.8%)
Unknown		1 (1.9%)		1 (4.8%)
Lesions	47 (100%)	54 (100%)	7 (100%)	21 (100%)
Cases	41	47	7	10

Table 11) Double / multiple primary cancer - Organs (in cases of palliative operation)

Organs	Double Synchronous	Metachronous		Multiple Synchronous
		Before E-Ca	After E-Ca	
Larynx/Maxillary	1 (10.0%)			
Pharynx		1 (9.1%)		
Oral cavity/Gum/Tongue				
Stomach	6 (60.0%)	5 (45.5%)		1 (33.3%)
Colon/Rectum	1 (10.0%)	1 (9.1%)		
Liver				1 (33.3%)
Choledocus/Gallbladder				
Pancreas				
Lung/Trachea/Bronchus	1 (10.0%)	1 (9.1%)		
Remnunt esophagus				
Uterus/Ovarium				
Breast				
Prostate				
Urinary bladder		1 (9.1%)		
Leukemia				
Skin				
Brain				
Thyroid				
Bone				
Kidney	1 (10.0%)	2 (18.2%)		
Others				1 (33.3%)
Unknown				
Lesions	10 (100%)	11 (100%)		3 (100%)
Cases	9	11	0	1

Table 12) Double / multiple primary cancer - Organs (in cases of esophagectomy)

Organs	Double Synchronous	Metachronous		Multiple Synchronous
		Before E-Ca	After E-Ca	
Larynx/Maxillary	8 (6.3%)	14 (10.4%)	1 (4.5%)	6 (9.8%)
Pharynx	30 (14.6%)	17 (12.7%)	8 (36.4%)	7 (11.5%)
Oral cavity/Gum/Tongue	7 (3.4%)	9 (6.7%)		5 (8.2%)
Stomach	88 (42.9%)	37 (27.6%)	3 (13.6%)	19 (31.1%)
Colon/Rectum	19 (9.3%)	7 (5.2%)		7 (11.5%)
Liver	5 (2.4%)	4 (3.0%)		1 (1.6%)
Choledocus/Gallbladder	2 (1.0%)			1 (1.6%)
Pancreas	1 (0.5%)			
Lung/Trachea/Bronchus	8 (3.9%)	4 (3.0%)	3 (13.6%)	4 (6.6%)
Remnunt esophagus	1 (0.5%)		2 (9.1%)	
Uterus/Ovarium		3 (2.2%)		
Breast		7 (5.2%)		1 (1.6%)
Prostate	1 (0.5%)	1 (0.7%)		
Urinary bladder	2 (1.0%)	5 (3.7%)	1 (4.5%)	3 (4.9%)
Leukemia		1 (0.7%)	1 (4.5%)	
Skin				1 (1.6%)
Brain				
Thyroid	14 (6.8%)			1 (1.6%)
Bone		1 (0.7%)		
Kidney	2 (1.0%)	1 (0.7%)	1 (4.5%)	1 (1.6%)
Others	10 (4.9%)	14 (10.4%)	1 (4.5%)	3 (4.9%)
Unknown	2 (1.0%)	9 (6.7%)	1 (4.5%)	1 (1.6%)
Lesions	205 (100%)	134 (100%)	22 (100%)	61 (100%)
Cases	190	123	21	28

Table 13) Location of tumor

Location	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
Pharynx	0	8 (1.4%)	1 (0.9%)	8 (0.4%)	17 (0.6%)
Cervical esophagus	2 (0.9%)	47 (8.3%)	9 (8.2%)	92 (4.8%)	150 (5.3%)
Upper thoracic eso.	27 (11.6%)	106 (18.8%)	18 (16.4%)	188 (9.8%)	339 (12.0%)
Middle thoracic eso.	130 (56.0%)	289 (51.2%)	55 (50.0%)	1018 (52.9%)	1492 (52.7%)
Lower thoracic eso.	51 (22.0%)	92 (16.3%)	22 (20.0%)	467 (24.3%)	632 (22.3%)
Abdominal esophagus	8 (3.4%)	13 (2.3%)	3 (2.7%)	109 (5.7%)	133 (4.7%)
EG-Junction (E=G)	0	0	1 (0.9%)	17 (0.9%)	18 (0.6%)
Cardia (G)	0	0	0	5 (0.3%)	5 (0.2%)
Unknown	14 (6.0%)	9 (1.6%)	1 (0.9%)	19 (1.0%)	43 (1.5%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

Table 14) Longitudinal tumor length on esophagography

Length	Endiscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
not examined	65 (28.0%)	21 (3.7%)	0	46 (2.4%)	81 (3.2%)
~1cm	11 (4.7%)	7 (1.2%)	3 (2.7%)	25 (1.3%)	39 (1.6%)
~2cm	18 (7.8%)	13 (2.3%)	3 (2.7%)	97 (5.0%)	121 (4.8%)
~3cm	26 (11.2%)	38 (6.7%)	8 (7.3%)	193 (10.0%)	208 (8.3%)
~4cm	11 (4.7%)	35 (6.2%)	6 (5.5%)	216 (11.2%)	248 (9.9%)
~5cm	14 (6.0%)	51 (9.0%)	5 (4.5%)	234 (12.2%)	269 (10.8%)
~6cm	11 (4.7%)	64 (11.3%)	17 (15.5%)	260 (13.5%)	324 (12.9%)
~7cm	4 (1.7%)	57 (10.1%)	17 (15.5%)	199 (10.3%)	244 (9.8%)
~8cm	8 (3.4%)	53 (9.4%)	13 (11.8%)	156 (8.1%)	216 (8.6%)
~9cm	9 (3.9%)	51 (9.0%)	11 (10.0%)	128 (6.7%)	179 (7.2%)
~10cm	3 (1.3%)	31 (5.5%)	4 (3.6%)	54 (2.8%)	101 (4.0%)
~11cm	9 (3.9%)	32 (5.7%)	6 (5.5%)	56 (2.9%)	96 (3.8%)
~12cm	3 (1.3%)	14 (2.5%)	3 (2.7%)	19 (1.0%)	27 (1.1%)
~13cm	2 (0.9%)	10 (1.8%)	2 (1.8%)	14 (0.7%)	24 (1.0%)
~14cm	3 (1.3%)	5 (0.9%)	0	9 (0.5%)	21 (0.8%)
~15cm	1 (0.4%)	6 (1.1%)	1 (0.9%)	2 (0.1%)	9 (0.4%)
~16cm	0	11 (2.0%)	0	4 (0.2%)	13 (0.5%)
~17cm	0	1 (0.2%)	0	3 (0.2%)	0
17.1cm~	0	1 (0.2%)	1 (0.9%)	3 (0.2%)	7 (0.3%)
Unknown	34 (14.7%)	63 (11.2%)	10 (9.1%)	205 (10.7%)	244 (9.8%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2502 (100%)

Table 15) Endoscopic features

Type	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
Not examined	0	3 (0.5%)	1 (0.9%)	7 (0.3%)	11 (0.4%)
0-I	7 (3.0%)	20 (3.5%)	5 (4.5%)	98 (5.1%)	130 (4.6%)
0-IIa	18 (7.8%)	16 (2.8%)	6 (5.5%)	117 (6.1%)	157 (5.5%)
0-IIb	35 (15.1%)	7 (1.2%)	1 (0.9%)	51 (2.7%)	94 (3.3%)
0-IIc	101 (43.5%)	64 (11.3%)	11 (10.0%)	280 (14.6%)	456 (16.1%)
0-III	0	3 (0.5%)	0	17 (0.9%)	20 (0.7%)
0-V	0	1 (0.2%)	0	6 (0.3%)	7 (0.2%)
1	1 (0.4%)	47 (8.3%)	5 (4.5%)	150 (7.8%)	203 (7.2%)
2	12 (5.2%)	125 (22.2%)	28 (25.5%)	588 (30.6%)	753 (26.6%)
3	45 (19.4%)	225 (39.9%)	43 (39.1%)	492 (25.6%)	805 (28.5%)
4	4 (1.7%)	19 (3.4%)	3 (2.7%)	31 (1.6%)	57 (2.0%)
5	1 (0.4%)	10 (1.8%)	3 (2.7%)	16 (0.8%)	30 (1.1%)
Unkown	8 (3.4%)	24 (4.3%)	4 (3.6%)	70 (3.6%)	106 (3.7%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

0- I : superficical and protruding type
0- IIa : superficical and slight elevated type
0- IIb : superficical and flat type
0- IIc : superficical and slightly depressed
0- III : superficical and distinctly depressed

1 : protruding type
2 : ulcerative and localized type
3 : ulcerative and infiltrating type
4 : diffusely infiltrating type
5 : miscellameous type

Table 16) Histologic types of biopsy

Histologic types		Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
				Palliative operation	Esophagectomy	
Not examined		20 (8.6%)	9 (1.6%)	2 (1.8%)	26 (1.4%)	57 (2.0%)
SCC	SCC	112 (48.3%)	227 (40.2%)	52 (47.3%)	795 (41.3%)	1186 (41.9%)
	Well diff.	22 (9.5%)	51 (9.0%)	6 (5.5%)	227 (11.8%)	306 (10.8%)
	Moderately diff	49 (21.1%)	154 (27.3%)	37 (33.6%)	535 (27.8%)	775 (27.4%)
	Poorly diff.	12 (5.2%)	77 (13.7%)	10 (9.1%)	180 (9.4%)	279 (9.9%)
Adenocarcinoma		3 (1.3%)	8 (1.4%)	0	28 (1.5%)	39 (1.4%)
Undifferenciated		0	4 (0.7%)	0	7 (0.4%)	11 (0.4%)
So-called carcinosarcoma		0	1 (0.2%)	0	8 (0.4%)	9 (0.3%)
Malignant .melanoma		0	0	0	3 (0.2%)	3 (0.1%)
Others		1 (0.4%)	4 (0.7%)	1 (0.9%)	12 (0.6%)	18 (0.6%)
Dysplasia		1 (0.4%)	0	0	0 Å@	1 (0.04%)
Unknown		12 (5.2%)	29 (5.1%)	2 (1.8%)	102 (5.3%)	145 (5.1%)
Total		232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

Table 17) Depth of tumor invasion cT (Clinical TNM-classification)

cT	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
cTx	3 (1.3%)	7 (1.2%)	0	8 (0.4%)	18 (0.6%)
cT0	1 (0.4%)	4 (0.7%)	0	16 (0.8%)	21 (0.7%)
cTis	68 (29.3%)	2 (0.4%)	3 (2.7%)	56 (2.9%)	129 (4.6%)
cT1	43 (18.5%)	43 (7.6%)	11 (10.0%)	277 (14.4%)	374 (13.2%)
cT1a	32 (13.8%)	6 (1.1%)	3 (2.7%)	40 (2.1%)	81 (2.9%)
cT1b	13 (5.6%)	46 (8.2%)	7 (6.4%)	202 (10.5%)	268 (9.5%)
cT2	6 (2.6%)	73 (12.9%)	13 (11.8%)	341 (17.7%)	433 (15.3%)
cT3	29 (12.5%)	174 (30.9%)	27 (24.5%)	735 (38.2%)	965 (34.1%)
cT4	26 (11.2%)	174 (30.9%)	41 (37.3%)	180 (9.4%)	421 (14.9%)
Unknown	11 (4.7%)	35 (6.2%)	5 (4.5%)	68 (3.5%)	119 (4.2%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

Table 18) Lymph node metastasis, cN; and Organ metastasis, cM (Clinical TNM-classification)

cN	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
cNx	17 (7.3%)	41 (7.3%)	4 (3.6%)	57 (3.0%)	119 (4.2%)
cN0	169 (72.8%)	207 (36.7%)	28 (25.5%)	940 (48.9%)	1344 (47.5%)
cN1	34 (14.7%)	278 (49.3%)	73 (66.4%)	852 (44.3%)	1237 (43.7%)
Unknown	12 (5.2%)	38 (6.7%)	5 (4.5%)	74 (3.8%)	129 (4.6%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

cM	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
cMx	1 (0.4%)	11 (2.0%)	0	3 (0.2%)	15 (0.5%)
cM0	203 (87.5%)	393 (69.7%)	80 (72.7%)	1712 (89.0%)	2388 (84.4%)
cM1	2 (0.9%)	12 (2.1%)	0	11 (0.6%)	25 (0.9%)
cM1a	2 (0.9%)	27 (4.8%)	5 (4.5%)	61 (3.2%)	95 (3.4%)
cM1b	15 (6.5%)	92 (16.3%)	21 (19.1%)	81 (4.2%)	209 (7.4%)
Unknown	9 (3.9%)	29 (5.1%)	4 (3.6%)	55 (2.9%)	97 (3.4%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

Table 19) Metastatic Organs of cM1 (Clinical TNM classification)

Metastatic organs	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
PUL	4	(12.1%)	22	(11.3%)	5	(13.1%)	9	(4.1%)	40	(8.3%)
OSS	2	(6.1%)	13	(6.7%)	3	(7.9%)	2	(0.9%)	20	(4.1%)
HEP	10	(30.3%)	34	(17.5%)	5	(13.2%)	13	(6.0%)	62	(12.8%)
BRA	1	(3.0%)	4	(2.1%)	1	(2.6%)	2	(0.9%)	8	(1.7%)
LYM	3	(9.1%)	57	(29.4%)	13	(34.2%)	101	(46.3%)	174	(36.0%)
MAR	0		0		0		0		0	
PLE	0		0		1	(2.6%)	2	(0.9%)	3	(0.6%)
PER	0		1	(0.5%)	0		0		1	(0.2%)
SKI	0		0		0		0		0	
OTH	0		3	(1.5%)	4	(10.5%)	3	(1.4%)	10	(2.1%)
Unknown	13	(39.4%)	60	(30.9%)	6	(15.8%)	86	(39.5%)	165	(34.2%)
Lesions	33	(100%)	194	(100%)	38	(100%)	218	(100%)	483	(100%)
One organ	16	(51.6%)	85	(50.3%)	18	(60.0%)	119	(66.3%)	238	(54.0%)
Two organs	1	(3.2%)	22	(13.0%)	4	(13.3%)	5	(2.6%)	32	(7.3%)
Three organs	1	(3.2%)	2	(1.2%)	2	(6.7%)	1	(0.5%)	6	(1.4%)
Four organs~	0		0		0		0		0	
Unknown	13	(41.9%)	60	(35.5%)	6	(20.0%)	86	(30.6%)	165	(37.4%)
Total cases	31	(100%)	169	(100%)	30	(100%)	211	(100%)	441	(100%)

Table 20) Clinical Stage (clinical TNM-classificacation)

cStage	Endoscopic treatment	Chemotherapy and/or radiotherapy	Surgery		Total (%)
			Palliative operation	Esophagectomy	
0	69 (29.7%)	4 (0.7%)	3 (2.7%)	68 (3.5%)	144 (5.1%)
I	83 (35.8%)	79 (14.0%)	11 (10.0%)	412 (21.4%)	585 (20.7%)
IIA	11 (4.7%)	73 (12.9%)	8 (7.3%)	396 (20.6%)	488 (17.2%)
IIB	3 (1.3%)	30 (5.3%)	12 (10.9%)	211 (11.0%)	256 (9.0%)
III	24 (10.3%)	170 (30.1%)	43 (39.1%)	538 (28.0%)	775 (27.4%)
IV	1 (0.4%)	12 (2.1%)	0	10 (0.5%)	23 (0.8%)
IVA	2 (0.8%)	26 (4.6%)	5 (4.5%)	60 (3.1%)	93 (3.3%)
IVB	15 (6.5%)	91 (16.1%)	21 (19.1%)	80 (4.2%)	207 (7.3%)
Unknown	24 (10.3%)	79 (14.0%)	7 (6.4%)	148 (7.7%)	258 (9.1%)
Total	232 (100%)	564 (100%)	110 (100%)	1923 (100%)	2829 (100%)

II. Clinical Results of Patients treated with Endoscopically in 1996

Table 21) Treatment details in patients with endoscopic treatment

Treatment details	Cases (%)
Endoscopic treatment only	164 (70.7%)
Endoscopic treatment + Radiotherapy	33 (3.4%)
Endoscopic treatment + Chemotherapy	8 (14.2%)
Endoscopic treatment + Hyperthermia	0
Endoscopic treatment + Chemoradiotherapy	25 (10.8%)
Unknown	2 (0.9%)
Total	232 (100%)

Treatment details	Cases (%)
EMR	161 (69.4%)
EMR+PDT	2 (0.9%)
YAG laser	1 (0.4%)
YAG laser + esophageal stenting	3 (0.4%)
Esophageal stenting	62 (26.7%)
Esophageal stenting + tracheal stenting	1 (0.4%)
Esophageal stenting + hyperthermia	1 (0.4%)
Others	1 (0.4%)
Unknown	2 (0.9%)
Total	232 (100%)

EMR: endoscopic mucosal resection
PDT: photodynamic treatment

Table 22) Endoscopic mucosal resection (EMR)

Method of EMR	Cases	(%)
One piece resection	68	(41.7%)
Piecemeal resection	78	(47.9%)
Failure	1	(0.6%)
Unknown	16	(9.8%)
Total	163	(100%)

No. of lesions treated by EMR	Cases	(%)
1	107	(65.6%)
2	16	(9.8%)
3	12	(7.4%)
4	7	(4.3%)
5	2	(1.2%)
6	1	(0.6%)
7	0	
8	0	
9	0	
10 and/or over	0	
Unknown	18	(11.0%)
Total	163	(100%)

Radicality of EMR	Cases	(%)
Complete resection	175	(82.8%)
Non-complete resection	15	(9.2%)
Unknown	13	(8.0%)
Total	163	(100%)

Complications of EMR	Cases	(%)
(-)	150	(92.0%)
Perforation	2	(1.2%)
Bleeding	2	(1.2%)
Mediastinitis	0	(3.1%)
Stenosis	5	
Others	1	(0.6%)
Unknown	3	(1.8%)
Total	163	(100%)

Table 23) Prognosis of patients underwent endoscopic mucosal resection (EMR)

Outcome	Cases (%)
Alive	141 (86.5%)
Dead	10 (6.1%)
Lost of follow up	10 (6.1%)
Unknown	2 (1.2%)
Total	163 (100%)

Causes of Death	Cases (%)
Death due to esophageal cancer	1 (10.0%)
Death due to other cancer	8 (80.0%)
Death due to other disease (rec+)	0
Death due to other disease (rec-)	1 (10.0%)
Death due to other disease (rec?)	0
Death related to treatment within 30days	0
Death related to treatment after 30 days	0
Total	10 (100%)

Type of recurrence	Cases (%)
None	137 (84.0%)
Lymph node	1 (0.6%)
Lung	1 (0.6%)
Liver	1 (0.6%)
Bone	0
Brain	0
Local	4 (2.5%)
Dissemination	0
Stump	1 (0.6%)
Other	1 (0.6%)
Unknown	17 (10.4%)
Total	163 (100%)

rec : reccurence

Table 24) Histologic findings of EMR specimen (tumor size, histologic type, and depth of tumor invasion)

Size of lesion	Cases	(%)
~ 9mm	16	(9.8%)
10 ~19mm	36	(22.1%)
20~29mm	29	(17.8%)
30~39mm	12	(7.4%)
40~49mm	6	(3.7%)
50~59mm	4	(2.5%)
60~69mm	1	(0.6%)
70mm~`	1	(0.6%)
Unknown	58	(35.6%)
Total	163	(100%)

Histologic type of EMR specimen	Cases	(%)
Not examined	2	(1.2%)
Squamous cell ca (SCC)	91	(55.8%)
Well diff. SCC	17	(10.4%)
Moderately diff. SCC	36	(22.1%)
Poorly diff. SCC	5	(3.1%)
Barrett's carcinoma	1	(0.6%)
Basoloid Ca	1	(0.6%)
So-called Carcinosarcoma	1	(0.6%)
Dysplasia	3	(1.8%)
Others	2	(1.2%)
Unknown	4	(2.5%)
Total	163	(100%)

Pathological depth of tumor invasion (pT)	Cases	(%)
Not examined	2	(1.2%)
pTis	62	(38.1%)
pT1a(lpm)	22	(13.5%)
pT1a(mm)	33	(20.2%)
pt1b	16	(9.8%)
Unknown	28	(17.2%)
Total	163	(100%)

Sub-classification of histologic depth of invasion in superficial cancer	Cases	(%)
m1(ep)	62	(38.1%)
m2(lpm)	22	(13.5%)
m3(mm)	33	(20.2%)
sm1	6	(3.7%)
sm2	5	(3.1%)
sm3	2	(1.2%)
Unknown	33	(20.2%)
Total	163	(100%)

ep: epithelium
lpm: lamina propria mucosa
mm: muscularis mucosa

Table 25) Histologic findings of EMR specimen (intraepithelial spread, vessel invasion, multiple cancer, and multiple lesion)

Intraepithelial spread (ie)	Cases (%)
(-)	40 (24.5%)
(+)	8 (4.9%)
(+++) superficial spread	1 (0.6%)
Unknown	114 (69.9%)
Total	163 (100%)

Lympatic vessel invasion (ly)	Cases (%)
(-)	86 (52.8%)
(+)	6 (3.7%)
Unknown	71 (43.6%)
Total	163 (100%)

Blood vessel invasion (v)	Cases (%)
(-)	89 (54.6%)
(+)	3 (1.8%)
Unknown	71 (43.6%)
Total	163 (100%)

Multiple primary cancer	Cases (%)
(-)	67 (41.1%)
(+)	19 (11.7%)
Unknown	77 (47.2%)
Total	163 (100%)

Multiple malignant lesions	Cases (%)
(-)	72 (44.2%)
(+)	14 (8.6%)
Unknown	77 (47.2%)
Total	163 (100%)

No. of multiple primary lesions	Cases (%)
2	6 (42.9%)
3	1 (7.1%)
4	3 (21.4%)
Unknown	4 (28.6%)
Total	14 (100%)

Figure 1) Survival of patients treated with endoscopy

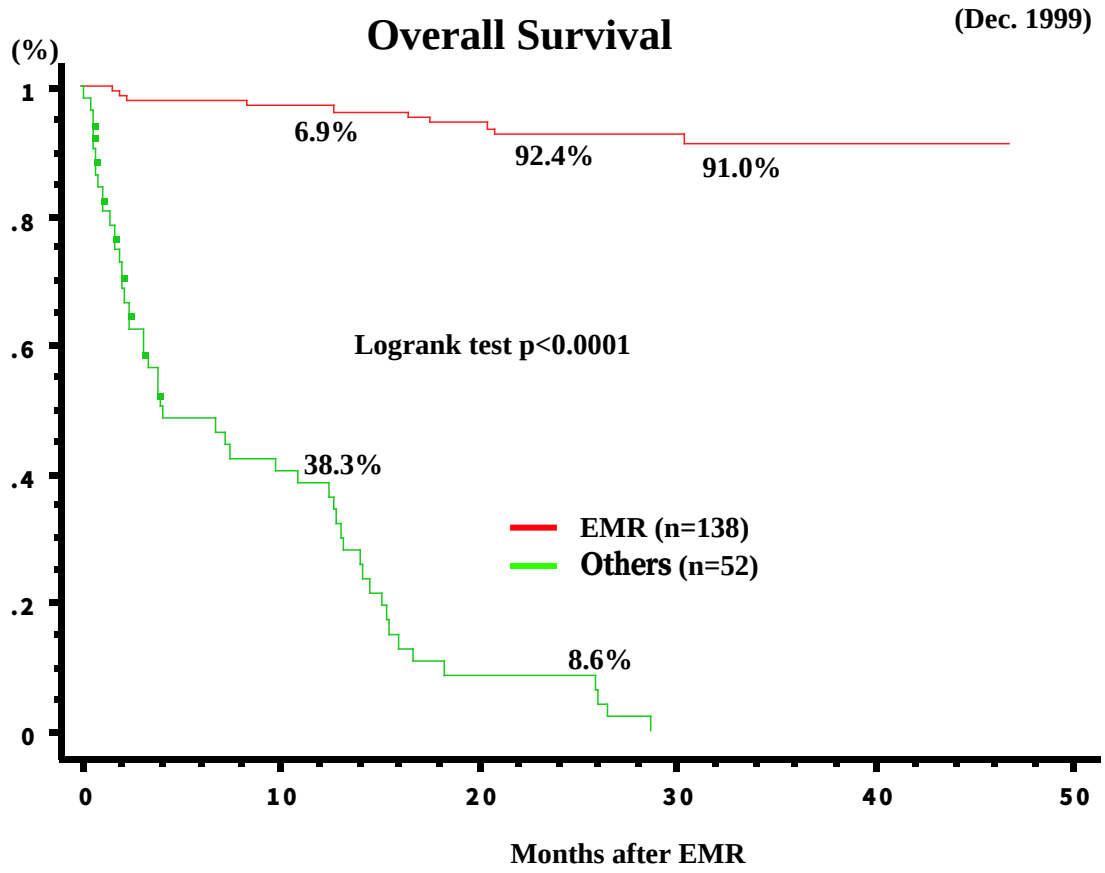


Figure 2) Survival of patients treated with EMR

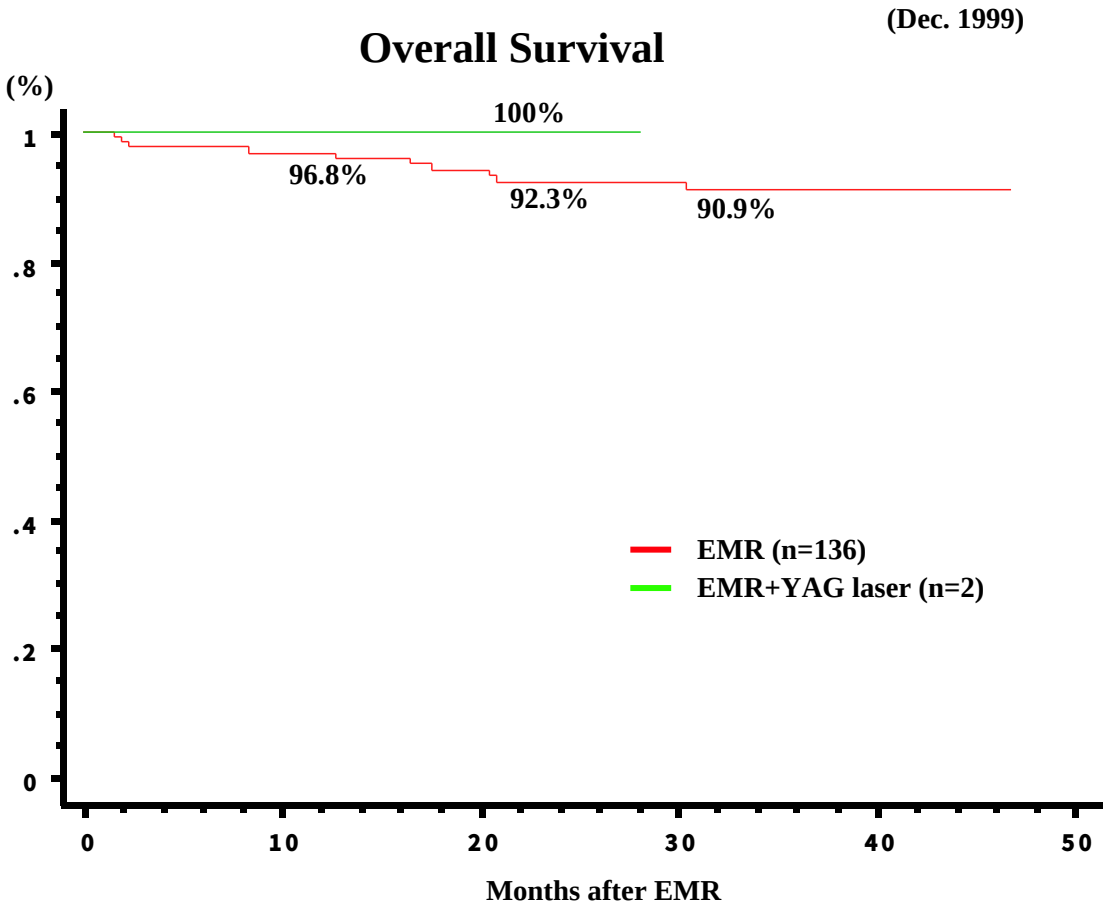
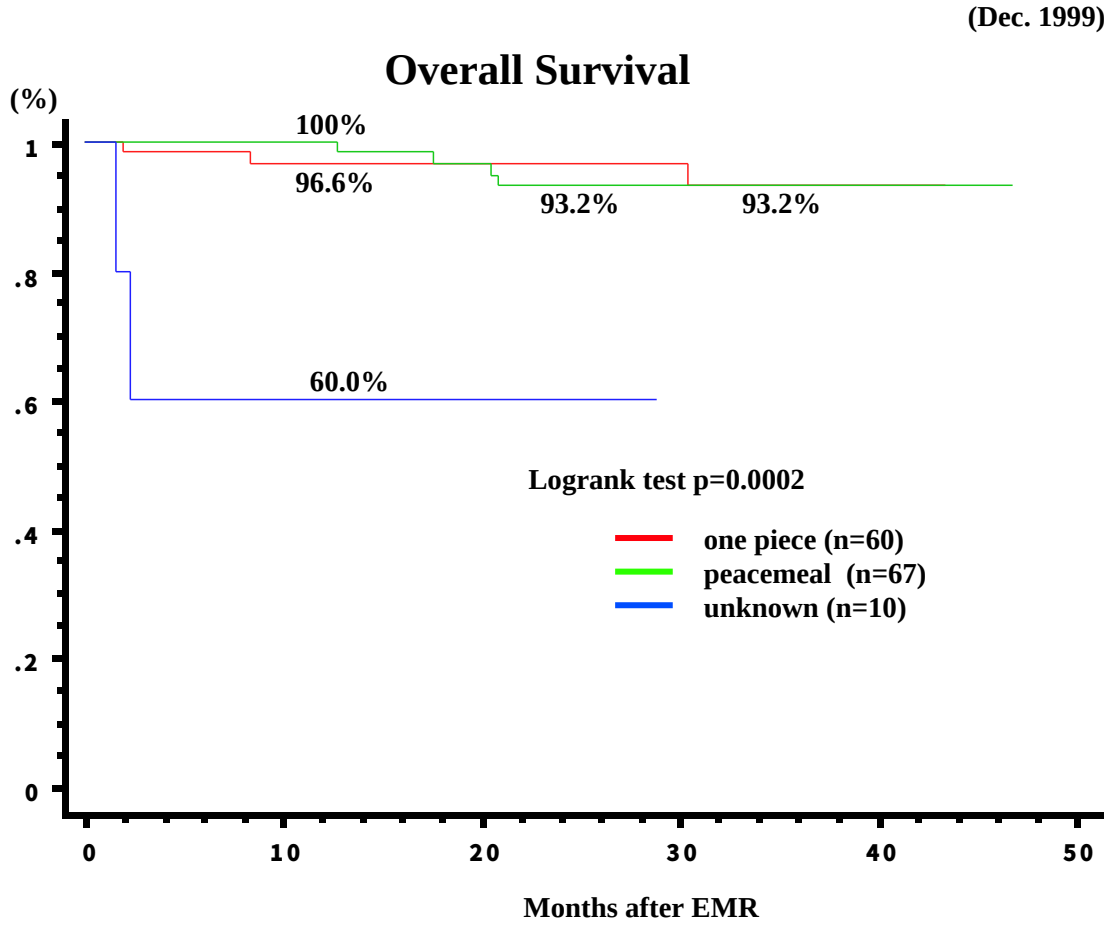


Figure 3) Survival of patients according to type of EMR



III. Clinical Results in Patients treated with Chemotherapy and/or Radiotherapy in 1996

Table 26) Radiotherapy and/or chemotherapy (non surgically treated cases)

Treatment	Cases (%)
Radiotherapy alone	244 (43.3%)
Chemoradiotherapy	256 (45.4%)
Chemotherapy alone	64 (11.3%)
Total	564 (100%)

Radiotherapy	Cases (%)
Non irradiation	59 (10.5%)
Curative radiation	313 (55.5%)
Palliative radiation	176 (31.2%)
Others	7 (1.2%)
Unknown	9 (1.6%)
Total	564 (100%)

Endo-irradiation	Cases (%)
Non irradiation	59 (10.5%)
(-)	334 (59.2%)
(+)	62 (11.0%)
Unknown	109 (19.3%)
Total	564 (100%)

Doses of irradiation (Gy)	Cases (%)
0	59 (10.5%)
~ 19	18 (3.2%)
20 ~ 39	33 (5.9%)
40 ~ 59	85 (15.1%)
60 ~ 79	255 (45.2%)
80 ~ 99	4 (0.7%)
100 ~	5 (0.9%)
Unknown	105 (18.6%)
Total	564 (100%)

Table 27) Effectiveness of radiotherapy and/or chemotherapy (non surgically treated cases)

Chemotherapy	Cases (%)
(-)	240 (42.6%)
(+)	312 (55.3%)
Unknown	12 (2.1%)
Total	564 (100%)

Response to radiotherapy	Cases (%)
CR	61 (25.0%)
PR	69 (28.3%)
NC	26 (10.7%)
PD	10 (4.1%)
Not evaluated	28 (11.5%)
Unknown	50 (20.5%)
Total	244 (100%)

Response to chemoradiotherapy	Cases (%)
CR	36 (14.1%)
PR	109 (42.6%)
NC	40 (15.6%)
PD	25 (9.8%)
Not evaluated	20 (7.8%)
Unknown	26 (10.2%)
Total	256 (100%)

Response to chemotherapy	Cases (%)
CR	2 (3.1%)
PR	15 (23.4%)
NC	19 (29.7%)
PD	10 (15.6%)
Not evaluated	6 (9.4%)
Unknown	12 (18.8%)
Total	64 (100%)

Figure 4) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy

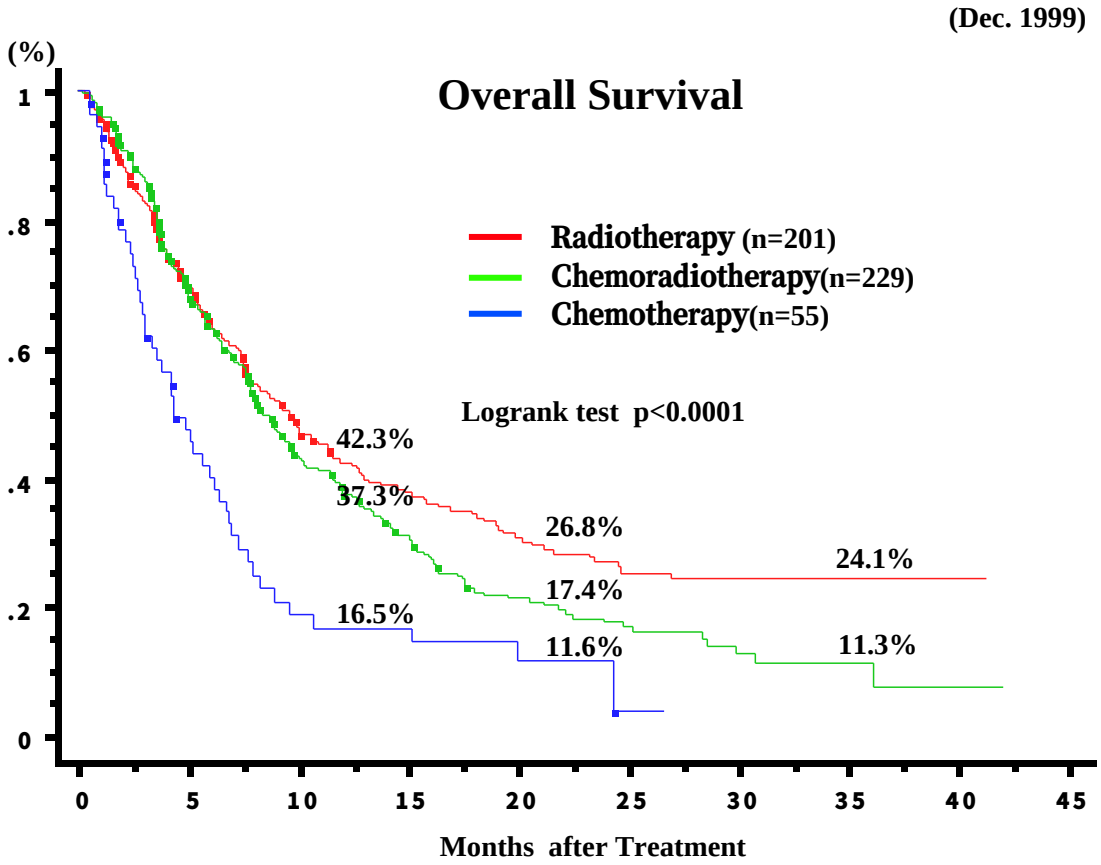
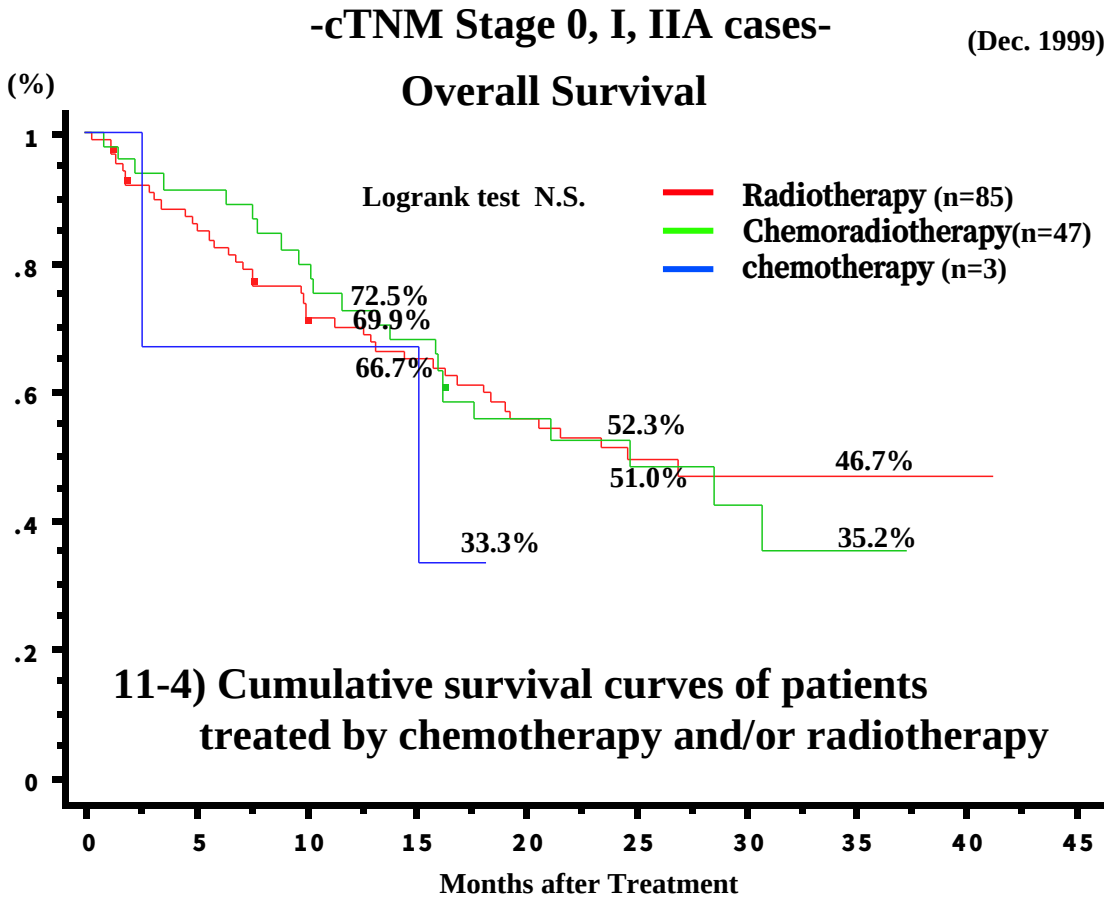
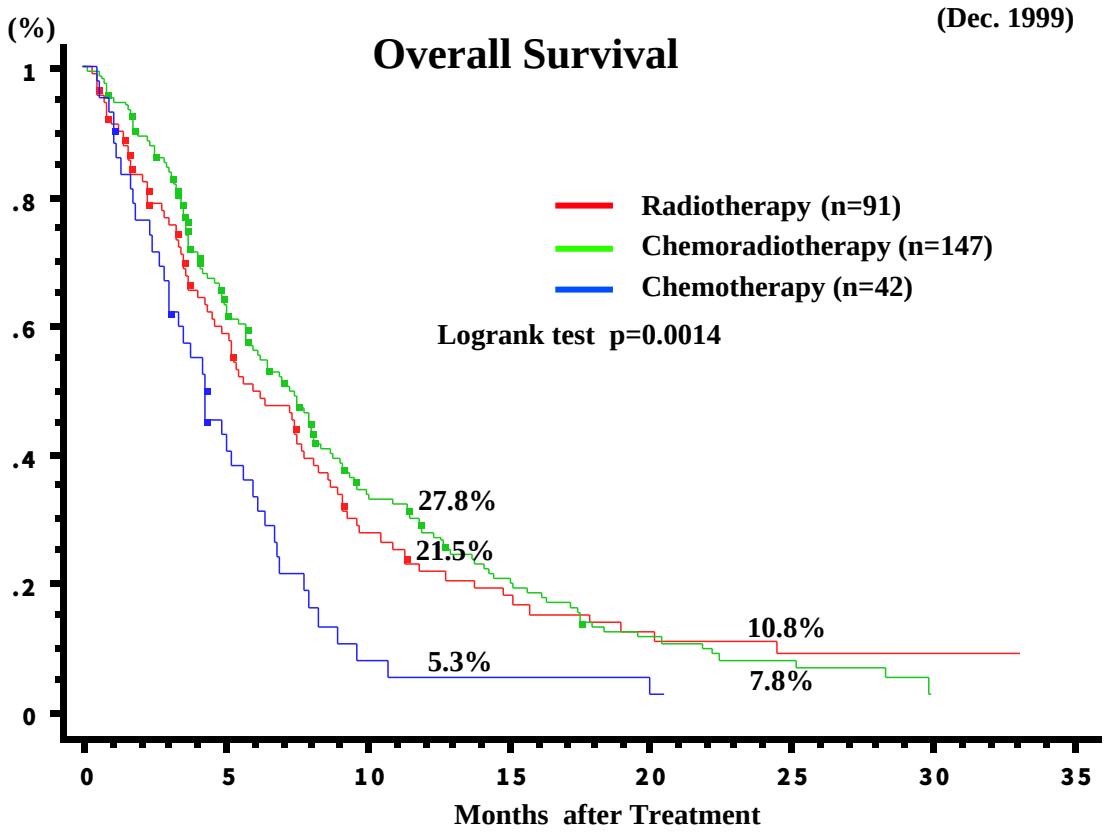


Figure 5) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage 0-IIA)



11-4) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy

Figure 6) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage IIB-IVB)



IV. Clinical Results in Patients treated by Palliative Operation in 1996

Table 28) Palliative operation cases without esophagectomy

Treatment	Cases (%)
Surgery	35 (31.8%)
Surgery +radiotherapy	20 (18.2%)
Surgery +chemoradiotherapy	27 (24.5%)
Surgery + radiotherapy + endoscopic treatment	4 (3.6%)
Surgery + chemotherapy	20 (18.2%)
Surgery + endoscopic treatment	2 (1.8%)
Surgery + other treatment	2 (1.8%)
Total	110 (100%)

Surgical treatment	Cases (%)
Probe thoraco / laparotomy	57 (51.8%)
Bypass-operation	20 (18.2%)
Gastrostomy / Jejunostomy	20 (18.2%)
Lymph adenectomy	10 (9.1%)
Others	3 (2.7%)
Total	110 (100%)

Radiotherapy	Cases (%)
No-irradiation	55 (50.0%)
Curative irradiation	29 (26.4%)
Palliative irradiation	26 (23.6%)
Total	110 (100%)

Total doses (Gy)	Cases (%)
0	57 (51.8%)
2 - 19	0
20 - 39	11 (10.0%)
40 - 59	17 (15.5%)
60 - 79	18 (16.4%)
80 - 99	0
100 - `	3 (2.7%)
Unknown	4 (3.6%)
Total	110 (100%)

Table 29) Effectiveness of treatments (palliative operation cases without esophagectomy)

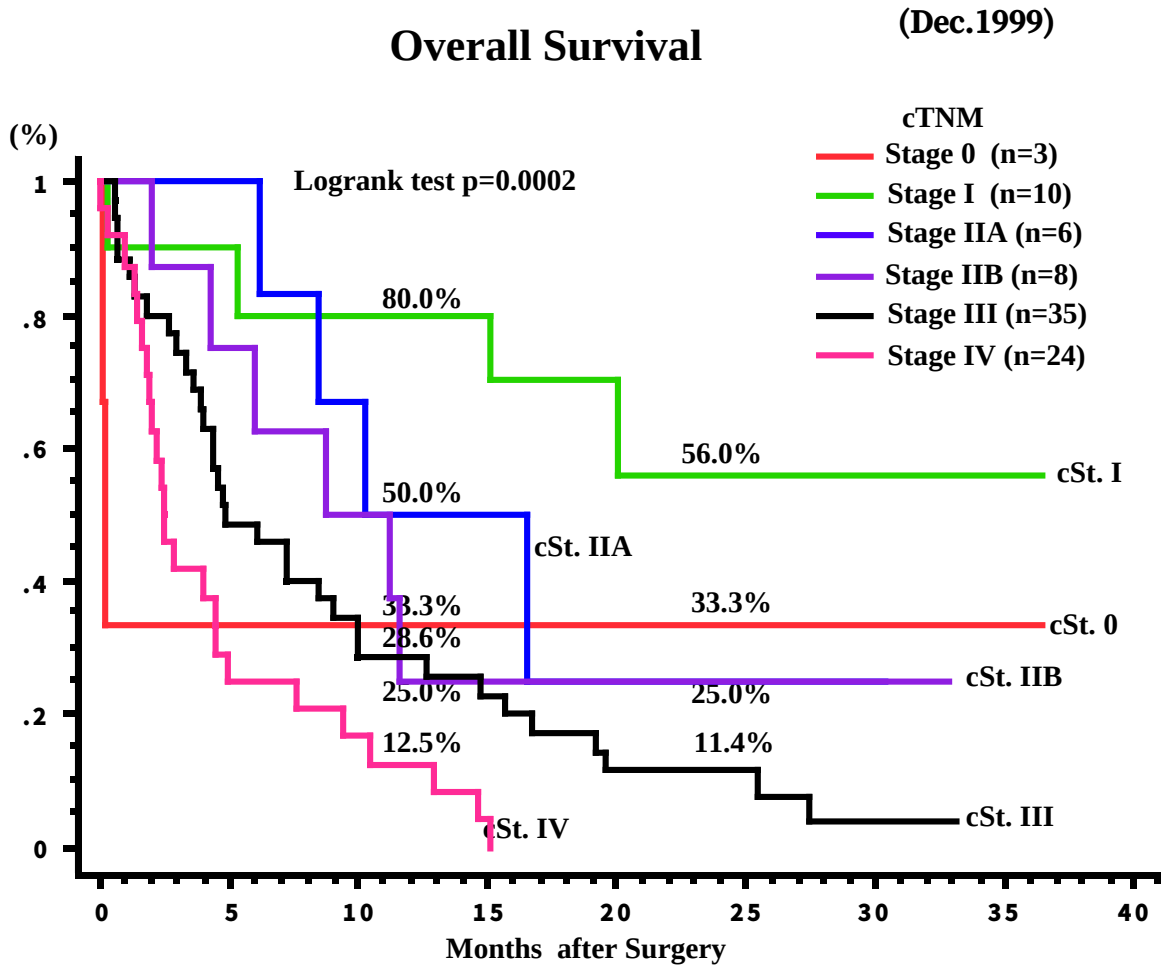
Chemotherapy	Cases (%)
(-)	53 (48.2%)
(+)	57 (51.8%)
Total	110 (100%)

Surg + radiotherapy	Cases (%)
CR	1 (5.0%)
PR	1 (5.0%)
NC	5 (25.0%)
PD	1 (5.0%)
Not evaluated	8 (40.0%)
Unknown	4 (20.0%)
Total	20 (100%)

Surg + chemoradiotherapy	Cases (%)
CR	4 (12.9%)
PR	7 (22.6%)
NC	8 (25.8%)
PD	5 (16.1%)
Not evaluated	3 (9.7%)
Unknown	4 (12.9%)
Total	31 (100%)

Surg + chemotherapy	Cases (%)
CR	1 (5.0%)
PR	3 (15.0%)
NC	8 (40.0%)
PD	0
Not evaluated	3 (15.0%)
Unknown	5 (25.0%)
Total	20 (100%)

Figure 7) Cumurative survival curves of patients treated by palliative surgery (cTNM)



V. Clinical Results in Patients treated with Esophagectomy in 1996

Table 30) Cases of esophagectomy (treatment, surgical procedure, and location of the tumor)

Treatment	Cases	(%)
Esophagectomy	1035	(53.8%)
Esophagectomy + radiotherapy*	252	(13.1%)
Esophagectomy + chemoradiotherapy**	293	(15.2%)
Esophagectomy + chemotherapy	319	(16.6%)
Esophagectomy + endoscopic treatment	23	(1.2%)
Esophagectomy + other treatment	1	(0.6%)
Total	1923	(100%)

* : + hyperthermia (1case), + endoscopic treatment (2cases)
**: + hyperthermia (7cases), + endoscopic treatment (2cases)

Surgical procedures	Cases	(%)
Esophagectomy without reconstruction	4	(0.2%)
Esophagectomy + reconstruction (2-stage operation)	30	(1.6%)
Esophagectomy with reconstruction	1889	(98.2%)
Total	1923	(100%)

Location	Cases	(%)
Pharynx	13	(0.7%)
Cervical esophagus	94	(4.9%)
Upper thoracic esophagus	201	(10.5%)
Middle thoracic esophagus	1019	(53.0%)
Lower thoracic esophagus	457	(23.8%)
Abdominal esophagus	113	(5.9%)
EG Junction	19	(1.0%)
Cardia	6	(0.3%)
Unknown	1	(0.05%)
Total	1923	(100%)

Table 31) Cases of esophagectomy (surgical approach and region of lymphadenectomy)

Approach	Cases	(%)
Cervical approach	66	(3.4%)
Right thoracotomy	1510	(78.5%)
Left thoracotomy	34	(1.8%)
Left thoracoabdominal apprroarch	58	(3.0%)
Laparotomy	28	(1.5%)
Transhiatal (without blunt dissection)	11	(0.6%)
Transhiatal (with blunt dissection)	167	(8.7%)
Sternotomy	8	(0.4%)
Others	19	(1.0%)
Unknown	22	(1.1%)
Total	1923	(100%)

Region of lymphadenectomy	Cases	(%)
(-)	67	(3.5%)
C	58	(3.0%)
C+UM	11	(0.6%)
C+UM+MLM	33	(1.7%)
C+UM+MLM+A	606	(31.5%)
C+UM+A	10	(0.5%)
C+MLM	9	(0.5%)
C+MLM+A	18	(0.9%)
C+A	9	(0.5%)
UM	46	(2.4%)
UM+MLM	656	(34.1%)
UM+MLM+A	4	(0.2%)
MLM+A	26	(1.4%)
MLM	206	(10.7%)
MLM+A	113	(5.9%)
A	51	(2.7%)
Unknown		
Total	1923	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM:middle-lower mediastinal nodes
A:abdominal nodes

Table 32) Cases of esophagectomy (esophageal reconstruction)

Reconstruction route	Cases	(%)
(-)	6	(0.3%)
Antethoracic	276	(14.4%)
Retrosternal	689	(35.8%)
Posterior mediastinal	522	(27.1%)
High intrathoracic*	231	(12.0%)
Low intrathoracic**	83	(4.3%)
Transhiatal	32	(1.7%)
Cervical	41	(2.1%)
Others	3	(0.2%)
Unknown	40	(2.1%)
Total	1923	(100%)

* with upper mediastinal anastomosis

** with middle/lower mediastinal anastomosis

Organs for esophageal replacement	Cases	(%)
(-)	9	(0.5%)
Whole stomach	117	(6.1%)
Gastric tube*	1508	(78.4%)
Jejunum**	94	(4.9%)
Free junum	41	(2.1%)
Colon	117	(6.1%)
Free colon	5	(0.3%)
Skin graft	1	(0.1%)
Others	2	(0.1%)
Unknown	29	(1.5%)
Total	1923	(100%)

* : Gastric tube+Jejunum (3 case), Free jejunum+Gastric tube (4 cases), Gastric tube+Colon (2 case), Gastric tube+Skin tube (1 case),

**: Jujunum+Colon (1 case)

Table 33) Cases of intrathoracic esophagectomy (location of the tumor and reconstrucion route)

Location	Upper thoracic		Middle thortacic		Lower thoracic		Total thoracic	
Reconstruction route	Cases	(%)	Cases	(%)	Cases	(%)	Cases	(%)
(-)	1	(0.5%)	1	(0.1%)	2	(0.4%)	4	(0.2%)
Antethoracic	32	(17.0%)	172	(16.9%)	58	(12.4%)	262	(15.7%)
Retrosternal	76	(40.4%)	408	(40.1%)	166	(35.5%)	650	(38.9%)
Posterior mediastinal	62	(33.0%)	274	(26.9%)	111	(23.8%)	447	(26.7%)
High intrathoracic*	10	(5.3%)	133	(13.1%)	69	(14.8%)	212	(12.7%)
Low intrathoracic**	0		9	(0.9%)	41	(8.8%)	50	(3.0%)
Transhiatal	0		1	(0.1%)	6	(1.3%)	7	(0.4%)
Cervical	0		2	(0.2%)	2	(0.4%)	4	(0.2%)
Others	0		0		1	(0.2%)	1	(0.1%)
Unknown	7	(3.7%)	18	(1.8%)	11	(2.4%)	36	(2.2%)
Total	188	(100%)	1018	(100%)	467	(100%)	1673	(100%)

Table 34) Cases of esophagectomy for external lesion of the thorax (location of the tumor and reconstruction route)

Location	Pharynx		Cervical esophagus		Abdominal esophagus		EGJ/Cardia	
Reconstruction route	Cases	(%)	Cases	(%)	Cases	(%)	Cases	(%)
(-)	0		2	(2.2%)	0		0	
Antethoracic	0		5	(5.4%)	8	(7.3%)	0	
Retrosternal	0		3	(3.3%)	24	(22.0%)	1	(4.5%)
Posterior mediastinal	3	(37.5%)	49	(53.3%)	20	(18.3%)	0	
High intrathoracic*	0		0		14	(12.8%)	4	(18.2%)
Low intrathoracic**	0		0		23	(21.1%)	10	(45.5%)
Transhiatal	0		0		19	(17.4%)	6	(27.3%)
Cervical	5	(62.5%)	31	(33.7%)	0		0	
Others	0		1	(1.1%)	0		1	(4.5%)
Unknown	0		1	(1.1%)	1	(0.9%)	0	
Total	8	(100%)	92	(100%)	109	(100%)	22 *	(100%)

* E=G:17 cases, G:5 casese

Table 35) Cases of intrathoracic esophagectomy (location of the tumor and lymph node dissection)

Location	Upper thoracic		Middle thoracic		Lower thoracic		Total	
Region of lymphadenectomy	Cases	(%)	Cases	(%)	Cases	(%)	Cases	%)
(-)	8	(4.3%)	40	(3.9%)	15	(3.2%)	63	(3.8%)
C	3	(1.6%)	4	(0.4%)	1	(0.2%)	8	(0.5%)
C+UM	1	(0.5%)	0		0		1	(0.1%)
C+UM+MLM	8	(4.3%)	16	(1.6%)	3	(0.6%)	27	(1.6%)
C+UM+MLM+A	99	(52.7%)	349	(34.3%)	128	(27.4%)	576	(34.4%)
C+UM+A	2	(1.1%)	3	(0.3%)	0		5	(0.3%)
C+MLM	0		0		0		0	
C+MLM+A	1	(0.5%)	6	(0.6%)	1	(0.2%)	8	(0.5%)
C+A	2	(1.1%)	4	(0.4%)	3	(0.6%)	9	(0.5%)
UM	2	(1.1%)	3	(0.3%)	2	(0.4%)	7	(0.4%)
UM+MLM	5	(2.7%)	26	(2.6%)	12	(2.6%)	43	(2.6%)
UM+MLM+A	42	(22.3%)	390	(38.3%)	186	(39.8%)	618	(36.9%)
MLM+A	0		2	(0.2%)	2	(0.4%)	4	(0.2%)
MLM	1	(0.5%)	18	(1.8%)	4	(0.9%)	23	(1.4%)
MLM+A	6	(3.2%)	82	(8.1%)	72	(15.4%)	160	(9.6%)
A	3	(1.6%)	47	(4.6%)	28	(6.0%)	78	(4.7%)
Unknown	5	(2.7%)	28	(2.8%)	10	(2.1%)	43	(2.6%)
Total	188	(100%)	1018	(100%)	467	(100%)	1673	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes

Table 36) Cases of esophagectomy for external lesion of the thorax (location of the tumor and lymph node dissection)

Location	Pharynx	Cervical esophagus	Abdominal esophagus	EGJ/Cardia
Region of lymphadenectomy	Cases (%)	Cases (%)	Cases (%)	Cases (%)
(-)	0	1 (1.1%)	2 (1.8%)	1 (4.5%)
C	8 (100%)	41 (44.6%)	0	0
C+UM	0	10 (10.9%)	0	0
C+UM+MLM	0	6 (6.5%)	0	0
C+UM+MLM+A	0	16 (17.4%)	11 (10.0%)	1 (4.5%)
C+UM+A	0	5 (5.4%)	0	0
C+MLM	0	0	0	0
C+MLM+A	0	1 (1.1%)	0	0
C+A	0	8 (8.7%)	1 (0.9%)	0
UM	0	0	0	0
UM+MLM	0	0	3 (2.8%)	0
UM+MLM+A	0	1 (1.1%)	26 (29.4%)	0
MLM+A	0	0	0	0
MLM	0	0	3 (2.8%)	0
MLM+A	0	0	32 (29.4%)	13 (59.1%)
A	0	1 (1.1%)	27 (24.8%)	7 (31.8%)
Unknown	0	2 (2.2%)	4 (3.7%)	0
Total	8 (100%)	92 (100%)	109 (100%)	22* (100%)

*E=G:17cases, G:5cases

Table 37) Cases of esophagectomy (vascular anastomosis and endoscopic surgery)

Vascular anastomosis	Cases (%)
(-)	1757 (91.4%)
(+)	108 (5.6%)
Unknoun	58 (3.0%)
Total	1923 (100%)

Endoscopic surgery	Cases (%)
(-)	1748 (90.9%)
Thoracoscopy	36 (1.9%)
Thoracoscopy assist	44 (2.3%)
Laparoscopy assist	11 (0.6%)
Mediastinoscopy assist	4 (0.2%)
Unknown	80 (4.2%)
Total	1923 (100%)

Table 38) Cases of esophagectomy (operative findings of cT and combined resected organs)

Macroscopic T-category (cT)	Cases	(%)
T0	45	(2.3%)
T1	454	(23.6%)
T2	413	(21.5%)
T3	702	(36.5%)
T4	274	(14.2%)
Unnkown	35	(1.8%)
Total	1923	(100%)

cT4 by metastatic lymph node	Cases	(%)
(-)	1680	(87.4%)
N1(T4)	23	(1.2%)
N2(T4)	64	(3.3%)
N3(T4)	33	(1.7%)
N4(T4)	34	(1.7%)
Nx(T4)	4	(0.2%)
Unnkown	85	(4.4%)
Total	1923	(100%)

Organs*	Cases	(%)
(-)	88	(34.2%)
Larynx	25	(9.7%)
Trachea	16	(6.2%)
Aorta	2	(0.8%)
Lung	28	(10.9%)
Pericardium	11	(4.3%)
Diaphragm	9	(3.5%)
Stomach	10	(3.9%)
Pancreas+spleen	4	(1.6%)
Thoracic duct	27	(10.5%)
Reccurent nerve	3	(1.2%)
Reccurrent nerve (main trunk)	5	(1.9%)
Others	28	(10.9%)
Unkown	1	(0.4%)
Total of resected organs	257	(100%)
Total of cT4 cases	274	

*: Organs resected in addition to the esophagus

Table 39) Cases of esophagectomy (operative findings of the tumor feature and size)

Macroscopic type	Cases	(%)
0-Ip	42	(2.2%)
0-Ipl	65	(3.4%)
0-Isep	26	(1.4%)
0-IIa	116	(6.0%)
0-IIb	65	(3.4%)
0-IIc	274	(14.2%)
0-III	22	(1.1%)
0-V	8	(0.4%)
1p	37	(1.9%)
1c	23	(1.2%)
1pl	65	(3.4%)
1sep	0	
2	537	(27.9%)
3	472	(24.5%)
4s	22	(1.1%)
4ns	7	(0.4%)
5c	13	(0.7%)
5s	0	
5u	43	(2.2%)
Unknown	86	(4.5%)
Total	1923	(100%)

Size of Tumor (mm)	Cases	(%)
~ 9	38	(2.0%)
10~19	147	(7.6%)
20~29	215	(11.2%)
30~39	277	(14.4%)
40~49	318	(16.5%)
50~59	266	(13.8%)
60~69	216	(11.2%)
70~79	137	(7.1%)
80~89	93	(4.8%)
90~99	45	(2.3%)
100~	67	(3.5%)
Unknown	104	(5.4%)
Total	1923	(100%)

0- I : superficical and protruding type
0- IIa : superficical and slight elevated type
0- IIb : superficical and flat type
0- IIc : superficical and slightly depressed
0- III : superficical and distinctly depressed

1 : protruding type
2 : ulcerative and localized type
3 : ulcerative and infiltrating type
4 : diffusely infiltrating type
5 : miscellameous type

Table 40) Histologic types of resected specimen and multiple primary cancer

Histologic types		Cases (%)
Not examined		0
SCC	SCC	128 (6.7%)
	Well diff.	485 (25.2%)
	Moderately diff.	856 (44.5%)
	Poorly diff.	328 (17.1%)
Adenocarcinoma		25 (1.3%)
Barrett's adenocarcinoma		3 (0.2%)
Adenosquamous cell carcinoma		9 (0.5%)
Epidermoid carcinoma		2 (0.1%)
Adenoid cystic carcunoma		8 (0.4%)
Basoloid carcinoma		14 (0.7%)
Undiff. carcinoma (small cell)		8 (0.4%)
Undiff. carcinoma		3 (0.2%)
Sarcoma		6 (0.3%)
So-called carcinosarcoma		1 (0.1%)
True carcinosarcoma		4 (0.2%)
Malignant melanoma		4 (0.2%)
Dysplasia		2 (0.1%)
Other		11 (0.6%)
Unknown		26 (1.4%)
Total		1923 (100%)

Multiple primary cancer	Cases (%)
(-)	1591 (82.7%)
(+)	287 (14.9%)
Unknown	45 (2.3%)
Total	1923 (100%)

Table 41) Pathological findings of resected specimen (residual cancer, intraepithelial spread, and infiltrative growth pattern)

Residual cancer cells at the transected stump

proximal (p)/distal (d)	Cases (%)
p / d (-)	1789 (93.0%)
p / d (+)	69 (3.5%)
Unknown	65 (3.4%)
Total	1923 (100%)

Residual cancer cell in the cut surface of the esophageal wall (ew) of the resected specimen

ew	Cases (%)
ew(-)	1659 (86.3%)
ew(+)	178 (9.3%)
Unknown	86 (4.5%)
Total	1923 (100%)

Intraepithelial spread (ie)

ie	Cases (%)
ie(-)	1047 (54.4%)
ie(+)	656 (34.1%)
ie (++)superficial	55 (2.9%)
Unknown	165 (8.6%)
Total	1923 (100%)

Infiltrative growth pattern (inf)

inf	Cases (%)
inf α	331 (17.2%)
inf β	972 (50.5%)
inf γ	217 (11.3%)
Unknown	403 (21.0%)
Total	1923 (100%)

Table 42) Pathological findings of resected specimen (vessel invasion and intramural metastasis)

Lympatic vessel invasion (ly)		Cases	(%)
ly0		603	(31.4%)
ly(+)	ly(+)	159	(8.3%)
	ly1	541	(28.1%)
	ly2-3	523	(27.2%)
Unknown		97	(5.0%)
Total		1923	(100%)

Blood vessel invasion (v)		Cases	(%)
v0		961	(50.0%)
v(+)	v(+)	93	(4.8%)
	v1	429	(22.3%)
	v2-3	337	(17.5%)
Unknown		103	(5.4%)
Total		1923	(100%)

Intramural metastasis in the esophageal wall (im-e)	Cases	(%)
im-e (-)	1665	(86.6%)
im-e (+)	178	(9.3%)
Unknown	80	(4.2%)
Total	1923	(100%)

Intramural metastasis in the esophageal wall **(**im-st)	Cases	(%)
im-st (-)	1753	(91.2%)
im-st (+)	47	(2.4%)
Unknown	123	(6.4%)
Total	1923	(100%)

Table 43) Pathological findings of resected specimen (pT)

pT-category	Cases	(%)
Not examined	3	(0.2%)
pT0	9	(0.5%)
pTis	53	(2.8%)
pT1a	178	(9.3%)
pT1b	415	(21.6%)
pT2	249	(12.9%)
pT3	762	(39.6%)
pT4	191	(9.9%)
Unknown	63	(3.3%)
Total	1923	(100%)

Subclassification	Cases	(%)
m1 (pTis)*	53	(7.8%)
m2 (pT1a)**	39	(5.7%)
m3 (pT1a)***	139	(20.4%)
sm1(pT1b)	67	(9.9%)
sm2 (pT1b)	131	(19.2%)
sm3 (pT1b)	117	(17.2%)
Unknown (pT1b)	100	(14.7%)
Total	682	(100%)

* ep = epithelium
** lpm = lamina propria mucosa
*** mm = muscularis mucosa

Table 44) Pathological findings of resected specimen (pN)

Lymph node metastasis	Cases	(%)
n(-)	802	(41.7%)
n1+)	116	(6.0%)
n2(+)	497	(25.8%)
n3(+)	251	(13.1%)
n4(+)	170	(8.8%)
Unknown	87	(4.5%)
Total	1923	(100%)

Number of lymph node metastasis	Cases	(%)
0	802	(41.7%)
1~3	496	(25.8%)
4~7	185	(9.6%)
8~	143	(7.4%)
Unknown	297	(15.4%)
Total	1923	(100%)

Table 45) Pathological findings of resected specimen (grade of lymph node metastasis corrected using number of metastasis and fields of lymph node metastasis)

Grade of lymph node metastasis (corrected using number of metastasis)

Grade of metastasis	Cases	(%)
gN0	802	(41.7%)
gN1(n1a)	72	(3.7%)
gN2(n2a)	7	(0.4%)
gN2(n1b)	281	(14.6%)
gN3(n1c)	1	(0.1%)
gN3(n2b)	80	(4.2%)
gN3(n3a)	98	(5.1%)
gN4(n2c)	41	(2.1%)
gN4(n3b)	54	(2.8%)
gN4(n3c)	51	(2.7%)
gN4(n4a)	41	(2.1%)
gN4(n4b)	43	(2.2%)
gN4(n4c)	50	(2.6%)
Unknown	302	(15.7%)
Total	1923	(100%)

Number of lymph node metastasis
a : 1~3
b : 4~7
c : 8~

Fields of lymph node metastasis

Field of metastasis	Cases	(%)
n(-)	802	(41.7%)
C	46	(2.4%)
A+C	47	(2.4%)
A+B+C	57	(2.9%)
B+C	8	(0.4%)
A	215	(11.2%)
A+B	241	(12.5%)
B	210	(10.9%)
Unknown	297	(15.4%)
Total	1923	(100%)

A: mediastinal lymph nodes
B: abdominal lymph nodes
C: cervical lymph nodes

Fig. 8) N-category in Japanese Classification (JSED 1998 ~)

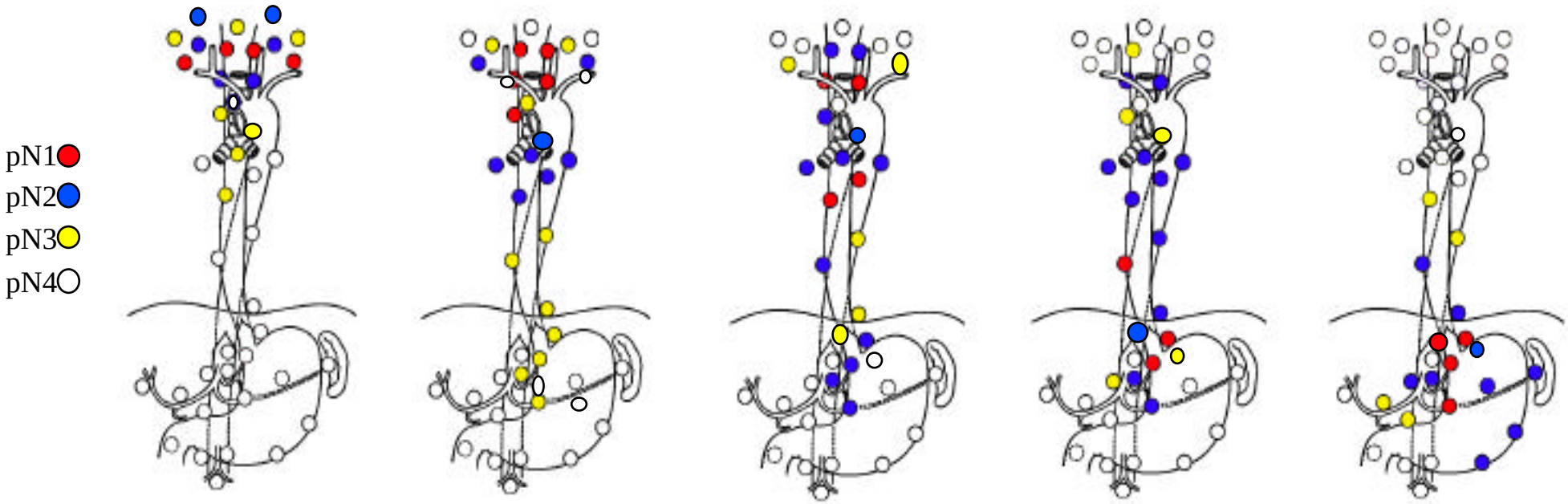


Fig. 9) Grade of metastasis (gN) corrected by number of metastatic node (JSED 1998 ~)

pN-category of JSED	Number of lymph node metastasis			
	0	a:(1~3)	b:(4~7)	c:(8~)
pN0	gN0			
pN1		gN1	gN2	gN3
pN2		gN2	gN3	
pN3		gN3	gN4	
pN4				

Fig. 10) Pathorogical Stage of JSED (1998 ~)

	gN0	gN1	gN2	gN3	gN4	M1
Tis	0					
T1a		I				
T1b	I					
T2		II	III		IVa	IVb
T3						
T4	III					

Table 46) Pathological findings of resected specimen (distant metastasis, stage, grade of dissection, and curability)

Distant metastasias (pM)	Cases	(%)
pM0	1753	(90.2%)
pM1	54	(2.8%)
Unknown	134	(7.0%)
Total	1923	(100%)

Pathological stage	Cases	(%)
0	223	(11.6%)
I	241	(12.5%)
II	350	(18.2%)
III	367	(19.1%)
IVa	298	(15.5%)
IVb	47	(2.4%)
Unknown	397	(20.6%)
Total	1923	(100%)

Grade of dissection (D)	Cases	(%)
D0	207	(10.8%)
DI	170	(8.8%)
DII	584	(30.4%)
DIII	923	(48.0%)
Unknown	39	(2.0%)
Total	1923	(100%)

Curability	Cases	(%)
Absolutely curative (a)	1027	(53.4%)
Relatively curative (b)	543	(28.2%)
Absolutely non-curative (c)	230	(12.0%)
Unknown	123	(6.4%)
Total	1923	(100%)

Table 47) Pathological findings of resected specimen (residual tumor, multiple cancers, and multiple lesions)

Residual tumor (R)	Cases	(%)
R0	1483	(77.1%)
R1	147	(7.6%)
R2	172	(8.9%)
Rx	121	(6.3%)
Total	1923	(100%)

Primary multiple cancers	Cases	(%)
(-)	1555	(80.9%)
(+)	299	(15.5%)
Unknown	69	(3.6%)
Total	1923	(100%)

Multiple malignant lesions	Cases	(%)
(-)	1581	(82.2%)
(+)	265	(13.8%)
Unknown	77	(4.0%)
Total	1923	(100%)

Number of malignant lesions	Cases	(%)
0	1581	(82.2%)
1	63	(3.3%)
2	105	(5.5%)
3	47	(2.4%)
4	17	(0.8%)
5 ~	11	(0.6%)
Unknown	99	(5.1%)
Total	1923	(100%)

Table 48) Adjuvant therapy for cases of esophagectomy

Radiotherapy	Cases	(%)
(-)	1336	(69.5%)
Preoperative	141	(7.3%)
Pre+post-operative	33	(1.7%)
Intraoperative(IOR)	4	(0.2%)
IOR+postoperative	27	(1.4%)
Postoperative	294	(15.3%)
Time to recurrence	84	(4.3%)
Others	4	(0.2%)
Unknown		
Total	1923	(100%)

Doses of irradiation (Gy)	Cases	(%)
0	1336	(69.5%)
~ 19	10	(0.5%)
20 ~ 39	97	(5.0%)
40 ~ 59	277	(14.4%)
60 ~ 79	117	(6.1%)
80 ~ 99	9	(0.5%)
100~	3	(0.2%)
Unknown	74	(3.8%)
Total	1923	(100%)

Chemotherapy	Cases	(%)
(-)	1230	(64.0%)
Preoperative	178	(9.3%)
Pre+post-operative	1	(0.1%)
Intraoperative (IOR)	45	(2.3%)
IOR+postoperative	1	(0.1%)
Postoperative	3	(0.2%)
Time to recurrence	386	(20.1%)
Others	78	(4.0%)
Unknown	1	(0.1%)
Total	1923	(100%)

Type of chemotherapy	Cases	(%)
(-)	1230	(64.0%)
Chemotherapy alone	424	(22.0%)
Concurrent chemoradiotherapy	166	(8.6%)
Sequential chemoradiotherapy	75	(3.9%)
Others	1	(0.1%)
Unknown	27	(1.4%)
Total	1923	(100%)

Table 49) Outcome of cases with esophagectomy

Outcome	Cases (%)
Alive	963 (50.0%)
Dead	840 (43.7%)
Lost of information	79 (4.1%)
Unknown	41 (2.1%)
Total	1923 (100%)

Courses of death	Cases (%)
Death due to recurrence	567 (67.5%)
Death due to other cancer	41 (4.9%)
Death due to other diseases(rec+)	10 (1.2%)
Death due to other diseases(rec-)	48 (5.7%)
Death due to other diseases(rec?)	12 (1.4%)
Operative death*	51 (6.1%)
Postoperative hospital death**	62 (7.4%)
Unknown	49 (5.8%)
Total death cases	840 (100%)

Initial recurrence lesion of death cases	Cases (%)
None	156 (12.9%)
Lymph node	295 (24.4%)
Lung	132 (10.9%)
Liver	131 (10.8%)
Bone	86 (7.1%)
Brain	22 (1.8%)
Primary lesion	110 (9.1%)
Dissemination	69 (5.7%)
Anastomotic region	9 (0.7%)
Others	31 (2.6%)
Unknown	168 (13.9%)
Total of recurrence lesion	1161 (100%)
Total death cases	840

* Death within 30 days
** Death over 30 days

Figure 11) Overall survival curves of patients treated by esophagectomy (1996)

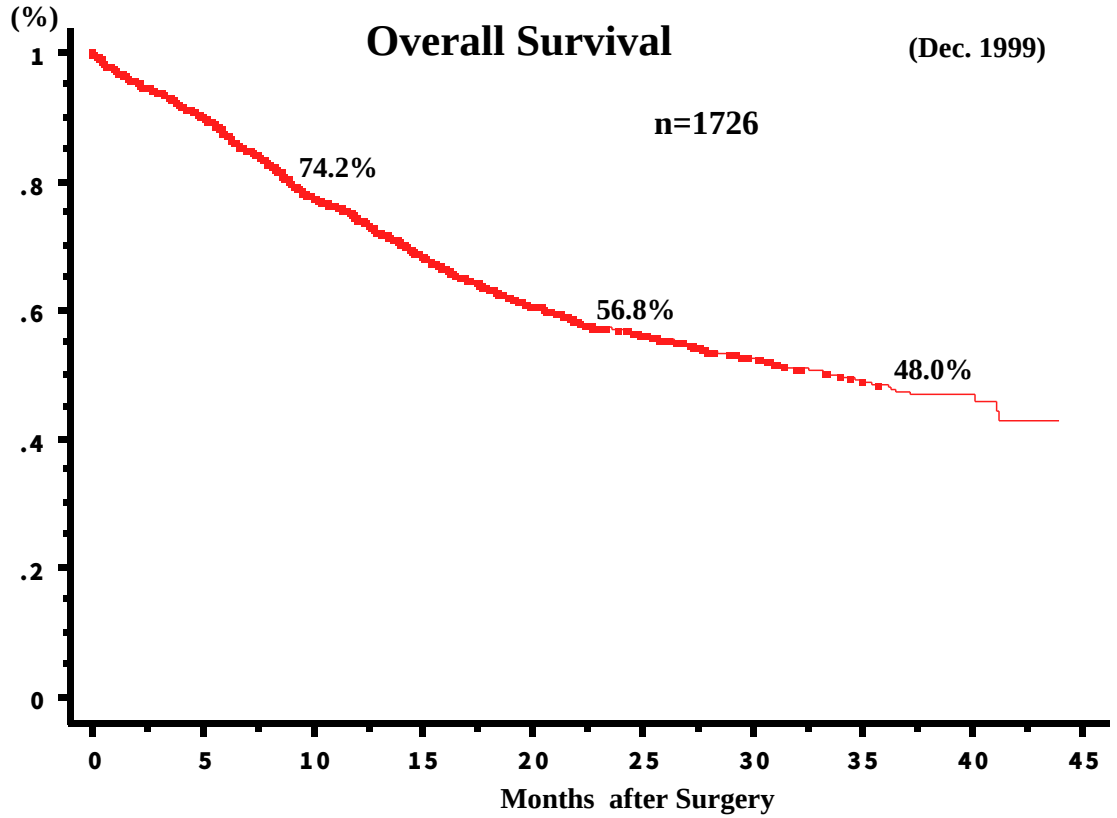


Figure 12) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)

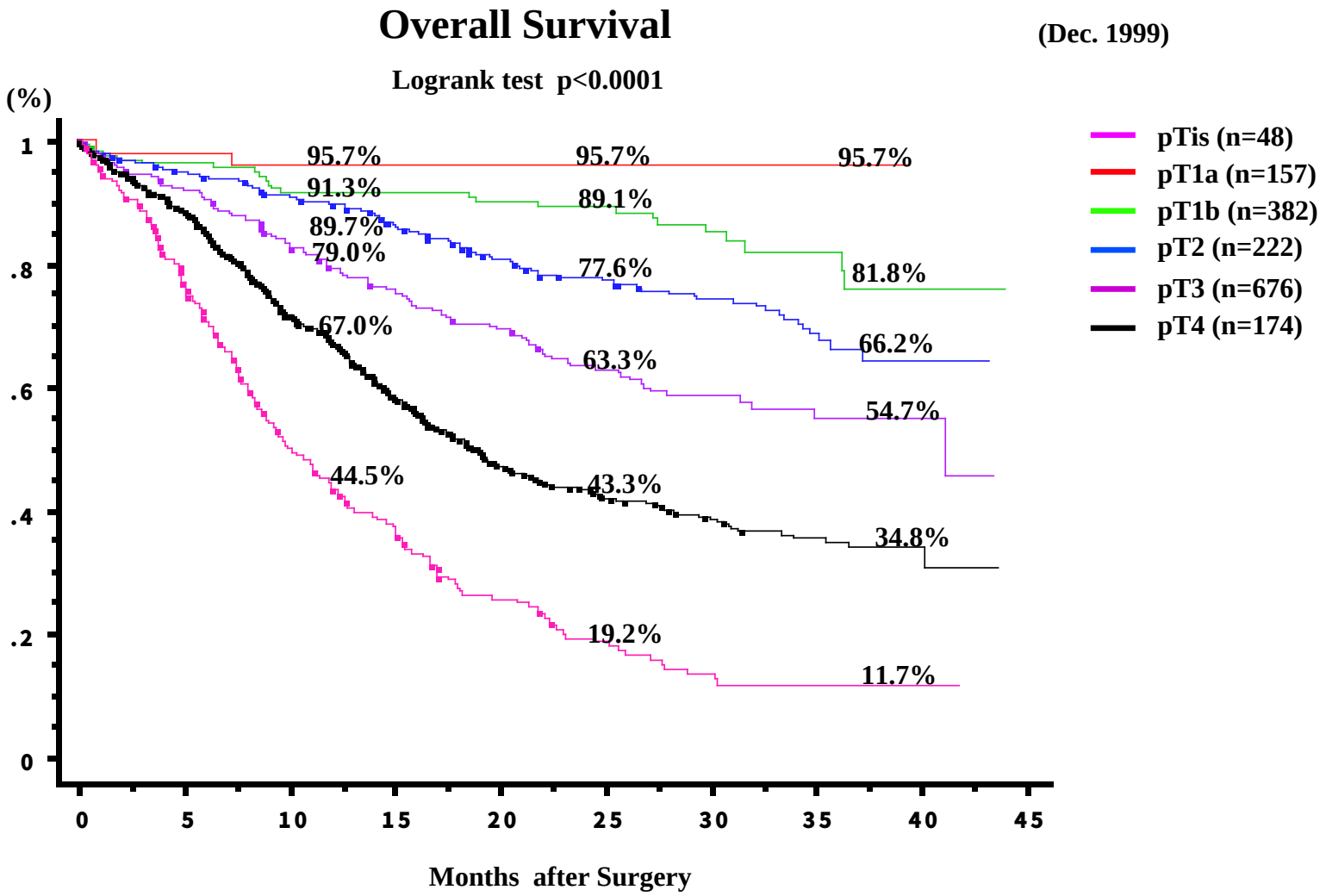


Figure 13) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN)

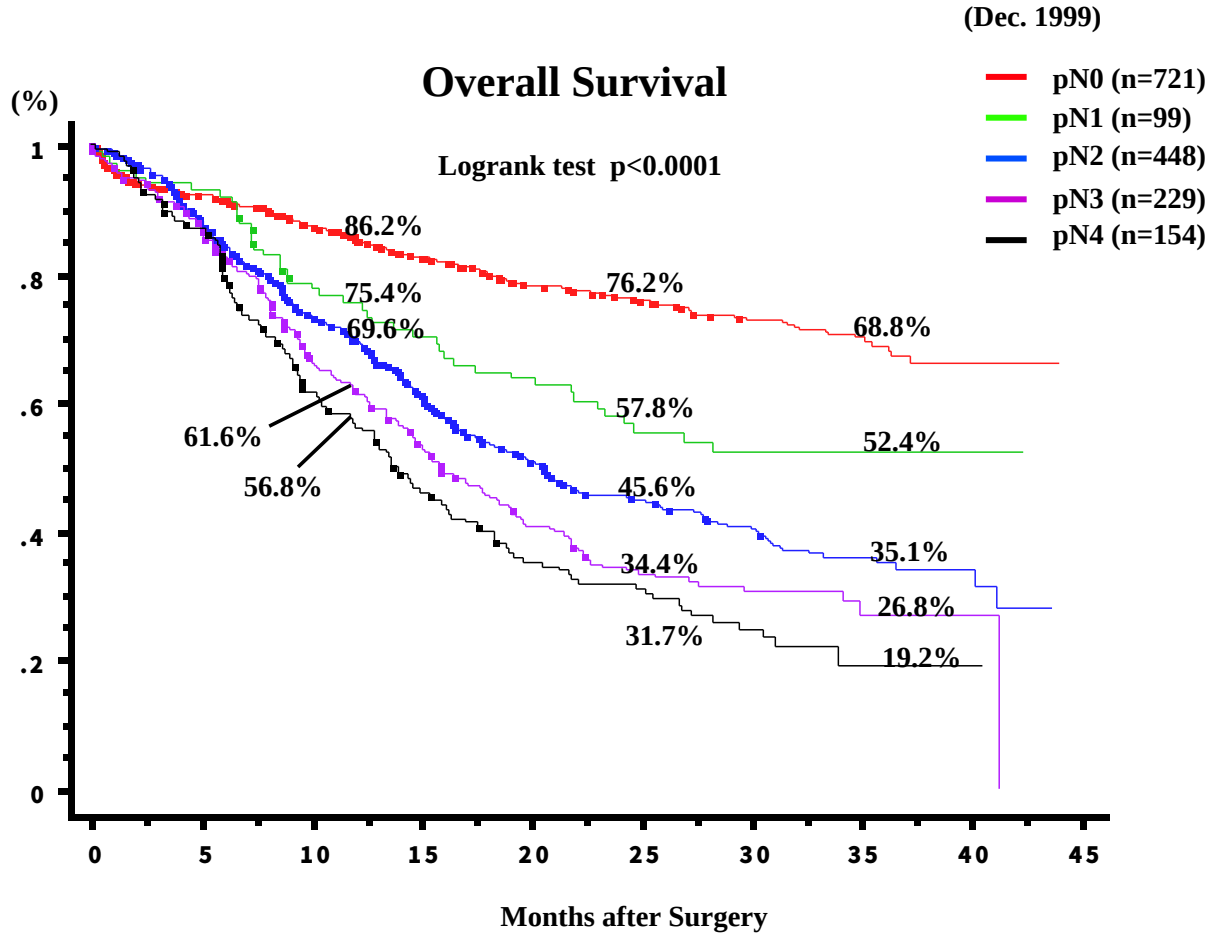


Figure 14) Survival of patients treated by esophagectomy in relation to pathological stage

(Dec. 1999)

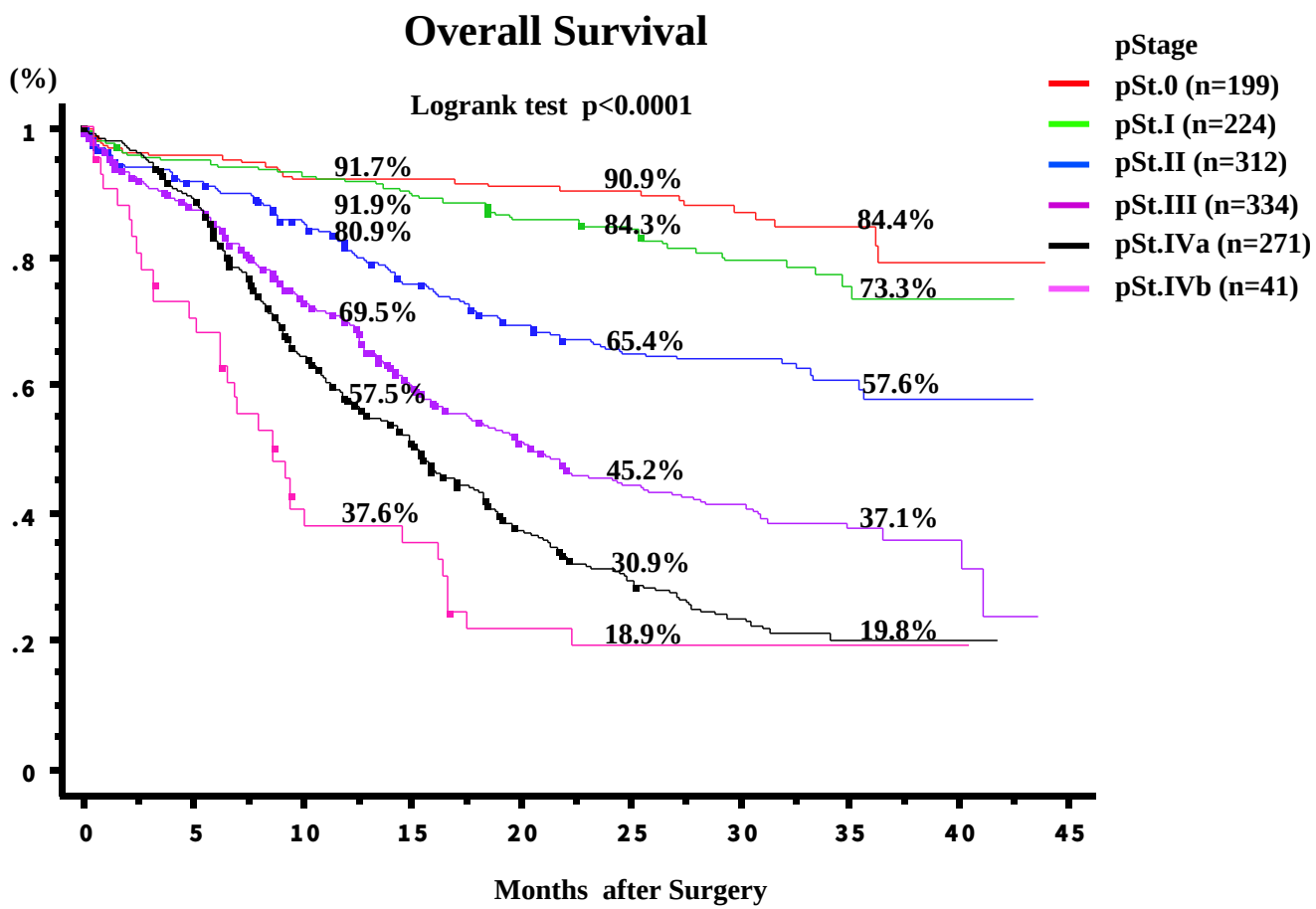


Figure 15) Survival of patients treated by esophagectomy in relation to residual tumor (R)

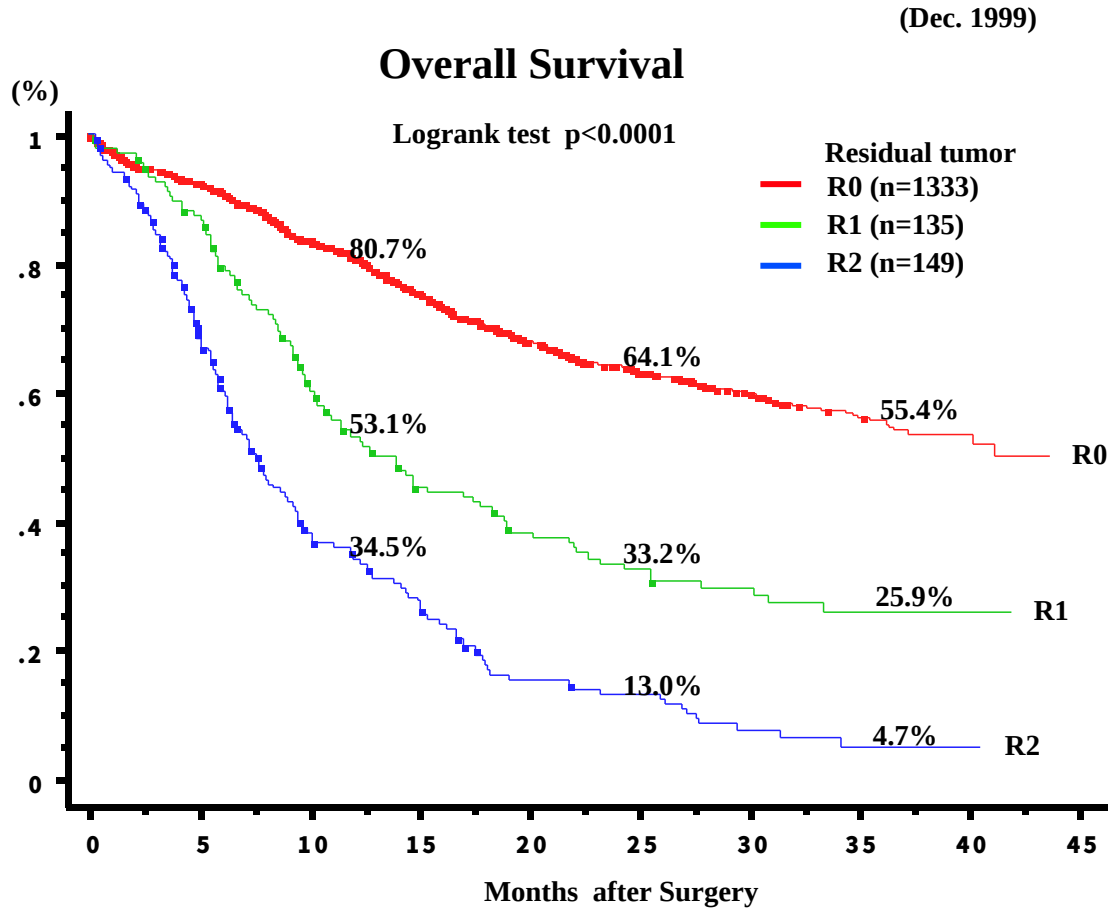


Figure 16) Survival of patients treated by esophagectomy in relation to number of metastatic node

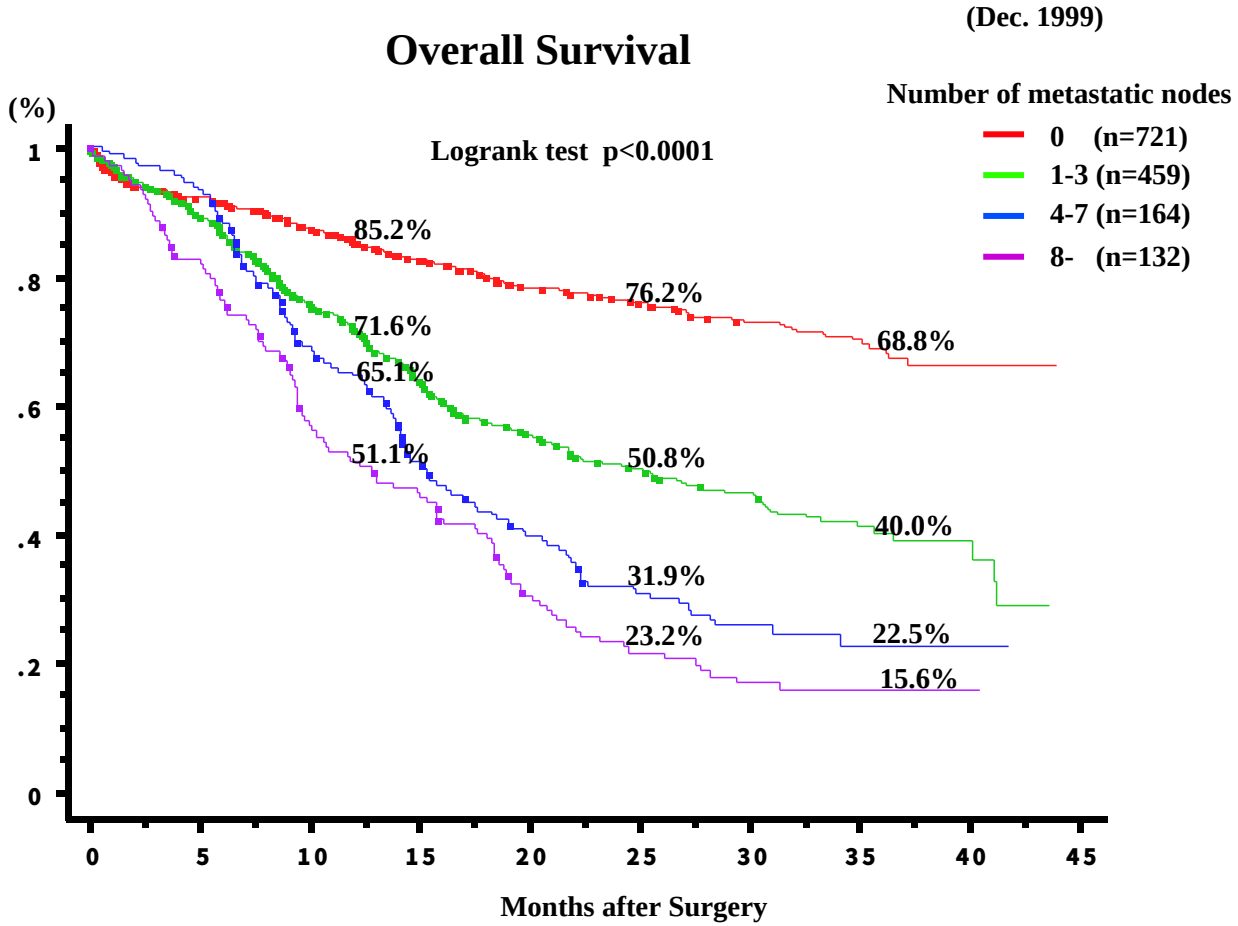
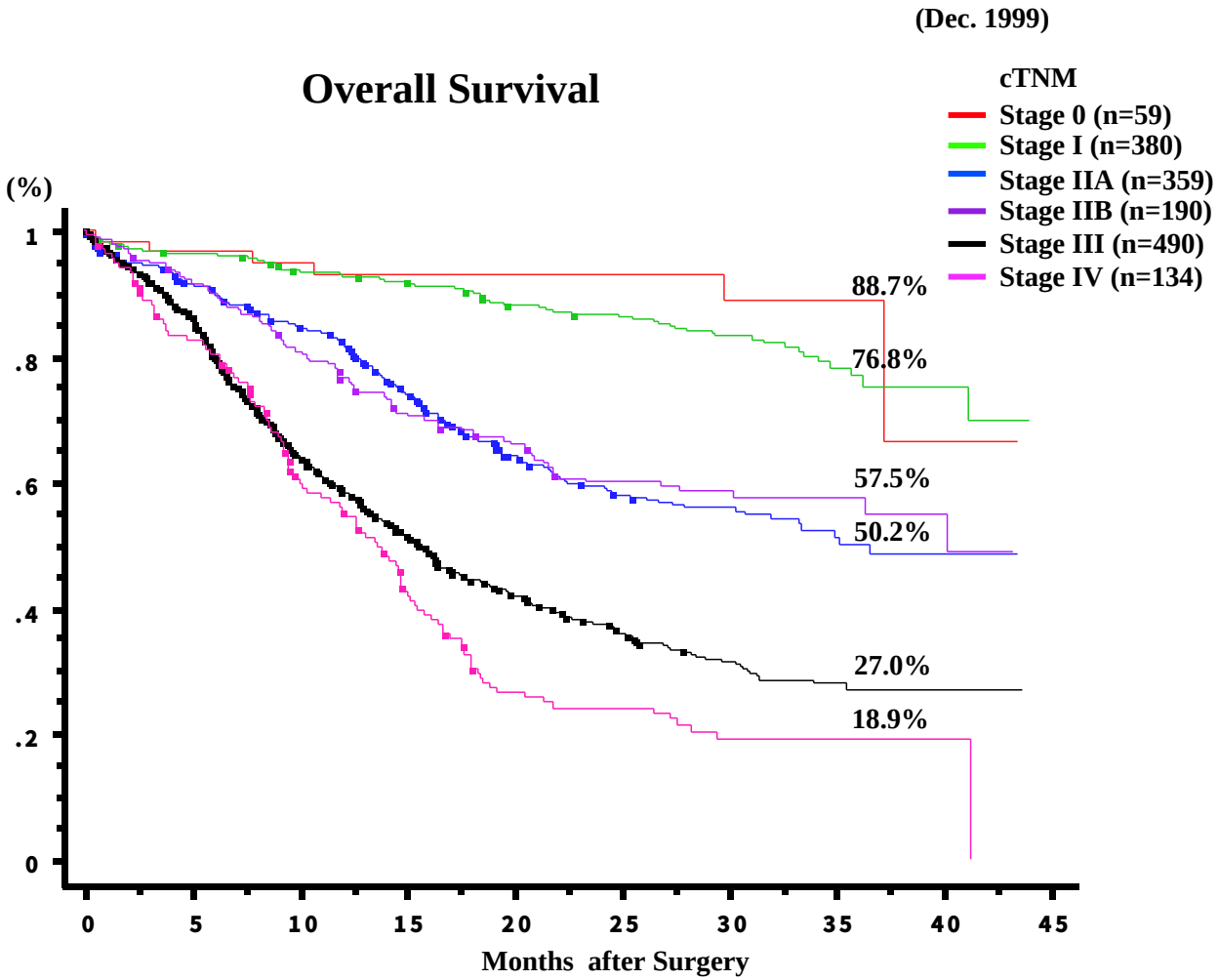


Figure 17) Survival of patients treated by esophagectomy in relation to clinical TMN-Stage



Comprehensive Registry of Esophageal cancer in Japan in 1997

JSED

I. Clinical Factors of Esophageal Cancer Patients treated in 1997

1. Institutions registrating cases in 1997 (No. 1-No. 4)

2. Patient Background

II. Clinical Results of Patients treated with Endoscopically in 1997

III. Clinical Results in Patients treated with Chemotherapy and/or Radiotherapy in 1997

IV. Clinical Results in Patients treated by Palliative Operation in 1997

V. Clinical Results in Patients treated with Esophagectomy in 1997

I. Clinical Factors of Esophageal Cancer Patients treated in 1997

1. Institutions registrating cases in 1997 (No.1)

Institutions (No.1)

Inst#	Institutions
03a11	Dept. of Surg. Showa Univ. School of Med. Toyosu Hospital
03d01	Second Dept. of Surg. Kyorin Univ. School of Med.
03e01	Dept. of Surg. Tokai Univ. School of Med. Tokyo Hospital
1101	First Dept. of Surg. Hokkaido Univ. School of Med.
1102	Second Dept. of Surg. Hokkaido Univ. School of Med.
1203	First Dept. of Medicne. Sapporo Med. Univ.
1302	Second Dept. of Surg. Asahikawa Med. Univ.
1401	First Dept. of Surg. Hirosaki Med. Univ. School of Med.
1402	First Dept. of Medicne. Hirosaki Med. Univ. School of Med.
1405	Second Dept. of Surg.Hirosaki Med. Univ. School of Med.
1501	First Dept. of Surg. Iwate Med. Univ. School of Med.
1601	First Dept. of Surg. Yamagata Univ. School of Med.
1702	Second Dept. of Surg. Akita Univ. School of Med.
1802	Second Dept. of Surg. Akita Univ. School of Med.
1901	First Dept. of Surg. Fukushima Medical School
2101	First Dept. of Surg. Gunma Univ. School of Med.
2102	Second Dept. of Surg. Gunma Univ.School of Med.
2104	Dept. Radiology Gunma Univ. School of Med.
2106	First Dept. of Medicne. Gunma Univ.School of Med.
2106	First Dept. of Medicne. Gunma Univ.School of Med.
2301	First Dept. of Surg. Dokkyo Med. Univ. School of Med.
2311	Dept of Surg. Dokkyo Med. Univ. School of Med. Koshigaya Hospital
2401	Dept.of Surg. Tsukuba Univ. School of Med.
2501	First Dept. of Surg. Saitama Medical Univ.
2602	Second Dept. of Surg National Defense Medical College
2701	First Dept. of Surg. Chiba Univ. School of Med.
2801	Dept. of Surgery Tokyo Dental Univ. Ichikawa General Hospitral
3001	First Dept. of Surg. Nihon Univ. School of Med.
3003	Third. Dept. of Surg. Nihon Univ. School of Med.

Inst#	Institutions
3201	First Dept. of Surg. Nihon Med. Univ.
3301	First Dept. of Surg. Tokyo Univ. School of Med.
3303	First Dept. of Surg. Tokyo Univ.School of Med.
3601	Dept. of Surg. Keio Univ.School of Med.
3703	Therd Dept. of Surg. Tokyo Medical Univ.
3811	Dept. Surg. Institute of Gastroenterology, Tokyo Women's Medical Univ.
3821	Dept. Surg. Tokyo Women's Medical Univ. Second Hospital
3902	Second Dept. of Surg. Tokyo Jikei Med. Univ.
4001	First Dept.of Surg. Yamanashi Med. Univ. School of Med.
4201	Dept of Surg. Tokai Univ. School of Med.
4301	First Dept. of Surg. Yokohama City Univ.School of Med.
4402	Second Dept. of Surg. St.Marianna Univ.School of Med.
4501	Dept of Surg. Kitasato Univ. School of Med.
4511	Dept. of Digestive Surg. Kitasato Univ. East Hospital
4601	Dept. of Surg. Juntendo Univ. Nagaoka Hospital
4701	Dept. of Surg. Teikyo Univ. Ichihara Hospital
5301	First Dept. of Surg. Shinsyu Univ. School of Med.
5302	Second Dept. of Surg. Juntendo Univ. School of Med.
5501	First Dept. of Surg. Nagoya Univ. School of Med.
5502	Secondt Dept. of Surg. Nagoya Univ. School of Med.
5506	Second Dept. of Medicine. Nagoya Univ. School of Med.
5701	First Dept. of Surg. Gifu Univ.School of Med.
5801	Dept. of Surg. Fujita Health Univ. School of Med.
5803	Dept. of Funabiki-Surg. Fujita Health Univ. School of Med.
5811	Fujita Health Univ. School of Med. Houtokukai Hospital
5901	First Dept. of Surg Aich Medical Univ.
6101	First Dept. of Surg. Shiga Univ. School of Med.
6311	Dept. of Surgical oncology Kyoto Univ. School of Med.

Institutions (No.2)

Inst#	Institutions
6401	First Dept. of Surg. Nara Medical Univ.
6502	Second Dept. of Surg. Kansai Medical Univ.
6701	First Dept. of Surg. Osaka City Univ. School of Med.
6702	Second Dept. of Surg. Osaka City Univ. School of Med.
6704	Dept. of Radiology Osaka City Univ. School of Med.
6801	First Dept. of Surg. Kinki Univ. School of Med.
6802	Second Dept. of Surg. Kinki Univ. School of Med.
7101	First Dept. of Surg. Kanazawa Univ. School of Med.
7301	First Dept. of Surg. Kobe Univ. School of Med.
7302	Secondt Dept. of Surg. Kobe Univ. School of Med.
7401	First Dept. of Surg. Hyogo Medical Univ.
8001	First Dept. of Surg. Okayama Univ. School of Med.
8002	Second Dept. of Surg. Okayama Univ. School of Med.
8201	First Dept. of Surg. Tottori Univ. School of Med.
8302	Second Dept. of Surg. Shimane Medical Univ.
8402	Second Dept. of Surg.Hiroshima Univ. School of Med.
8411	Dept. of Surg. Reserch Inst. foir Nucler Med. & Biology Hiroshima Univ.
8601	First Dept. of Surg. Tokushima Univ. School of Med.
8701	First Dept. of Surg. Kagawa Nedical Univ.
8802	Second Dept. of Surg. Ehime Univ. School of Med.
9102	Second Dept. of Surg. Kyushu Univ. School of Med.
9104	Dept of Radiology Kyushu Univ. School of Med.
9201	Firstd Dept. of Surg. Fukuoka Univ. School of Med.
9202	Second Dept. of Surg. Fukuoka Univ. School of Med.
9211	Dept. of Surg. Fukuoka Univ. School of Med. Tukushi Hospital
9301	Dept. of Surg. Kurume Univ. School of Med..
9401	Dept. of Digestivesurg. Saga Medical Univ.
9501	Dept. of Surg. Nagasaki Univ. School Med.
9502	Second Dept. of Surg. Nagasaki Univ. School of Med
9711	Dept. of Surg. Med. Institute of Bioregulation, Kyushu Univ.

Inst#	Institutions
9802.	First Dept. of Second Dept. of Surg. Miyazaki Medical Univ.
9901	First Dept. of Surg. Kagoshima Univ. School of Med.
9994	Dept. of Radiology. Ryukyu Univ. School of Med.
10014	Sapporo National Hospital Hokkaido Cancer Center
10021	National Cancer Center Central Hospital
10031	National Cancer Center East Hospital
10081	Dept of Surg. Shikoku National Cancer Center Hospital
11201	Dept of Surg. Sendai National Hospital
11301	Dept of Surg. Mito National Hospital
12101	Dept of Surg. Numata National Hospital
12201	Dept. of Surg. Shibukawa National Hospital
13204	Dept of Radiology. Second National Hospital
13301	Dept of Surg. International Medical Center In Japan
14201	Dept of Surg. Kofu National Hospital
14401	Dept of Surg. Kasumigaura National Hospital
15101	Dept of Surg. Nagoya National Hospital
17301	Dept of Surg. Fukuyama National Hospital
17401	Dept of Surg. Kure National Hospital
17601	Dept of Surg. Iwakuni National Hospital
18101	Dept. of Surg. Zentsuji National Hospital
19021	Dept. of Surg. Kumamoto National Hospital
19061	Dept of Surg. Miyakonojo National Hospital
19071	Dept of Surg. Ibusuki National Hospital
21011	Dept of Surg. Aomori Prefectual Central Hospital
21031	Dept of Surg. Yamagata Prefectual Shonai Hospital
21041	Dept of Surg. Yamagata Prefectual Central Hospital
21061	Dept of Surg. Fukushima Prefectual Aizu Sogo Hospital
42911	Dept of Surg. Oita Red Cross Hospital
43021	Dept of Surg. Kushiro Rosai Hospital
43121	Dept of Surg. Kanto Rosai Hospital
43211	Dept of Surg. Niigata Rosai Hospital

Institutions (No.3)

Inst#	Institutions
21091	Dept of Surg. Iwaki City Sogo Iwakikyoritul Hospital
22011	Dept of Surg. Niigata Cancer Center Hospital
22021	Dept of Surg. Niigata Prefectual Shibata Hospital
22031	Dept of Surg. Niigata Prefectual Central Hospital
23021	Dept of Surg. Metroporitan Hiroo Hospital
23031	Dept of Surg. Metroporitan Fuchu Hospital
24011	Dept of Surg. Gunma Cancer Center Toumou Hospital
24021	Ibaraki Prefectual Central Hospital Ibaraki Cancer Center
24031	Dept of Surg. Totigi Cancer Center
24051	Dept of Digestive Surg. Chiba Cancer Center
24101	Dept of Surg. West Hamamatsu Medical Cancer Center
25032	Dept of Thoracic Surg. Aichi Cancer Center
25041	Dept of Surg. Fukui Prefectual Hospital
26011	Osaka Adult Disease Center
26031	Dept of Surg. Osaka National Hospital
27012	Dept of Surg. Hyogo Adult Disease Center
27014	Dept of Radiology Hyogo Adult Disease Center
27031	Dept of Surg. Hyogo Prefectual Kakogawa Hospital
27041	Dept of Surg. Tottori Prefectual Central Hospital
28021	Dept of Surg. Kochi Prefectual Central Hospital
29011	Dept of Surg. Saga Prefectual Kouseikan Hospital
30031	Dept of Surg. Asahikawa City Hospital
31011	Dept of Surg. Aomori City Hospital
31061	Dept of Surg. Tsuruoka City Syounai Hospital
31071	Dept of Surg.Nagai City Sogo Hospital
34021	Dept. of Surg. Urawa City Hospital
34031	Dept of Surg. Koshigaya City Hospital

Inst#	Institutions
34051	Dept of Surg. Numazu City Hospital
34061	Dept of Surg. Kakegawa City Sogo Hospital
34081	Dept of Surg. Funabashi City Medical Center Hospital
34141	Dept of Surg. Odawara City Hospital
34161	Dept of Surg. Fujieda City Sogo Hospital
35031	Dept of Surg. Ogaki City Hospital
35041	Dept of Surg. Gifu City Hospital
35081	Dept of Surg. Nagahama City Hospital
36041	Dept of Surg. Suita City Hospital
36111	Dept of Surg. Kyoto City Hospital
37111	Dept of Surg. Kobe City Central Hospital
37141	Dept of Surg. Takamatsu City Hospital
37200	Dept. of Surg. Hiroshima Asa City Hospital
37411	Dept of Surg. & Medicine Iwakuni City Medical Center Hospital
38111	Dept of Surg. Tokushima City Hospital
39111	Dept of Surg. Kitakyusyu City Medical Center Hospital
39121	Dept of Surg. Kitakyusyu City Yahata Hospital
39711	Dept of Surg. Izumi City Hospital
40311	Dept of Surg. Toranomon Hospital
40711	Dept of Surg. Kinki Center Hospital
41621	Dept of Surg. Kyoto Prefectual Saiseikai Hospital
41731	Dept of Surg. Okayama Rousai Hospital
42211	Dept of Surg. Nagaoka Red Cross Hospital
42411	Dept of Surg. Ashikaga Red Cross Hospital
42621	Dept of Surg. Kyoto Second Red Cross Hospital
42651	Dept of Surg. Yamada Red Cross Hospital
42711	Dept of Surg. Hiroshima Red Cross Hospital

Institutions (No.4)

Inst#	Institutions
43711	Dept of Surg. Kansai Rosai Hospital
43911	Dept of Surg. Kyushu Rosai Hospital
44311	Dept of Surg. Social Insurance General Center Hospital
44411	Dept of Surg. Social Insurance Saitama Center Hospital
44451	Dept of Surg. Social Insurance Kofu Yamanashi Hospital
44721	Dept of Surg. Social Insurance Shimonoseki Kosei Hospital
44911	Dept of Surg. Social Insurance Ogura Memorial Hospital
45111	Dept of Medicine Yamamoto Union General Hospital
45121	Dept of Surg. Akita Union General Hospital
45411	Dept of Surg. Kokuho Seitou Hospital
46011	Obihiro Kousei Hospital
46111	Dept. of Surg. Sendai Kosei Hospital
46611	Dept. of Surg. Osaka Kousei Hospital
47111	Dept. of Surg. Tohokukosai Hospital
47311	Dept. of Surg. Tachikawa Hospital
47911	Dept of Surg. Sasebo Kyosai Hospital
48111	Dept. of Surg. NTT Tohoku Hospital
48611	Dept. of Surg. Osaka Teishin Hospital
53302	Dept. of Surg. Tamananbu-Chiiki Hospital
60019	Dept. of Surg. Nikko Memorial Hospital
60041	Dept. of Surg. Keiyukai Sapporo Hospital
61011	Dept. of Surg. Ota nishinouchi Hospital
61041	Dept. of Surg. Takeda Sogo Hospital
61051	Dept. of Surg. Hirashika Sogo Hospital
63011	Dept. of Surg. Mitsui Memorial Hospital
63021	Dept. of Surg. Kousei Hospital
63031	Dept. of Surg. Kudansaka Hoshital

Inst#	Institutions
64441	Dept. of Surg. NKK Hospital
64521	Dept. of Surg.Showainan Sogo Hospital
65131	Dept. of Surg. Sogo Daiyukai Hospital
65311	Dept. of Surg. Nissei Hospital
65331	Dept. of Surg. Kansai Electric Hospital
66351	Dept. of Surg. Matsushita Memorial Hospital
67111	Dept. of Surg.Kobekogyo(Koko) Hospital
67411	Dept of Surg. Houhu Gastroenterological Hospital

2. Patient Background

Table 1) Age, gender and treatment

Age	Cases (%)	Male	Female	EMR*/ Stenting	Chemotherapy/ Radiotherapy	Pallative operation	Esopha-gectomy
~29	0	0	0	0	0	0	0
30~39	8 (0.3%)	4	4	1	1	2	4
40~49	210 (7.2%)	162	48	12	24	9	165
50~59	715 (24.6%)	627	88	49	116	33	517
60~69	1173 (40.4%)	1066	107	87	214	45	827
70~79	647 (22.3%)	541	106	55	179	28	385
80~89	115 (4.0%)	83	32	17	59	3	36
90~	7 (0.2%)	7	0	1	6	0	0
Unknown	28 (1.0%)	24	4	2	12	0	14
Total	2903 (100%)	2514 (86.6%)	389 (13.4%)	224 (7.7%)	611 (21.0%)	120 (4.2%)	1948 (67.1%)

*endoscopic mucosal resection

Table 2) Area of patient's residence and occupation

Area	No. of cases (%)	Area	No. of cases (%)
Total	**2903 (100%)**	Miyazaki	14 (0.5%)
Aichi	54 (1.9%)	Nagano	26 (0.9%)
Akita	64 (2.2%)	Nagasaki	45 (1.6%)
Aomori	30 (1.0%)	Nara	17 (0.6%)
Chiba	124 (4.3%)	Niigata	64 (2.2%)
Ehime	21 (0.7%)	Oita	13 (0.4%)
Fukui	5 (0.2%)	Okayama	44 (1.5%)
Fukuoka	148 (5.1%)	Okinawa	14 (0.4%)
Fukushima	80 (2.8%)	Osaka	180 (6.2%)
Gifu	59 (2.0%)	Saga	17 (0.6%)
Gunma	61 (2.1%)	Saitama	150 (5.2%)
Hiroshima	63 (2.2%)	Shiga	23 (0.8%)
Hokkaido	227 (7.8%)	Shimane	21 (0.7%)
Hyogo	146 (5.0%)	Shizuoka	56 (1.9%)
Ibaraki	40 (1.4%)	Tochigi	53 (1.8%)
Ishikawa	16 (0.6%)	Tokushima	7 (0.2%)
Iwate	50 (1.7%)	Tokyo	443 (15.3%)
Kagawa	6 (0.2%)	Tottori	12 (0.4%)
Kagoshima	49 (1.7%)	Toyama	0
Kanagawa	197 (6.8%)	Wakayama	4 (0.1%)
Kochi	15 (0.5%)	Yamagata	33 (1.1%)
Kumamoto	12 (0.4%)	Yamaguchi	32 (1.1%)
Kyoto	36 (1.2%)	Yamanashi	17 (0.6%)
Mie	9 (0.3%)	Others	1 (0.03%)
Miyagi	78 (2.7%)	Unknow	27 (0.9%)

Occupation	Cases (%)
None	372 (12.8%)
Professional	279 (9.6%)
Management	216 (7.4%)
Office worker	512 (17.6%)
Sales worker	138 (4.8%)
Farm/Forestry/Marine product	209 (7.2%)
Mining and Quarrying	21 (0.7%)
Transport and communication	15 (0.5%)
Industrial technician	97 (3.3%)
General worker	215 (7.4%)
Service industry	166 (5.7%)
Others	45 (1.6%)
Unclassified	13 (0.4%)
Unknown	605 (20.8%)
Total	2903 (100%)

Table 3) Familial history of carcinoma

Familial history	Cases (%)
No	1575 (54.3%)
Yes	839 (28.9%)
Unknown	489 (16.8%)
Total	2903 (100%)

Table 4) Tumors of familial history of carcinoma

Diseases	No. of cases (%)	Diseases	No. of cases (%)
Malig. lymphoma	5 (0.5%)	Cholangio ca.	10 (0.9%)
Leukemia	11 (1.0%)	Gallbladder ca.	8 (0.7%)
Brain tumor	7 (0.7%)	Pancreas ca.	42 (3.9%)
Mandibular ca.	1 (0.1%)	Colon ca.	47 (4.4%)
Thyroid ca.	1 (0.1%)	Rectal ca.	36 (3.4%)
Breast ca.	57 (5.3%)	Anus ca.	1 (0.1%)
Lung ca.	106 (9.9%)	Uterus ca.	50 (4.6%)
Maxillary ca.	2 (0.2%)	Ovarian ca.	1 (0.1%)
Gingiva ca.	1 (0.1%)	Renal ca.	6 (0.6%)
Oral ca.	4 (0.4%)	Bladder ca.	11 (1.0%)
Tongue ca.	6 (0.6%)	Penis ca.	1 (0.1%)
Pharyngeal ca.	26 (2.4%)	Prostate ca.	9 (0.8%)
Laryngeal ca.	13 (1.2%)	Osteosarcoma	4 (0.4%)
Esophgeal ca.	104 (9.7%)	Spinal tumor	2 (0.2%)
Stomach ca.	345 (32.1%)	Skin ca..	6 (0.6%)
Duodenal ca.	3 (0.3%)	Unknown	66 (6.1%)
Hepatoma	84 (7.8%)	Total cases(%)	1076 (100%)
		No. of patients	839

Table 5) Chance and basis of diagnosis according to clinical T-category

Chances of diagnosis	Superficial cancer (cTis,cT1)	Advanced cancer (cT2,cT3,cT4)	Total(%)
Chief complains	302 (37.0%)	1643 (85.2%)	1908 (71.4%)
Detection survey / dock	256 (31.3%)	126 (6.5%)	353 (13.2%)
Examination for other disease	228 (27.9%)	84 (4.4%)	294 (11.0%)
Unkown	31 (3.8%)	75 (3.9%)	116 (4.3%)
Total	817 (100%)	1928 (100%)	2745* (100%)

Detection methods	Superficial cancer (cTis,cT1)	Advanced cancer (cT2,cT3,cT4)	Total(%)
Esohagography	95 (11.6%)	684 (32.2%)	779 (28.4%)
Esohagoscopy	684 (83.7%)	1127 (63.9%)	1811 (66.0%)
CT-scann	3 (0.4%)	9 (1.2%)	12 (0.4%)
US	0	1 (0.1%)	1 (0.04%)
Biopsy	4 (0.5%)	6 (0.3%)	10 (0.3%)
Others	3 (0.4%)	7 (4.4%)	10 (0.4%)
Unkown	28 (3.4%)	94 (1.9%)	122 (4.4%)
Total	817 (100%)	1928 (100%)	2745* (100%)

*: excluding 158 cTX, cT0, cTunknown cases

Table 6) Symptoms according to clinical T-category

Symptom	cTis, cT1		cT2,cT3,cT4		Total (%)	
	Cases (%)		Cases (%)			
None	445	(51.3%)	154	(5.9%)	599	(17.4%)
Chest pain	53	(6.1%)	184	(7.2%)	237	(6.9%)
Sense of stricture	103	(11.9%)	823	(32.0%)	926	(27.0%)
Unusual sensation	63	(7.3%)	127	(4.9%)	190	(5.5%)
Dysphagia	42	(4.8%)	668	(26.0%)	710	(20.7%)
Nausea / Vomiting	14	(1.6%)	95	(3.7%)	109	(3.2%)
Appetite loss	17	(2.0%)	88	(3.4%)	105	(3.1%)
Weight loss	18	(2.1%)	131	(5.1%)	149	(4.3%)
Swollen of lymph node	12	(1.4%)	24	(0.9%)	36	(1.0%)
Hoarseness	7	(0.8%)	66	(2.6%)	73	(2.2%)
Others	75	(8.7%)	163	(6.3%)	238	(6.9%)
Unkown	18	(2.1%)	45	(1.8%)	63	(1.8%)
Total	867	(100%)	2568	(100%)	3435	(100%)
Total cases	817		1928		2745*	

*; excluding 158 cTX, cT0, cT unkown cases

Table 7) Double / multiple primary cancers

	Endoscopical treatment (EMR/Stenting)		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
None	153	(68.3%)	481	(78.7%)	94	(78.3%)	1570	(80.6%)	2298	(79.2%)
Double	34	(15.2%)	49	(8.0%)	13	(10.8%)	188	(9.7%)	284	(9.8%)
Metachronous										
Before E-Ca	27	(12.1%)	60	(9.8%)	8	(6.7%)	148	(7.6%)	243	(8.4%)
After E-Ca	6	(2.7%)	6	(1.0%)	2	(1.7%)	19	(1.0%)	33	(1.1%)
Multiple	3	(1.3%)	4	(0.7%)	1	(0.8%)	19	(1.0%)	27	(0.9%)
Unknown	1	(0.4%)	11	(1.8%)	2	(1.7%)	4	(0.2%)	18	(0.6%)
Total	224	(100 %)	611	(100 %)	120	(100 %)	1948	(100 %)	2903	(100 %)

Table 8) Double / multiple primary cancers and Organs

Organs	Synchronous		Metachronous		Total	
Larynx/Maxillary	16	(4.3%)	22	(7.2%)	38	(5.6%)
Pharynx	41	(11.0%)	27	(8.8%)	68	(10.0%)
Oral cavity/Gum/Tongue	21	(5.6%)	6	(2.0%)	27	(4.0%)
Stomach	157	(42.1%)	120	(39.1%)	277	(40.7%)
Colon/Rectum	41	(11.0%)	41	(13.4%)	82	(12.1%)
Liver	13	(3.5%)	3	(1.0%)	16	(2.3%)
Choledochus/Gallbladderparotid	3	(0.8%)	0		3	(0.5%)
Pancreas	3	(0.8%)	0		3	(0.5%)
Lung/Trachea/Bronchus	24	(6.4%)	17	(5.5%)	41	(6.0%)
Remnunt esophagus	3	(0.8%)	9	(2.9%)	12	(1.8%)
Uterus/Ovarium	0		2	(0.6%)	2	(0.3%)
Breast	2	(0.5%)	14	(4.6%)	16	(2.3%)
Prostate	8	(2.1%)	3	(1.0%)	11	(1.6%)
Urinary bladder	5	(1.4%)	13	(4.2%)	18	(2.6%)
Leukemia	2	(0.5%)	1	(0.3%)	3	(0.4%)
Skin	1	(0.3%)	1	(0.3%)	2	(0.3%)
Brain	0		0		0	
Thyroid	7	(1.9%)	1	(0.3%)	8	(1.2%)
Bone	1	(0.3%)	1	(0.3%)	1	(0.3%)
Kidney	6	(1.6%)	4	(1.3%)	2	(1.5%)
Others	15	(4.0%)	19	(6.2%)	10	(5.0%)
Unknown	4	(1.1%)	3	(1.0%)	7	(1.0%)
Lesions	373	(100%)	307	(100%)	680	(100%)
Cases	311		276		587	

Table 9) Double / multiple primary cancer - Organs (in endoscopically treated cases)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After E-Ca	
Larynx/Maxillary	2 (5.7%)	2 (6.1%)		
Pharynx	6 (17.1%)	3 (9.1%)		1 (12.5%)
Oral cavity/Gum/Tongue	2 (5.7%)			
Stomach	16 (45.7%)	19 (57.6%)	4 (57.1%)	2 (25.0%)
Colon/Rectum	2 (5.7%)	4 (12.1%)	1 (14.3%)	1 (12.5%)
Liver	1 (2.9%)		1 (14.3%)	
Choledochus/Gallbladderparotid				
Pancreas	1 (2.9%)			
Lung/Trachea/Bronchus		2 (6.1%)	1 (14.3%)	1 (12.5%)
Remnunt esophagus		1 (3.0%)		2 (25.0%)
Uterus/Ovarium				
Breast		1 (3.0%)		
Prostate	2 (5.7%)			
Urinary bladder	1 (2.9%)			1 (12.5%)
Leukemia				
Skin				
Brain				
Thyroid				
Bone				
Kidney				
Others	2 (5.7%)	1 (3.0%)		
Unknown				
Lesions	35 (100%)	33 (100%)	7 (100%)	8 (100%)
Cases	34	27	6	3

Table 10) Double / multiple primary cancer - Organs (in cases of chemotherapy and/or radiotherapy)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After e-Ca	
Larynx/Maxillary	3 (5.5%)	9 (13.2%)		1 (11.1%)
Pharynx	4 (7.2%)	6 (8.8%)	1 (16.7%)	1 (11.1%)
Oral cavity/Gum/Tongue	3 (5.5%)	1 (1.5%)		2 (22.2%)
Stomach	19 (34.5%)	24 (35.3%)	1 (16.7%)	1 (11.1%)
Colon/Rectum	3 (5.5%)	9 (13.2%)		2 (22.2%)
Liver	7 (12.7%)	1 (1.5%)	1 (16.7%)	
Choledocus/Gallbladderparotid				
Pancreas	1 1.8%)	1 (1.5%)		
Lung/Trachea/Bronchus	4 (7.3%)	2 (2.9%)	3 (50.0%)	1 (11.1%)
Remnunt esophagus	1 (1.8%)	2 (2.9%)		
Uterus/Ovarium				
Breast		2 (2.9%)		
Prostate	3 (5.5%)			
Urinary bladder	1 (1.8%)	2 (2.9%)		
Leukemia				
Skin		1 (1.5%)		
Brain				
Thyroid				
Bone	1 (1.8%)			
Kidney	1 (1.8%)	1 (1.5%)		
Others	3 (5.5%)	6 (8.8%)		
Unknown	1 (1.8%)	1 (1.5%)		1 (11.1%)
Lesions	55 (100%)	66 (100%)	6 (100%)	9 (100%)
Cases	49	60	6	4

Table 11) Double / multiple primary cancer - Organs (in cases of palliative operation)

Organs	Synchronous	Metachronous		Multiple
		Before E-Ca	After E-Ca	
Larynx/Maxillary				
Pharynx	1 (7.7%)	1 (12.5%)		
Oral cavity/Gum/Tongue				
Stomach	9 (69.2%)	3 (37.5%)	1 (50.0%)	
Colon/Rectum	1 (7.7%)			
Liver				
Choledocus/Gallbladder				
Pancreas				
Lung/Trachea/Bronchus	2 (15.4%)			
Remnunt esophagus				
Uterus/Ovarium				
Breast			1 (50.0%)	
Prostate				1 (50.0%)
Urinary bladder		2 (25.0%)		1 (50.0%)
Leukemia				
Skin				
Brain				
Thyroid				
Bone				
Kidney				
Others		1 (12.5%)		
Unknown		1 (12.5%)		
Lesions	13 (100%)	8 (100%)	2 (100%)	2 (100%)
Cases	13	8	2	1

Table 12) Double / multiple primary cancer - Organs (in cases of esophagectomy)

Organs	Synchronous		Metachronous				Multiple	
			Before E-Ca		After E-Ca			
Larynx/Maxillary	7	(3.5%)	10	(6.1%)	1	(5.3%)	3	(7.3%)
Pharynx	22	(11.0%)	13	(7.9%)	3	(15.8%)	6	(14.6%)
Oral cavity/Gum/Tongue	2	(1.0%)	5	(3.0%)			2	(4.8%)
Stomach	96	(48.0%)	67	(40.9%)	1	(5.3%)	14	(34.1%)
Colon/Rectum	30	(15.0%)	21	(12.8%)	6	(31.6%)	2	(4.9%)
Liver	4	(2.0%)					1	(2.4%)
Choledocus/Gallbladder	2	(1.0%)					1	(2.4%)
Pancreas	1	(0.5%)						
Lung/Trachea/Bronchus	13	(6.5%)	7	(4.3%)	2	(10.5%)	3	(7.3%)
Remnunt esophagus			6	(3.7%)				
Uterus/Ovarium			2	(1.2%)				
Breast	1	(0.5%)	9	(5.5%)	1	(5.3%)	1	(2.4%)
Prostate	1	(0.5%)	2	(1.2%)	1	(5.3%)	1	(2.4%)
Urinary bladder	1	(0.5%)	8	(4.9%)	1	(5.3%)		
Leukemia			1	(0.6%)			2	(4.9%)
Skin	1	(0.5%)						
Brain								
Thyroid	6	(3.0%)	1	(0.6%)			1	(2.4%)
Bone								
Kidney	4	(2.0%)	3	(1.8%)			1	(2.4%)
Others	7	(3.5%)	8	(4.9%)	3	(15.8%)	3	(.3%)
Unknown	2	(1.0%)	1	(0.6%)				
Lesions	200	(100%)	164	(100%)	19	(100%)	41	(100%)
Cases	188		148		19		19	

Table 13) Location of tumor

Location	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total	(%)
					Palliative operation		Esophagectomy			
Pharynx	0		4	(0.7%)	0		13	(0.7%)	17	(0.6%)
Cervical esophagus	2	(0.8%)	45	(7.4%)	7	(5.8%)	88	(4.5%)	142	(4.9%)
Upper thoracic eso.	31	(13.8%)	124	(20.3%)	26	(21.7%)	216	(11.1%)	397	(13.7%)
Middle thoracic eso.	137	(61.2%)	306	(50.0%)	58	(48.3%)	993	(51.0%)	1494	(51.5%)
Lower thoracic eso.	36	(16.1%)	106	(17.3%)	24	(20.0%)	489	(25.1%)	655	(22.6%)
Abdominal esophagus	8	(3.6%)	14	(2.3%)	5	(4.2%)	126	(6.5%)	153	(5.3%)
EG-Junction (E=G)	1	(0.4%)	0		0		13	(0.7%)	14	(0.5%)
Cardia (G)	0		0		0		1	(0.1%)	1	(0.03%)
Unknown	9	(4.0%)	12	(2.0%)	0		9	(0.5%)	30	(1.0%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

Table 14) Longitudinal tumor length on esophagography

Length	Endiscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
not examined	81	(36.2%)	68	(11.1%)	20	(16.7%)	124	(6.4%)	293	(10.1%)
~1cm	8	(3.6%)	15	(2.5%)	3	(2.5%)	37	(1.9%)	63	(2.2%)
~2cm	18	(8.0%)	12	(2.0%)	3	(2.5%)	98	(5.0%)	131	(4.5%)
~3cm	37	(16.5%)	28	(4.6%)	6	(5.0%)	182	(9.3%)	253	(8.7%)
~4cm	15	(6.7%)	49	(8.0%)	10	(8.3%)	248	(12.7%)	322	(11.1%)
~5cm	5	(2.2%)	50	(8.2%)	13	(10.8%)	234	(12.0%)	302	(10.4%)
~6cm	7	(3.1%)	69	(11.3%)	13	(10.8%)	287	(14.7%)	376	(13.0%)
~7cm	7	(3.1%)	65	(10.6%)	10	(8.3%)	189	(9.7%)	271	(9.3%)
~8cm	10	(4.5%)	58	(9.5%)	10	(8.3%)	171	(8.8%)	249	(8.6%)
~9cm	5	(2.2%)	41	(6.7%)	8	(6.7%)	118	(6.1%)	172	(5.9%)
~10cm	1	(0.4%)	21	(3.4%)	6	(5.0%)	54	(2.8%)	82	(2.8%)
~11cm	6	(2.7%)	41	(6.7%)	2	(1.7%)	66	(3.4%)	115	(4.0%)
~12cm	0		17	(2.8%)	2	(1.7%)	17	(0.9%)	36	(1.2%)
~13cm	3	(1.3%)	18	(2.9%)	4	(3.3%)	10	(0.5%)	35	(1.2%)
~14cm	2	(0.9%)	7	(1.1%)	1	(0.8%)	12	(0.6%)	22	(0.8%)
~15cm	1	(0.4%)	4	(0.7%)	0		4	(0.2%)	9	(0.3%)
~16cm	0		5	(0.8%)	0		9	(0.5%)	14	(0.5%)
~17cm	0		3	(0.5%)	0		3	(0.2%)	6	(0.2%)
17.1cm~	0		7	(1.1%)	1	(0.8%)	5	(0.3%)	13	(0.4%)
Unknown	18	(8.0%)	33	(5.4%)	8	(6.7%)	80	(4.1%)	139	(4.8%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

Table 15) Endoscopic features

Type	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
Not examined	1	(0.4%)	5	(0.8%)	0		4	(0.2%)	10	(0.3%)
0-I	5	(2.2%)	11	(1.8%)	4	(3.3%)	123	(6.3%)	143	(4.9%)
0-IIa	14	(6.3%)	14	(2.3%)	5	(4.2%)	89	(4.6%)	122	(4.2%)
0-IIb	27	(12.1%)	11	(1.8%)	6	(5.0%)	49	(2.5%)	93	(3.2%)
0-IIc	123	(54.9%)	45	(7.4%)	11	(9.2%)	257	(13.2%)	436	(15.0%)
0-III	1	(0.4%)	1	(0.2%)	1	(0.8%)	12	(0.6%)	15	(0.5%)
0-V	0		2	(0.3%)	0		5	(0.3%)	7	(0.2%)
1	1	(0.4%)	39	(6.4%)	11	(9.2%)	162	(8.3%)	213	(7.3%)
2	14	(6.3%)	175	(28.6%)	29	(24.2%)	568	(29.2%)	786	(27.1%)
3	25	(11.2%)	219	(35.8%)	37	(30.8%)	534	(27.4%)	815	(28.1%)
4	3	(1.3%)	24	(3.9%)	10	(8.3%)	36	(1.8%)	73	(2.5%)
5	2	(0.9%)	17	(2.8%)	1	(0.8%)	39	(2.0%)	59	(2.0%)
Unkown	8	(3.6%)	48	(7.9%)	5	(4.2%)	70	(3.6%)	131	(4.5%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

0- I : superficical and protruding type
0- IIa : superficical and slight elevated type
0- IIb : superficical and flat type
0- IIc : superficical and slightly depressed
0- III : superficical and distinctly depressed

1 : protruding type
2 : ulcerative and localized type
3 : ulcerative and infiltrating type
4 : diffusely infiltrating type
5 : miscellameous type

Table 16) Histologic types of biopsy

Histologic types		Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
						Palliative operation		Esophagectomy			
Not examined		26	(11.6%)	21	(3.4%)	4	(3.3%)	24	(1.2%)	75	(2.6%)
SCC	SCC	118	(52.7%)	250	(40.9%)	52	(43.3%)	828	(42.5%)	1248	(43.0%)
	Well diff.	17	(7.5%)	63	(10.3%)	10	(8.3%)	224	(11.5%)	314	(10.8%)
	Moderately diff	42	(18.8%)	148	(24.2%)	35	(29.2%)	530	(27.2%)	755	(26.0%)
	Poorly diff.	6	(2.7%)	64	(10.5%)	10	(8.3%)	223	(11.4%)	303	(10.4%)
Adenocarcinoma		2	(0.9%)	9	(1.5%)	1		33	(1.7%)	45	(1.6%)
Undifferenciated		1	(0.4%)	4	(0.7%)	0		9	(0.5%)	14	(0.5%)
So-called carcinosarcoma		0		2	(0.3%)	0		12	(0.6%)	14	(0.5%)
Malignant .melanoma		0		1	(0.2%)	0		3	(0.2%)	4	(0.1%)
Others		2	(0.9%)	4	(0.7%)	3	(2.5%)	11	(0.6%)	20	(0.7%)
Dysplasia		1	(0.4%)	0		0		0		1	(0.03%)
Unknown		9	(4.0%)	45	(7.4%)	5	(4.2%)	51	(2.6%)	110	(3.8%)
Total		224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

Table 17) Depth of tumor invasion cT (Clinical TNM-classification)

cT	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
cTx	2	(0.9%)	11	(1.8%)	0		8	(0.4%)	21	(0.7%)
cT0	0	(27.2%)	0		0		12	(0.6%)	12	(0.4%)
cTis	61	(13.4%)	10	(1.6%)	3	(2.5%)	33	(1.7%)	107	(3.7%)
cT1	30	(28.1%)	27	(4.4%)	13	(10.8%)	252	(12.9%)	322	(11.1%)
cT1a	63	(13.8%)	10	(1.6%)	3	(2.5%)	56	(2.9%)	132	(4.5%)
cT1b	12	(5.3%)	24	(3.9%)	7	(5.8%)	213	(10.9%)	256	(8.8%)
cT2	1	(0.4%)	63	(10.3%)	21	(17.5%)	386	(19.8%)	471	(16.2%)
cT3	15	(6.7%)	227	(37.2%)	26	(21.7%)	763	(39.2%)	1031	(35.5%)
cT4	30	(13.4%)	195	(31.9%)	41	(34.2%)	160	(8.2%)	426	(14.7%)
Unknown	10	(4.5%)	44	(7.2%)	6	(5.0%)	65	(3.3%)	125	(4.3%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

Table 18) Lymph node metastasis, cN; and Organ metastasis, cM (Clinical TNM-classification)

cN	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
cNx	18	(8.0%)	47	(7.7%)	7	(5.8%)	34	(1.7%)	106	(3.7%)
cN0	158	(70.5%)	166	(27.2%)	39	(32.5%)	974	(50.0%)	1337	(46.1%)
cN1	36	(16.1%)	362	(59.2%)	70	(58.3%)	871	(44.7%)	1339	(46.1%)
Unknown	12	(5.4%)	36	(5.9%)	4	(3.3%)	69	(3.5%)	121	(4.2%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

cM	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
cMx	13	(5.8%)	17	(2.8%)	2	(1.7%)	13	(0.7%)	45	(1.6%)
cM0	189	(84.4%)	378	(61.9%)	91	(75.8%)	1714	(88.0%)	2372	(81.7%)
cM1	6	(2.7%)	72	(11.8%)	10	(8.3%)	45	(2.3%)	133	(4.6%)
cM1a	0		25	(4.1%)	5	(4.2%)	42	(2.2%)	72	(2.5%)
cM1b	6	(2.7%)	89	(14.6%)	8	(6.7%)	79	(4.1%)	182	(6.3%)
Unknown	10	(4.5%)	30	(4.9%)	4	(3.3%)	55	(2.8%)	99	(3.4%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2903	(100%)

Table 19) Metastatic Organs of cM1 (Clinical TNM classification)

Metastatic organs	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
PUL	2	(14.3%)	38	(16.7%)	3	(12.0%)	8	(4.7%)	51	(11.7%)
OSS	0		10	(4.4%)	1	(4.0%)	0		11	(2.5%)
HEP	4	(28.6%)	43	(18.9%)	2	(8.0%)	10	(5.8%)	59	(13.5%)
BRA	0		7	(3.1%)	2	(8.0%)	0		9	(2.1%)
LYM	3	(21.4%)	86	(37.9%)	13	(52.0%)	127	(74.3%)	229	(52.4%)
MAR	0		2	(0.9%)	0		0		2	(0.5%)
PLE	0		1	(0.4%)	1	(4.0%)	0		2	(0.5%)
PER	0		0		0		0		0	
SKI	1	(7.1%)	3	(1.3%)	0		0		4	(0.9%)
OTH	0		3	(1.3%)	0		4	(2.3%)	7	(1.6%)
Unknown	4	(28.6%)	34	(15.0%)	3	(12.0%)	22	(12.9%)	63	(14.4%)
Lesions	14	(100%)	227	(100%)	25	(100%)	171	(100%)	437	(100%)
One organ	6	(50.0%)	123	(66.1%)	18	(78.3%)	139	(83.7%)	286	(73.9%)
Two organs	2	(16.7%)	21	(11.3%)	2	(8.7%)	5	(3.0%)	30	(7.8%)
Three organs	0		5	(2.7%)	0		0		5	(1.3%)
Four organs~	0		3	(1.6%)	0		0		3	(0.8%)
Unknown	4	(33.3%)	34	(18.3%)	3	(13.0%)	22	(13.3%)	63	(16.3%)
Total cases	12	(100%)	186	(100%)	23	(100%)	166	(100%)	387	(100%)

Table 20) Clinical Stage (Clinical TNM-classificacation)

cStage	Endoscopic treatment		Chemotherapy and/or radiotherapy		Surgery				Total (%)	
					Palliative operation		Esophagectomy			
0	57	(25.4%)	9	(1.5%)	3	(2.5%)	37	(1.9%)	144	(5.1%)
I	94	(42.0%)	41	(6.7%)	16	(13.3%)	413	(21.2%)	585	(20.7%)
IIA	1	(0.4%)	70	(11.5%)	15	(12.5%)	451	(23.2%)	488	(17.2%)
IIB	1	(0.4%)	22	(3.6%)	16	(13.3%)	221	(11.3%)	256	(9.0%)
III	30	(13.4%)	200	(32.7%)	33	(27.5%)	534	(27.4%)	775	(27.4%)
IV	5	(2.2%)	63	(10.3%)	9	(7.5%)	44	(2.3%)	23	(0.8%)
IVA	0		24	(3.9%)	4	(3.3%)	42	(2.2%)	93	(3.3%)
IVB	6	(2.7%)	77	(12.6%)	8	(6.7%)	79	(4.1%)	207	(7.3%)
Unknown	30	(13.4%)	105	(17.2%)	16	(13.3%)	127	(6.5%)	258	(9.1%)
Total	224	(100%)	611	(100%)	120	(100%)	1948	(100%)	2829	(100%)

II. Clinical Results of Patients treated with Endoscopically in 1997

Table 21) Treatment details in patients with endoscopic treatment

Treatment details	Cases (%)
Endoscopic treatment only	170 (75.9%)
Endoscopic treatment + Radiotherapy	40 (17.9%)
Endoscopic treatment + Chemotherapy	12 (5.4%)
Endoscopic treatment + Hyperthermia	0
Endoscopic treatment + Chemoradiotherapy	2 (0.9%)
Unknown	0
Total	224 (100%)

Treatment details	Cases (%)
EMR	171 (76.3%)
EMR+YAG laser	2 (0.9%)
EMR+MCTr	2 (0.9%)
YAG laser + esophageal stenting	1 (0.4%)
Esophageal stenting	41 (18.3%)
Esophageal stenting + tracheal stenting	4 (1.8%)
Others	1 (0.4%)
Unknown	2 (0.9%)
Total	224 (100%)

EMR: endoscopic mucosal resection
PDT: photodynamic treatment

Table 22) Endoscopic mucosal resection (EMR)

Method of EMR	Cases (%)
One piece resection	68 (30.4%)
Piecemeal resection	97 (43.3%)
Failure	10 (26.3%)
Unknown	
Total	175 (100%)

No. of lesions treated by EMR	Cases (%)
1	115 (65.7%)
2	19 (10.9%)
3	11 (6.3%)
4	5 (2.9%)
5	2 (1.1%)
6	2 (1.1%)
7	2 (1.1%)
8	0
9	0
10 and/or over	1 (0.6%)
Unknown	18 (10.3%)
Total	175 (100%)

Radicality of EMR	Cases (%)
Complete resection	145 (82.9%)
Non-complete resection	14 (8.0%)
Unknown	16 (9.1%)
Total	175 (100%)

Complications of EMR	Cases (%)
(-)	151 (85.8%)
Perforation	3 (0.2%)
Bleeding	0
Mediastinitis	1 (0.06%)
Stenosis	14 (8.0%)
Others	0
Unknown	7 (4.0%)
Total number of complications	176 (100%)
Total cases	175

Table 23) Prognosis of patients underwent endoscopic mucosal resection (EMR)

Outcome	Cases (%)
Alive	152 (86.9%)
Dead	6 (3.4%)
Lost of follow up	14 (8.0%)
Unknown	3 (1.7%)
Total	175 (100%)

Causes of Death	Cases (%)
Death due to esophageal cancer	2 (33.3%)
Death due to other cancer	3 (50.0%)
Death due to other disease (rec+)	0
Death due to other disease (rec-)	1 (16.7%)
Death due to other disease (rec?)	0
Death related to treatment within 30days	0
Death related to treatment after 30 days	0
Unknown	0
Total	6 (100%)

rec : reccurence

Type of recurrence	Cases (%)
None	137 (84.0%)
Lymph node	1 (0.6%)
Lung	1 (0.6%)
Liver	1 (0.6%)
Bone	0
Brain	0
Local	4 (2.5%)
Dissemination	0
Stump	1 (0.6%)
Other	1 (0.6%)
Unknown	17 (10.4%)
Total	163 (100%)

Table 24) Histologic findings of EMR specimen (tumor size, tistologic type, and depth of tumor invasion)

Size of lesion	Cases	(%)
~ 9mm	6	(3.4%)
10 ~19mm	28	(16.0%)
20~29mm	28	(16.0%)
30~39mm	5	(2.9%)
40~49mm	6	(3.4%)
50~59mm	0	
60~69mm	1	(0.6%)
70mm~`	0	
Unknown	101	(57.7%)
Total	175	(100%)

Histologic type of EMR specimen	Cases	(%)
Not examined	2	(1.1%)
Squamous cell ca (SCC)	85	(48.6%)
Well diff. SCC	24	(13.7%)
Moderately diff. SCC	47	(26.9%)
Poorly diff. SCC	6	(3.4%)
Barrett's carcinoma	2	(1.1%)
Basoloid Ca	0	
So-called Carcinosarcoma	0	
Dysplasia	3	(1.7%)
Others	2	(1.1%)
Unknown	4	(2.3%)
Total	175	(100%)

Pathological depth of tumor invasion (pT)	Cases	(%)
Not examined	1	(0.6%)
pTis	59	(33.7%)
pT1a(lpm)	37	(21.1%)
pT1a(mm)	35	(20.0%)
pt1b	16	(9.1%)
Others	0	
Unknown	27	(15.4%)
Total	175	(100%)

Sub-classification of histologic depth of invasion in superficial cancer	Cases	(%)
m1(ep)	59	(33.7%)
m2(lpm)	37	(21.1%)
m3(mm)	35	(20.0%)
sm1	8	(4.6%)
sm2	4	(2.3%)
sm3	1	(0.6%)
Unknown	31	(17.7%)
Total	175	(100%)

ep: epithelium
lpm: lamina propria mucosa
mm: muscularis mucosa

Table 25) Histologic findings of EMR specimen (intraepithelial spread, vessel invasion, multiple cancer, and multiple lesion)

Intraepithelial spread (ie)	Cases (%)
(-)	126 (72.0%)
(+)	7 (4.0%)
(+++) superficial spread	0
Unknown	42 (24.0%)
Total	175 (100%)

Lympatic vessel invasion (ly)	Cases (%)
(-)	125 (71.4%)
(+)	9 (5.1%)
Unknown	41 (23.4%)
Total	175 (100%)

Blood vessel invasion (v)	Cases (%)
(-)	127 (72.5%)
(+)	1 (0.6%)
Unknown	47 (26.9%)
Total	175 (100%)

Multiple primary cancer	Cases (%)
(-)	75 (42.9%)
(+)	18 (10.3%)
Unknown	82 (46.9%)
Total	175 (100%)

Multiple malignant lesions	Cases (%)
(-)	79 (45.1%)
(+)	19 (10.9%)
Unknown	77 (44.0%)
Total	175 (100%)

No. of multiple primary lesions	Cases (%)
2	13 (68.4%)
3	4 (21.1%)
4	1 (5.3%)
Unknown	1 (5.3%)
Total	19 (100%)

Figure 1) Survival of patients treated with endoscopy

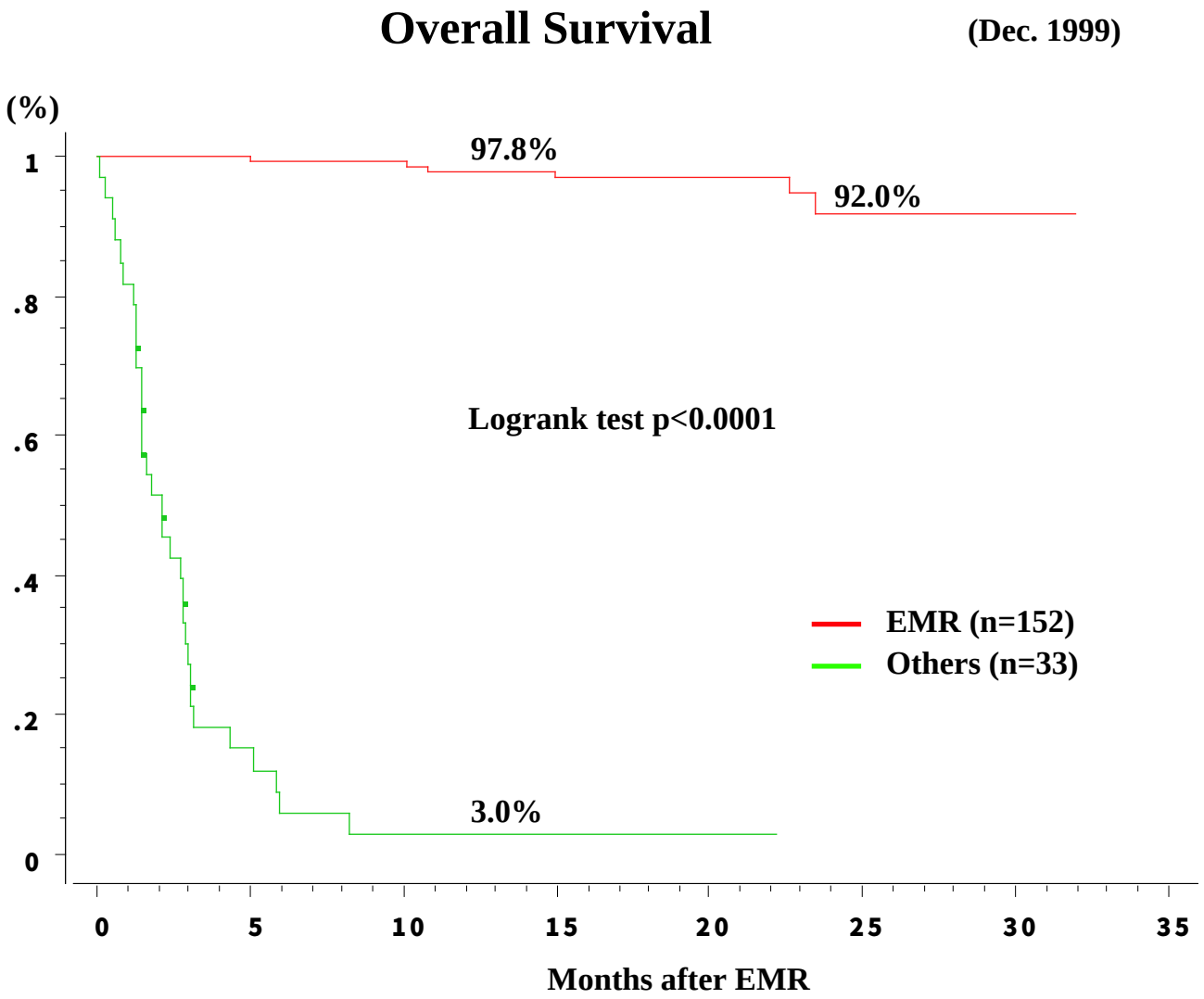


Figure 2) Survival of patients treated with EMR

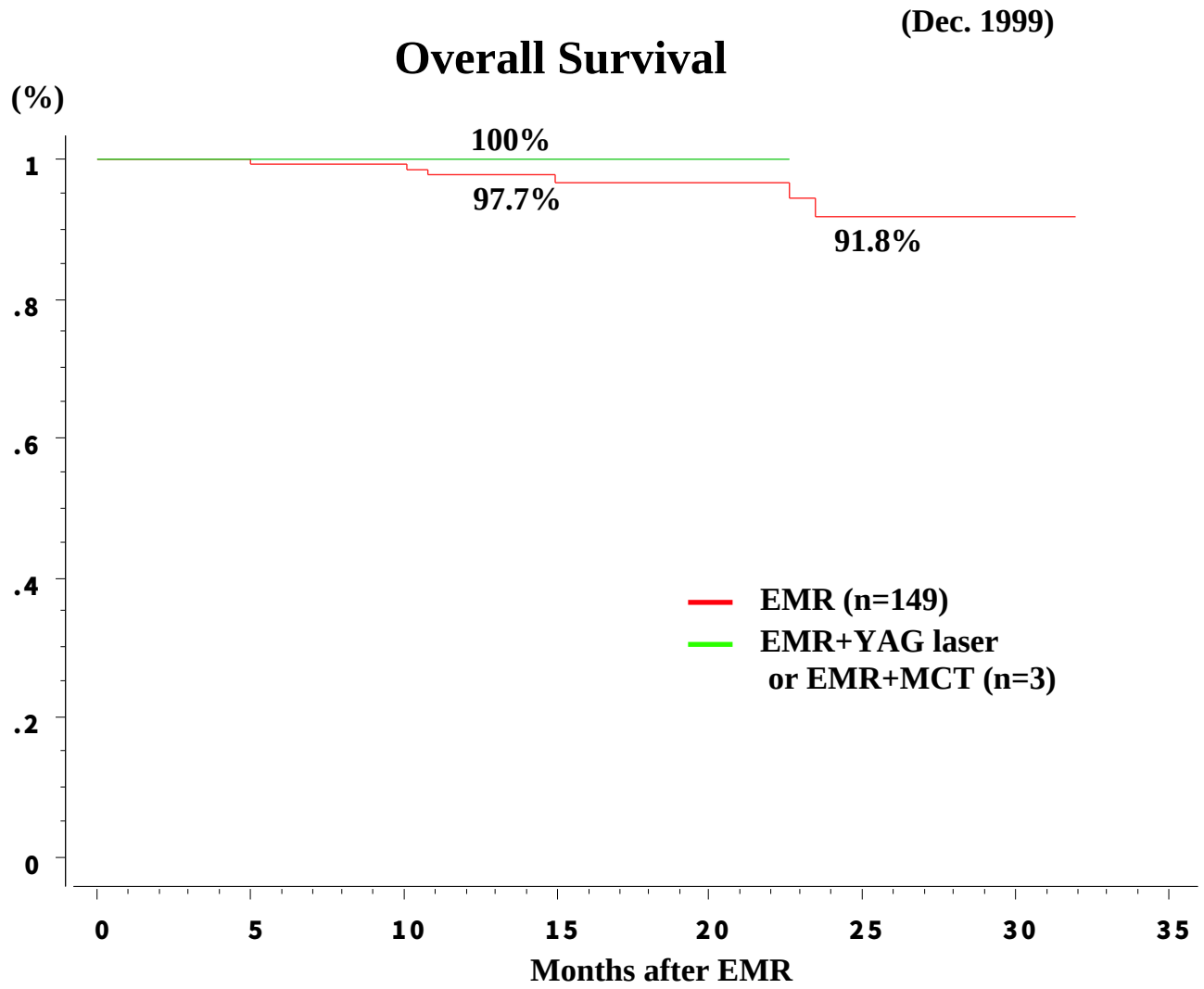
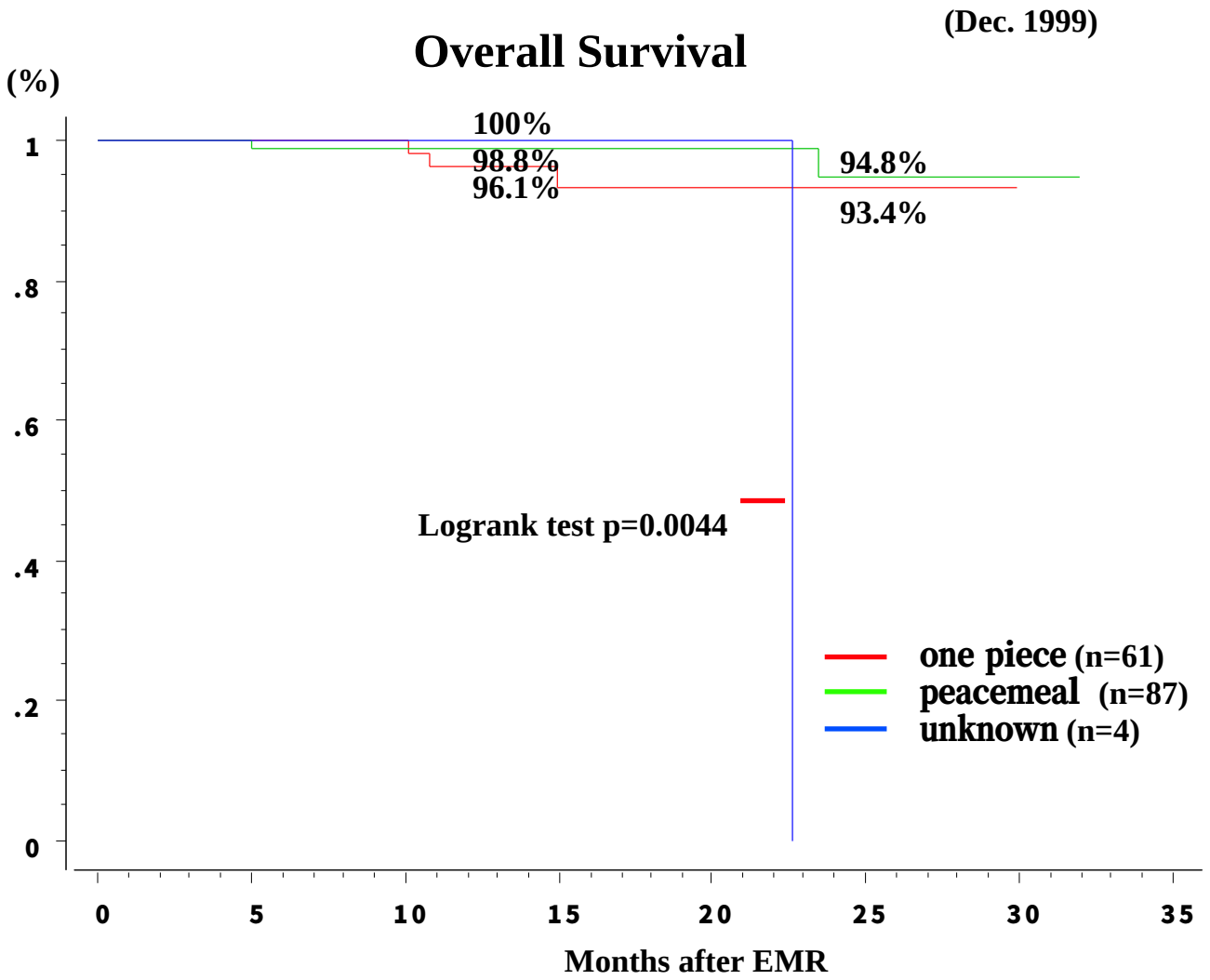


Figure 3) Survival of patients according to type of EMR



III. Clinical Results in Patients treated with Chemotherapy and/or Radiotherapy in 1997

Table 26) Radiotherapy and/or chemotherapy (non surgically treated cases)

Treatment	Cases (%)
Radiotherapy alone	208 (34.0%)
Chemoradiotherapy	352 (57.6%)
Chemotherapy alone	51 (8.3%)
Total	611 (100%)

Radiotherapy	Cases (%)
Non irradiation	51 (8.3%)
Curative radiation	436 (71.4%)
Palliative radiation	114 (18.7%)
Others	3 (1.1%)
Unknown	7 (0.5%)
Total	611 (100%)

Endo-irradiation	Cases (%)
Non irradiation	51 (10.5%)
(-)	371 (59.2%)
(+)	47 (11.0%)
Unknown	142 (19.3%)
Total	611 (100%)

Doses of irradiation (Gy)	Cases (%)
0	51 (8.3%)
~ 19	18 (2.9%)
20 ~ 39	46 (7.5%)
40 ~ 59	103 (16.9%)
60 ~ 79	256 (41.9%)
80 ~ 99	6 (1.0%)
100 ~	4 (0.7%)
Unknown	127 (20.8%)
Total	611 (100%)

Table 27) Effectiveness of radiotherapy and/or chemotherapy (non surgically treated cases)

Chemotherapy	Cases	(%)
(-)	208	(34.0%)
(+)	403	(66.0%)
Unknown	0	
Total	611	(100%)

Response to radiotherapy	Cases	(%)
CR	26	(12.5%)
PR	65	(31.3%)
NC	32	(15.4%)
PD	4	(1.9%)
Not evaluated	31	(14.9%)
Unknown	50	(24.0%)
Total	208	(100%)

Response to chemoradiotherapy	Cases	(%)
CR	42	(11.9%)
PR	138	(39.2%)
NC	55	(15.6%)
PD	26	(7.4%)
Not evaluated	36	(10.2%)
Unknown	55	(15.6%)
Total	352	(100%)

Response to chemotherapy	Cases	(%)
CR	0	
PR	11	(21.6%)
NC	17	(33.3%)
PD	7	(13.7%)
Not evaluated	4	(7.8%)
Unknown	12	(23.5%)
Total	51	(100%)

Figure 4) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy

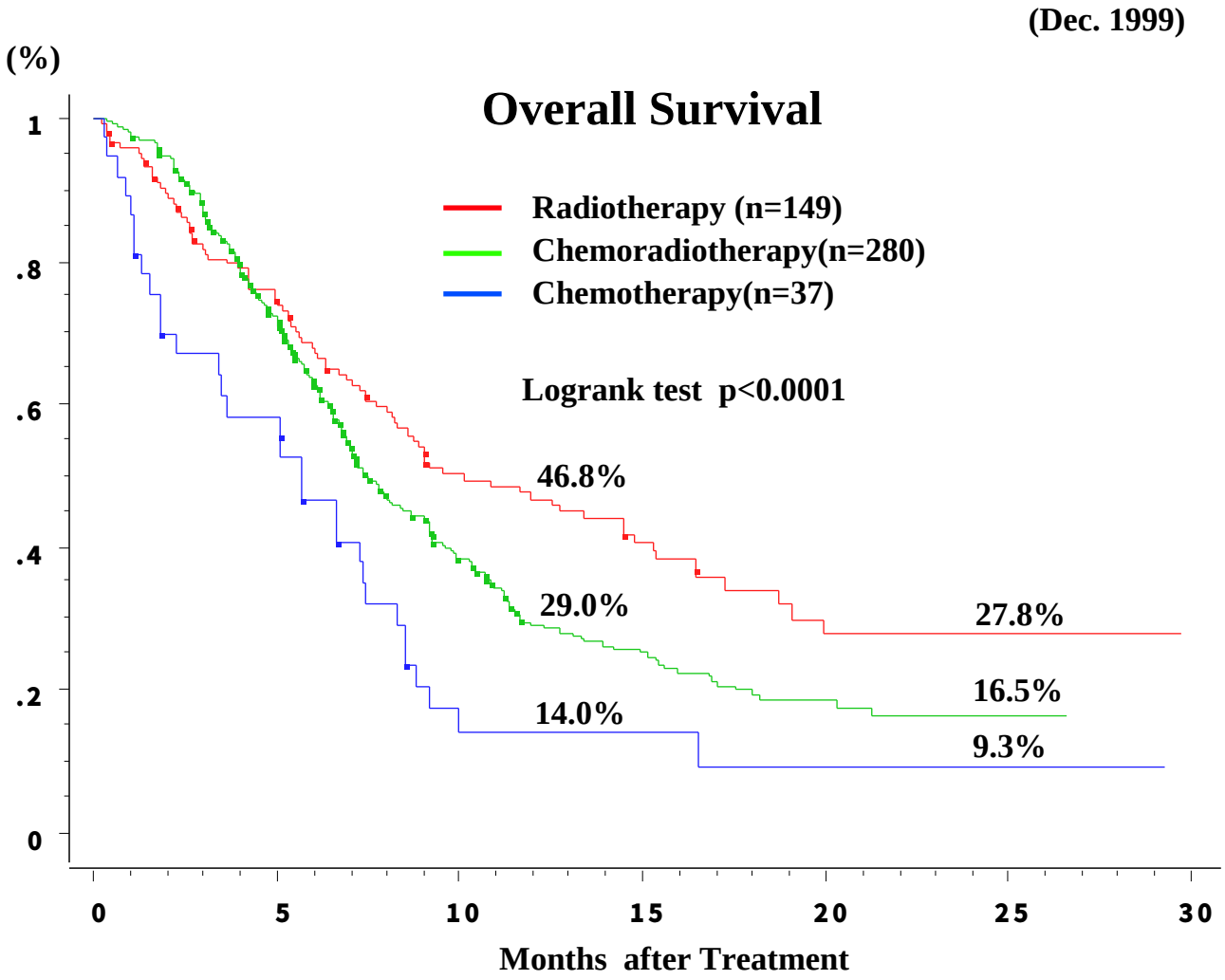


Figure 5) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage I-IIA)

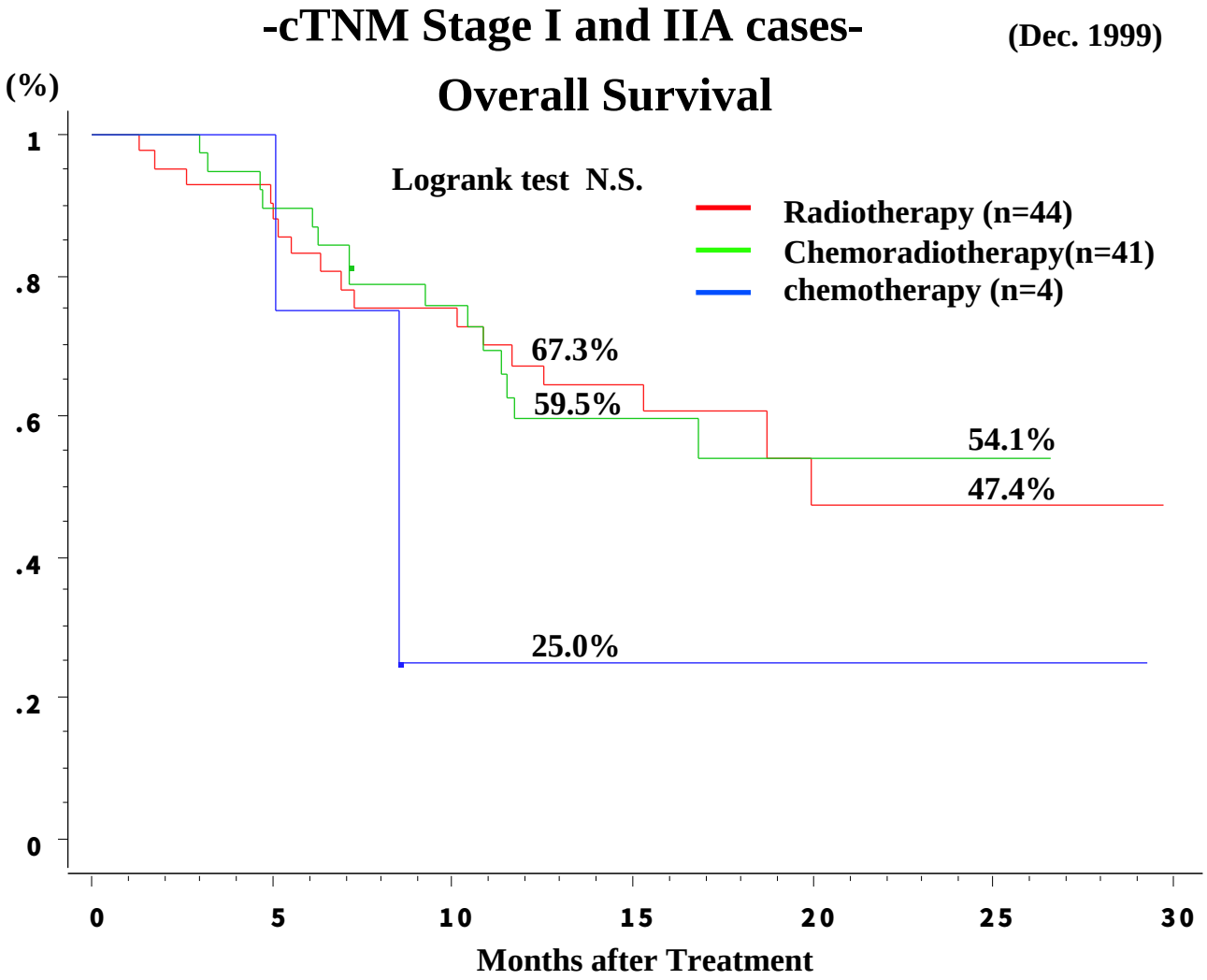
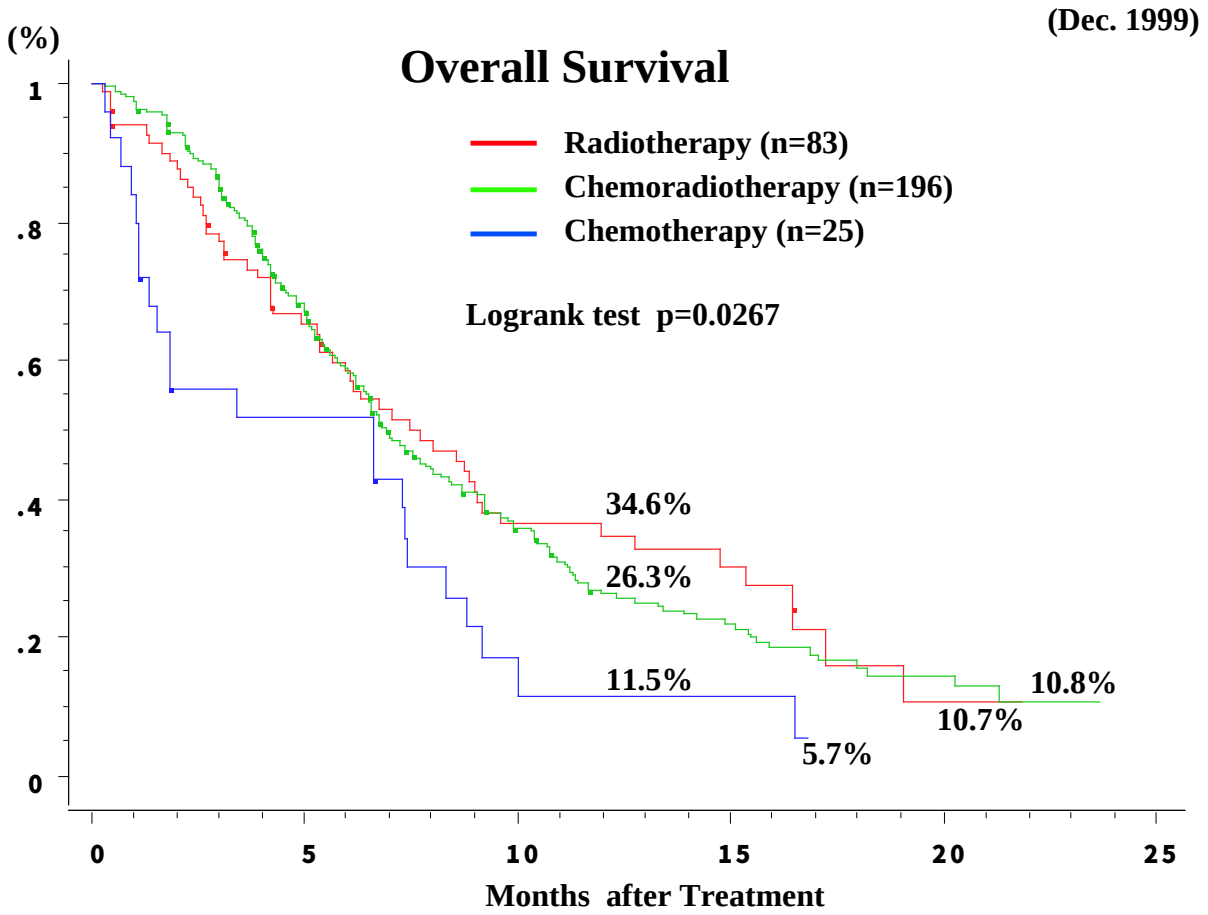


Figure 6) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage IIB-IVB)

-cTNM Stage IIB, III, IVA, IVB Cases-



IV. Clinical Results in Patients treated by Palliative Operation in 1997

Table 28) Palliative operation cases without esophagectomy

Treatment	Cases	(%)
Surgery	41	(34.2%)
Surgery +radiotherapy	13	(10.8%)
Surgery +chemoradiotherapy	24	(20.0%)
Surgery +chemoradiotherapy + hyperthermia	3	(2.5%)
Surgery + chemoradiotherapy + endoscopic treatment	2	(1.7%)
Surgery + chemotherapy	28	(23.3%)
Surgery + chemotherapy +hyperthermia	1	(0.8%)
Surgery + endoscopic treatment	1	(0.8%)
	7	(5.8%)
Total	120	(100%)

Radiotherapy	Cases	(%)
No-irradiation	68	(56.7%)
Curative irradiation	35	(29.2%)
Palliative irradiation	15	(12.5%)
Unknown	2	(1.7%)
Total	120	(100%)

Surgical treatment	Cases	(%)
Probe thoraco / laparotomy	62	(51.7%)
Bypass-operation	35	(29.2%)
Gastrostomy / Jejunostomy	23	(19.2%)
Lymph adenectomy	0	
Others	0	
Total	120	(100%)

Total doses (Gy)	Cases	(%)
0	68	(56.7%)
2 - 19	1	(0.8%)
20 - 39	3	(2.5%)
40 - 59	22	(18.3%)
60 - 79	23	(19.2%)
80 - 99	0	
100 -	1	(0.8%)
Unknown	2	(1.7%)
Total	120	(100%)

Table 29) Effectiveness of treatments (Palliative operation cases without esophagectomy)

Chemotherapy	Cases (%)
(-)	61 (50.8%)
(+)	59 (49.2%)
Total	120 (100%)

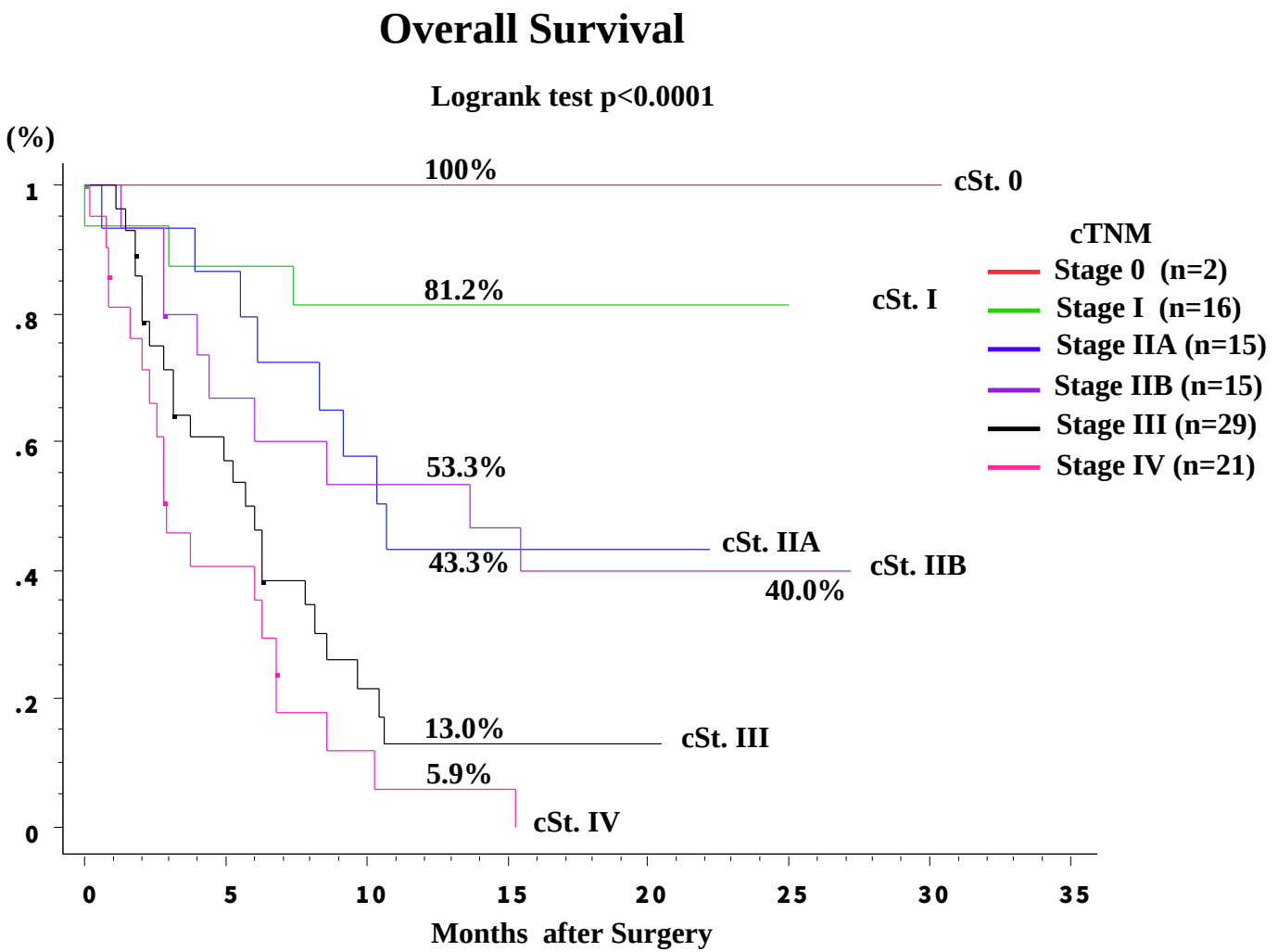
Surg + radiotherapy	Cases (%)
CR	0
PR	4 (30.8%)
NC	4 (30.8%)
PD	1 (7.7%)
Not evaluated	2 (15.4%)
Unknown	2 (15.4%)
Total	13 (100%)

Surg + chemoradiotherapy	Cases (%)
CR	0
PR	5 (17.2%)
NC	4 (13.8%)
PD	5 (17.2%)
Not evaluated	6 (20.7%)
Unknown	9 (31.0%)
Total	29 (100%)

Surg + chemotherapy	Cases (%)
CR	0
PR	2 (6.7%)
NC	3 (10.0%)
PD	3 (10.0%)
Not evaluated	11 (36.7%)
Unknown	11 (36.7%)
Total	30 (100%)

Figure 7) Cumurative survival curves of patients treated by palliative surgery (cTNM)

(Dec.1999)



V. Clinical Results in Patients treated with Esophagectomy in 1997

Table 30) Cases of esophagectomy (treatment, surgical procedure, and location of the tumor)

Treatment	Cases	(%)
Esophagectomy	1001	(51.4%)
Esophagectomy + radiotherapy*	284	(14.6%)
Esophagectomy + chemoradiotherapy**	274	(14.1%)
Esophagectomy + chemotherapy***	356	(18.3%)
Esophagectomy + endoscopic treatment	29	(1.5%)
Esophagectomy + other treatment	4	(0.2%)
Total	1948	(100%)

* : + endoscopic treatment (3cases)
** : + hyperthermia (8cases), + endoscopic treatment (1case) + other treatment (2cases)
***: + endoscopic treatment (1case), + other treatment (2cases)

Surgical procedures	Cases	(%)
Esophagectomy without reconstruction	7	(0.4%)
Esophagectomy + reconstruction (2-stage operation)	25	(1.3%)
Esophagectomy with reconstruction	1916	(98.4%)
Total	1948	(100%)

Location	Cases	(%)
Pharynx	16	(0.8%)
Cervical esophagus	89	(4.6%)
Upper thoracic esophagus	208	(10.7%)
Middle thoracic esophagus	1003	(51.5%)
Lower thoracic esophagus	484	(24.8%)
Abdominal esophagus	129	(6.6%)
EG Junction	16	(0.8%)
Cardia	2	(0.1%)
Unknown	1	(0.05%)
Total	1948	(100%)

Table 31) Cases of esophagectomy (surgical approach and region of lymphadenectomy)

Approach	Cases	(%)
Cervical approach	65	(3.3%)
Right thoracotomy	1558	(80.0%)
Left thoracotomy	42	(2.2%)
Left thoracoabdominal apprroarch	50	(2.6%)
Laparotomy	38	(2.0%)
Transhiatal (without blunt dissection)	12	(0.6%)
Transhiatal (with blunt dissection)	120	(6.2%)
Sternotomy	12	(0.6%)
Others	23	(1.2%)
Unknown	28	(1.4%)
Total	1948	(100%)

Region of lymphadenectomy	Cases	(%)
(-)	56	(2.8%)
C	34	(1.7%)
C+UM	21	(1.1%)
C+UM+MLM	43	(2.2%)
C+UM+MLM+A	604	(31.0%)
C+UM+A	7	(0.4%)
C+MLM	1	(0.05%)
C+MLM+A	8	(0.4%)
C+A	16	(0.8%)
UM	5	(0.3%)
UM+MLM	34	(1.7%)
UM+MLM+A	694	(35.6%)
MLM+A	8	(0.4%)
MLM	17	(0.8%)
MLM+A	233	(12.0%)
A	86	(4.4%)
Unknown	82	(4.2%)
Total	1948	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM:middle-lower mediastinal nodes
A:abdominal nodes

Table 32) Cases of esophagectomy (esophageal reconstruction)

Reconstruction route	Cases	(%)
(-)	5	(0.3%)
Antethoracic	258	(13.2%)
Retrosternal	761	(39.1%)
Posterior mediastinal	492	(25.3%)
High intrathoracic*	201	(10.3%)
Low intrathoracic**	99	(5.1%)
Transhiatal	43	(2.2%)
Cervical	42	(2.2%)
Others	4	(0.2%)
Unknown	43	(2.2%)
Total	1948	(100%)

* with upper mediastinal anastomosis
** with middle/lower mediastinal anastomosis

Organs for esophageal replacement	Cases	(%)
(-)	10	(0.5%)
Whole stomach*	155	(8.0%)
Gastric tube**	1484	(76.2%)
Jejunum***	85	(4.4%)
Free junum	54	(2.8%)
Colon	127	(6.5%)
Free colon	10	(0.5%)
Skin graft	0	
Others	6	(0.3%)
Unknown	17	(0.9%)
Total	1948	(100%)

* : Free jejunum+Whole stamach (1 case)
** : Gastric tube+Jejunum (1 case), Free jujunum+Gastric tube (5 cases),
Free colon+Gastric tube+Jejunum (1 cases),
Free colon+Gastric tube (1 cases), Gastric tube+others (1 case)
***: Jejunum+Colon (1 case)

Table 33) Cases of intrathoracic esophagectomy (location of the tumor and reconstrucion route)

Location	Upper thoracic		Middle thortacic		Lower thoracic		Total thoracic	
Reconstruction route	Cases	(%)	Cases	(%)	Cases	(%)	Cases	(%)
(-)	0		2	(0.2%)	1	(0.2%)	3	(0.2%)
Antethoracic	33	(15.9%)	156	(15.5%)	59	(12.2%)	248	(14.6%)
Retrosternal	89	(42.8%)	440	(43.9%)	192	(39.7%)	721	(42.5%)
Posterior mediastinal	67	(32.2%)	259	(25.8%)	106	(21.9%)	432	(25.5%)
High intrathoracic*	13	(6.3%)	112	(11.2%)	63	(13.0%)	188	(11.1%)
Low intrathoracic**	0		8	(0.8%)	47	(9.7%)	55	(3.2%)
Transhiatal	0		3	(0.3%)	7	(1.4%)	10	(0.6%)
Cervical	1	(0.5%)	1	(0.1%)	1	(0.2%)	3	(0.2%)
Others	0		1	(0.1%)	0		1	(0.1%)
Unknown	5	(2.4%)	21	(2.1%)	8	(1.7%)	34	(2.0%)
Total	208	(100%)	1003	(100%)	484	(100%)	1695	(100%)

* with upper mediastinal anastomosis
** with middle/lower mediastinal anastomosis

Table 34) Cases of esophagectomy for external lesion of the thorax (location of the tumor and reconstrucion route)

Location	Pharynx	Cervical esophagus	Abdominal esophagus	EGJ/Cardia
Reconstruction route	Cases (%)	Cases (%)	Cases (%)	Cases (%)
(-)	1 (6.3%)	1 (1.1%)	0	0
Antethoracic	0	2 (2.2%)	8 (6.2%)	0
Retrosternal	2 (12.5%)	8 (9.0%)	30 (23.3%)	0
Posterior mediastinal	4 (25.0%)	42 (47.2%)	12 (9.3%)	1 (5.6%)
High intrathoracic*	0	1 (1.1%)	11 (8.5%)	1 (5.6%)
Low intrathoracic**	0	0	39 (30.2%)	5 (27.8%)
Transhiatal	0	0	24 (18.6%)	9 (50.0%)
Cervical	8 (50.0%)	31 (34.8%)	0	0
Others	0	2 (2.2%)	0	1 (5.6%)
Unknown	1 (6.3%)	2 (2.2%)	5 (3.9%)	1 (5.6%)
Total	16 (100%)	89 (100%)	129 (100%)	18* (100%)

* with upper mediastinal anastomosis
** with middle/lower mediastinal anastomosis

* E=G:16cases, G:2 casese

Table 35) Cases of intrathoracic esophagectomy (location of the tumor and lymph node dissection)

Location	Upper thoracic		Middle thoracic		Lower thoracic		Total	
Region of lymphadenectomy	Cases	(%)	Cases	(%)	Cases	(%)	Cases	%)
(-)	9	(4.3%)	32	(3.2%)	10	(2.1%)	51	(3.0%)
C	0		2	(0.2%)	0		2	(0.1%)
C+UM	1	(0.5%)	1	(0.1%)	0		2	(0.1%)
C+UM+MLM	7	(3.4%)	16	(1.6%)	10	(2.1%)	33	(1.9%)
C+UM+MLM+A	102	(49.0%)	356	(35.5%)	117	(24.2%)	575	(33.9%)
C+UM+A	3	(1.4%)	2	(0.2%)	0		5	(0.3%)
C+MLM	0		1	(0.1%)	0		1	(0.06%)
C+MLM+A	0		7	(0.7%)	0		7	(0.4%)
C+A	2	(1.0%)	5	(0.5%)	0		7	(0.4%)
UM	0		3	(0.3%)	2	(0.4%)	5	(0.3%)
UM+MLM	9	(4.3%)	21	(2.1%)	3	(0.6%)	33	(1.9%)
UM+MLM+A	53	(25.5%)	401	(40.0%)	208	(43.0%)	662	(39.1%)
MLM+A	3	(1.4%)	4	(0.4%)	0		7	(0.4%)
MLM	1	(0.5%)	11	(1.1%)	3	(0.6%)	15	(0.9%)
MLM+A	3	(1.4%)	74	(7.4%)	87	(18.0%)	164	(9.7%)
A	7	(3.4%)	30	(3.0%)	25	(5.2%)	62	(3.7%)
Unknown	8	(3.8%)	37	(3.7%)	19	(3.9%)	64	(3.8%)
Total	208	(100%)	1003	(100%)	484	(100%)	1695	(100%)

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes

Table 36) Cases of esophagectomy for external lesion of the thorax (location of the tumor and lymph node dissection)

Location	Pharynx	Cervical esophagus	Abdominal esophagus	EGJ/Cardia
Region of lymphadenectomy	Cases (%)	Cases (%)	Cases (%)	Cases (%)
(-)	1 (6.3%)	2 (2.2%)	0	0
C	6 (37.5%)	26 (29.2%)	0	0
C+UM	3 (18.8%)	16 (18.0%)	0	0
C+UM+MLM	0	9 (10.1%)	1 (0.8%)	0
C+UM+MLM+A	1 (6.3%)	16 (18.0%)	12 (9.3%)	0
C+UM+A	1 (6.3%)	1 (1.1%)	0	0
C+MLM	0	0	0	0
C+MLM+A	0	1 (1.1%)	0	0
C+A	0	8 (9.0%)	1 (0.8%)	0
UM	0	0	0	0
UM+MLM	0	1 (1.1%)	0	0
UM+MLM+A	0	2 (2.2%)	30 (23.3%)	0
MLM+A	0	0	1 (0.8%)	0
MLM	0	0	2 (1.6%)	0
MLM+A	0	0	60 (46.5%)	9 (50.0%)
A	0	0	18 (14.0%)	6 (33.3%)
Unknown	4 (25.0%)	7 (7.9%)	4 (3.1%)	3 (16.7%)
Total	16 (100%)	89 (100%)	129 (100%)	18* (100%)

*E=G:16cases, G:2cases

Table 37) Cases of esophagectomy (vascular anastomosis and endoscopic surgery)

Vascular anastomosis	Cases	(%)
(-)	1763	(90.5%)
(+)	103	(5.3%)
Unknoun	82	(4.2%)
Total	1948	(100%)

Endoscopic surgery	Cases	(%)
(-)	1736	(89.1%)
Thoracoscopy	52	(2.7%)
Thoracoscopy assist	39	(2.0%)
Laparoscopy assist	16	(0.8%)
Mediastinoscopy assist	4	(0.2%)
Unknown	101	(5.2%)
Total	1948	(100%)

Table 38) Cases of esophagectomy (operative findings of cT and combined resected organs)

Macroscopic T-category (cT)	Cases	(%)
T0	46	(2.4%)
T1	409	(21.0%)
T2	492	(25.3%)
T3	738	(37.9%)
T4	236	(12.1%)
Unnkown	27	(1.4%)
Total	1948	(100%)

cT4 by metastatic lymph node	Cases	(%)
(-)	1729	(88.8%)
N1(T4)	31	(1.6%)
N2(T4)	82	(4.2%)
N3(T4)	25	(1.3%)
N4(T4)	20	(1.0%)
Nx(T4)	2	(0.1%)
Unnkown	59	(3.0%)
Total	1948	(100%)

Organs*	Cases	(%)
(-)	128	(41.6%)
Larynx	22	(7.1%)
Trachea	15	(4.9%)
Aorta	2	(0.6%)
Lung	26	(8.4%)
Pericardium	12	(3.9%)
Diaphragm	20	(6.5%)
Stomach	2	(0.6%)
Pancreas+spleen	2	(0.6%)
Thoracic duct	36	(11.7%)
Reccurent nerve	3	(1.0%)
Reccurrent nerve (main trunk)	0	
Others	20	(6.5%)
Unkown	20	(6.5%)
Total of resected organs	308	(100%)
Total of cT4 cases	236	

*: Organs resected in addition to the esophagus

Table 39) Cases of esophagectomy (operative findings of the tumor feature and size)

Macroscopic type	Cases	(%)
0-Ip	45	(2.3%)
0-Ipl	74	(3.8%)
0-Isep	24	(1.2%)
0-IIa	112	(5.7%)
0-IIb	74	(3.8%)
0-IIc	240	(12.3%)
0-III	17	(0.9%)
0-V	9	(0.5%)
1p	53	(2.7%)
1c	25	(1.3%)
1pl	63	(3.2%)
1sep	0	
2	544	(27.9%)
3	472	(24.2%)
4s	36	(1.8%)
4ns	8	(0.4%)
5c	24	(1.2%)
5s	1	(0.05%)
5u	49	(2.5%)
Unknown	78	(4.0%)
Total	1948	(100%)

Size of Tumor (mm)	Cases	(%)
~ 9	28	(1.4%)
10 ~ 19	142	(7.3%)
20 ~ 29	227	(11.7%)
30 ~ 39	286	(14.7%)
40 ~ 49	298	(15.3%)
50 ~ 59	272	(14.0%)
60 ~ 69	207	(10.6%)
70 ~ 79	150	(7.7%)
80 ~ 89	90	(4.6%)
90 ~ 99	35	(1.8%)
100 ~109	35	(1.8%)
110 ~119	12	(0.6%)
120 ~129	12	(0.6%)
130 ~139	5	(0.3%)
140 ~149	5	(0.3%)
150 ~	8	(0.4%)
Unknown	136	(7.0%)
Total	1948	(100%)

0- I : superficical and protruding type
0- IIa : superficical and slight elevated type
0- IIb : superficical and flat type
0- IIc : superficical and slightly depressed
0- III : superficical and distinctly depressed

1 : protruding type
2 : ulcerative and localized type
3 : ulcerative and infiltrating type
4 : diffusely infiltrating type
5 : miscellameous type

Table 40) Histologic types of resected specimen and multiple primary cancer

Histologic types		Cases (%)	
Not examined		2	(0.1%)
SCC	SCC	136	(7.0%)
	Well diff.	454	(23.3%)
	Moderately diff.	841	(43.2%)
	Poorly diff.	346	(17.8%)
Adenocarcinoma		31	(1.6%)
Barrett's adenocarcinoma		6	(0.3%)
Adenosquamous cell carcinoma		18	(0.9%)
Epidermoid carcinoma		4	(0.2%)
Adenoid cystic carcunoma		3	(0.2%)
Basoloid carcinoma		20	(1.0%)
Undiff. carcinoma (small cell)		9	(0.5%)
Undiff. carcinoma		1	(0.05%)
Sarcoma		2	(0.1%)
So-called carcinosarcoma		13	(0.7%)
Pseudsarcoma		0	
True carcinosarcoma		3	(0.2%)
Malignant melanoma		3	(0.2%)
Dysplasia		3	(0.2%)
Other		24	(1.3%)
Unknown		29	(1.5%)
Total		1948	(100%)

Multiple primary cancer	Cases (%)	
(-)	1577	(85.5%)
(+)	241	(13.1%)
Unknown	27	(1.5%)
Total	1948	(100%)

Table 41) Pathological findings of resected specimen (residual cancer, intraepithelial spread, and infiltrative growth pattern)

Residual cancer cells at the transected stump

proximal (p)/distal (d)	Cases (%)
p / d (-)	1787 (91.7%)
p / d (+)	66 (3.4%)
Unknown	95 (4.9%)
Total	1948 (100%)

Residual cancer cell in the cut surface of the esophageal wall (ew) of the resected specimen

ew	Cases (%)
ew(-)	1638 (84.1%)
ew(+)	172 (8.8%)
Unknown	138 (7.1%)
Total	1948 (100%)

Intraepithelial spread (ie)

ie	Cases (%)
ie(-)	1069 (54.9%)
ie(+)	650 (33.4%)
ie(++)superficial	43 (2.2%)
Unknown	186 (9.5%)
Total	1948 (100%)

Infiltrative growth pattern (inf)

inf	Cases (%)
inf **α**	284 (14.6%)
inf **β**	1088 (55.9%)
inf **γ**	172 (8.8%)
Unknown	404 (20.7%)
Total	1948 (100%)

Table 42) Pathological findings of resected specimen (vessel invasion and intramural metastasis)

Lympatic vessel invasion (ly)		Cases	(%)
ly0		542	(27.8%)
ly(+)	ly(+)	138	(7.1%)
	ly1	578	(29.7%)
	ly2-3	584	(30.0%)
Unknown		106	(5.4%)
Total		1948	(100%)

Blood vessel invasion (v)		Cases	(%)
v0		940	(48.3%)
v(+)	v(+)	71	(3.6%)
	v1	475	(24.4%)
	v2-3	351	(18.0%)
Unknown		111	(5.7%)
Total		1948	(100%)

Intramural metastasis in the esophageal wall (im-e)	Cases	(%)
im-e (-)	1680	(86.2%)
im-e (+)	171	(8.8%)
Unknown	97	(5.0%)
Total	1948	(100%)

Intramural metastasis in the stomach wall (im-st)	Cases	(%)
im-st (-)	1743	(89.5%)
im-st (+)	43	(2.2%)
Unknown	162	(8.3%)
Total	1948	(100%)

Table 43) Pathological findings of resected specimen (pT)

Depth of tumor invasion

pT-category	Cases	(%)
Not examined	2	(0.1%)
pT0	7	(0.4%)
pTis	41	(2.1%)
pT1a	147	(7.5%)
pT1b	433	(22.2%)
pT2	312	(16.0%)
pT3	805	(41.3%)
pT4	158	(8.1%)
Unknown	43	(2.2%)
Total	1948	(100%)

Subclassification of superficial carcinoma

Subclassification	Cases	(%)
m1 (ep)=pTis*	41	(6.6%)
m2 (lpm)=pT1a**	35	(5.6%)
m3 (mm)=pT1a***	112	(18.1%)
sm1(pT1b)	58	(9.3%)
sm2 (pT1b)	103	(16.6%)
sm3 (pT1b)	171	(27.5%)
Unknown (pT1b)	101	(16.3%)
Total	621	(100%)

* ep = epithelium
** lpm = lamina propria mucosa
*** mm = muscularis mucosa

Table 44) Pathological findings of resected specimen (pN)

Lymph node metastasis	Cases	(%)
n(-)	747	(38.3%)
n1+)	134	(6.9%)
n2(+)	508	(26.1%)
n3(+)	230	(11.8%)
n4(+)	202	(10.4%)
Unknown	127	(6.5%)
Total	1948	(100%)

Number of lymph node metastasis	Cases	(%)
0	747	(38.3%)
1~3	537	(27.6%)
4~7	221	(11.3%)
8~	134	(6.9%)
Unknown	309	(15.9%)
Total	1948	(100%)

Table 45) Pathological findings of resected specimen (grade of lymph node metastasis corrected using number of metastasis and fields of lymph node metastasis)

Grade of lymph node metastasis

(corrected using number of metastasis)

Grade of metastasis	Cases	(%)
gN0	747	(38.3%)
gN1(n1a)	104	(5.3%)
gN2(n2a)	8	(0.4%)
gN2(n1b)	310	(15.9%)
gN3(n1c)	1	(0.05%)
gN3(n2b)	99	(5.1%)
gN3(n3a)	85	(4.4%)
gN4(n2c)	20	(1.0%)
gN4(n3b)	66	(3.4%)
gN4(n3c)	40	(2.1%)
gN4(n4a)	38	(2.1%)
gN4(n4b)	48	(2.5%)
gN4(n4c)	73	(3.7%)
Unknown	309	(15.9%)
Total	1948	(100%)

Number of lymph node metastasis
a : 1~3
b : 4~7
c : 8~

Fields of lymph node metastasis

Field of metastasis	Cases	(%)
n(-)	747	(38.3%)
C	44	(2.3%)
A+C	63	(3.2%)
A+B+C	77	(4.0%)
B+C	11	(0.6%)
A	228	(11.7%)
A+B	235	(12.1%)
B	234	(12.0%)
Unknown	309	(15.9%)
Total	1948	(100%)

A: mediastinal lymph nodes
B: abdominal lymph nodes
C: cervical lymph nodes

Fig. 8) N-category in Japanese Classification (JSED 1998 ~)

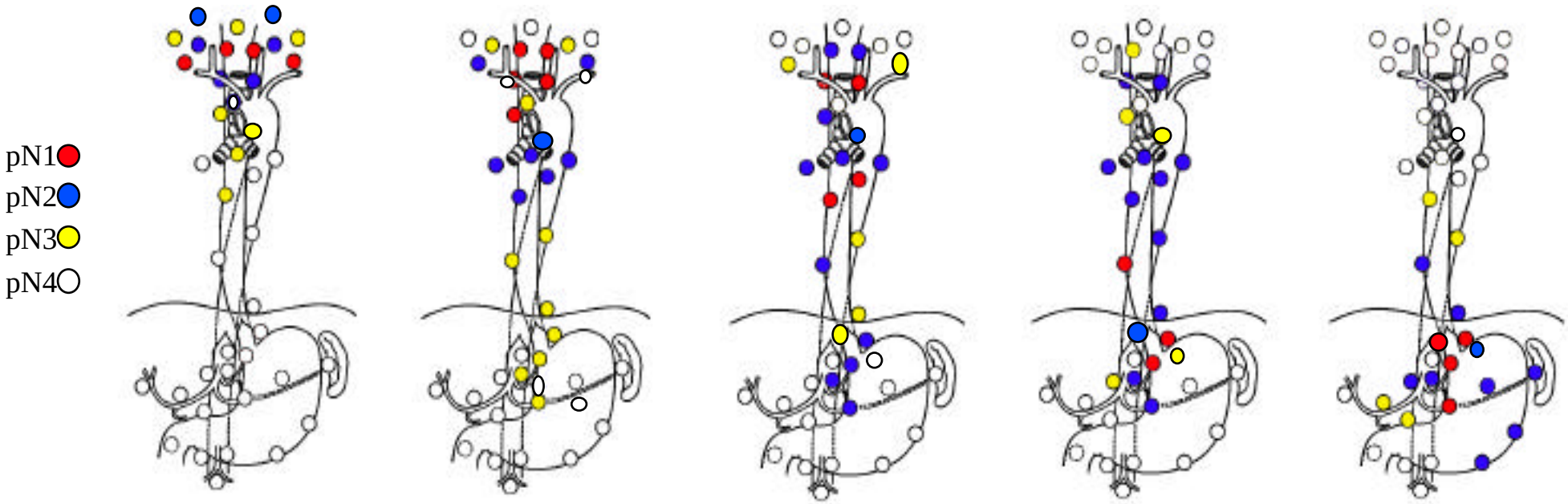


Fig. 9) Grade of metastasis (gN) corrected by number of metastatic node (JSED 1998 ~)

pN-category of JSED	Number of lymph node metastasis			
	0	a:(1~3)	b:(4~7)	c:(8~)
pN0	gN0			
pN1		gN1	gN2	gN3
pN2		gN2	gN3	
pN3		gN3	gN4	
pN4				

Fig. 10) Pathorogical Stage of JSED (1998 ~)

	gN0	gN1	gN2	gN3	gN4	M1
Tis	0					
T1a		I				
T1b	I					
T2		II	III		IVa	IVb
T3						
T4	III					

Table 46) Pathological findings of resected specimen (distant metastasis, stage, grade of dissection, and curability)

Distant metastasias (pM)	Cases	(%)
pM0	1806	(92.7%)
pM1	36	(1.8%)
Unknown	106	(5.4%)
Total	1948	(100%)

Pathological stage	Cases	(%)
0	173	(8.9%)
I	254	(13.0%)
II	404	(20.7%)
III	449	(23.0%)
IVa	319	(16.4%)
IVb	36	(1.8%)
Unknown	313	(16.1%)
Total	1948	(100%)

Grade of dissection (D)	Cases	(%)
D0	156	(8.0%)
DI	182	(9.3%)
DII	607	(31.2%)
DIII	918	(47.1%)
Unknown	85	(4.4%)
Total	1948	(100%)

Curability	Cases	(%)
Absolutely curative (a)	1065	(54.7%)
Relatively curative (b)	529	(27.2%)
Absolutely non-curative (c)	274	(14.1%)
Unknown	80	(4.1%)
Total	1948	(100%)

Table 47) Pathological findings of resected specimen (residual tumor, multiple cancers, and multiple lesions)

Residual tumor (R)	Cases	(%)
R0	1487	(76.3%)
R1	144	(7.4%)
R2	158	(8.1%)
Rx	159	(8.2%)
Total	1948	(100%)

Primary multiple cancers	Cases	(%)
(-)	1557	(79.9%)
(+)	308	(15.8%)
Unknown	83	(4.3%)
Total	1948	(100%)

Multiple malignant lesions	Cases	(%)
(-)	1597	(82.0%)
(+)	270	(13.9%)
Unknown	81	(4.2%)
Total	1923	(100%)

Number of malignant lesions	Cases	(%)
0	1597	(82.0%)
1	85	(4.4%)
2	115	(5.9%)
3	27	(1.4%)
4	15	(0.8%)
5 ~	9	(0.5%)
Unknown	100	(5.1%)
Total	1948	(100%)

Table 48) Adjuvant therapy for cases of esophagectomy

Radiotherapy	Cases	(%)
(-)	1325	(68.0%)
Preoperative	142	(7.3%)
Pre+postoperative	16	(0.8%)
Intraoperative(IOR)	21	(1.1%)
IOR+postoperative	41	(2.1%)
Postoperative	301	(15.5%)
Time to recurrence	97	(5.0%)
Unknown	5	(0.3%)
Total	1948	(100%)

Doses of irradiation (Gy)	Cases	(%)
0	1325	(68.0%)
1 ~ 19	34	(1.7%)
20 ~ 39	109	(5.6%)
40 ~ 59	269	(13.8%)
60 ~ 79	133	(6.8%)
80 ~ 99	9	(0.5%)
100~	3	(0.2%)
Unknown	66	(3.4%)
Total	1948	(100%)

Chemotherapy	Cases	(%)
(-)	1242	(63.8%)
Preoperative	225	(11.6%)
Pre+postoperative	47	(2.4%)
Intraoperative (IOR)	4	(0.2%)
Postoperative	367	(18.8%)
Time to recurrence	53	(2.7%)
Unknown	10	(0.5%)
Total	1948	(100%)

Type of chemotherapy	Cases	(%)
(-)	1242	(63.8%)
Chemotherapy alone	465	(23.9%)
Concurrent chemoradiotherapy	188	(9.7%)
Sequential chemoradiotherapy	43	(2.2%)
Others	0	
Unknown	10	(0.5%)
Total	1948	(100%)

Table 49) Outcome of cases with esophagectomy

Outcome	Cases (%)
Alive	1150 (59.0%)
Dead	653 (33.5%)
Lost of information	82 (4.2%)
Unknown	63 (3.2%)
Total	1948 (100%)

Courses of death	Cases (%)
Death due to recurrence	465 (71.2%)
Death due to other cancer	14 (2.1%)
Death due to other diseases(rec+)	10 (1.5%)
Death due to other diseases(rec-)	32 (4.9%)
Death due to other diseases(rec?)	7 (1.1%)
Operative death*	36 (5.5%)
Postoperative hospital death**	55 (8.4%)
Unknown	34 (5.2%)
Total death cases	653 (100%)

Initial recurrence lesion of death cases	Cases (%)
None	111 (12.1%)
Lymph node	220 (24.0%)
Lung	103 (11.2%)
Liver	104 (11.4%)
Bone	74 (8.1%)
Brain	10 (1.1%)
Primary lesion	79 (8.6%)
Dissemination	48 (5.2%)
Anastomotic region	5 (0.5%)
Others	33 (3.6%)
Unknown	129 (14.1%)
Total of recurrence lesion	916 (100%)
Total death cases	653

* Death within 30 days
** Death over 30 days

Figure 11) Overall survival curves of patients treated by esophagectomy (1997)

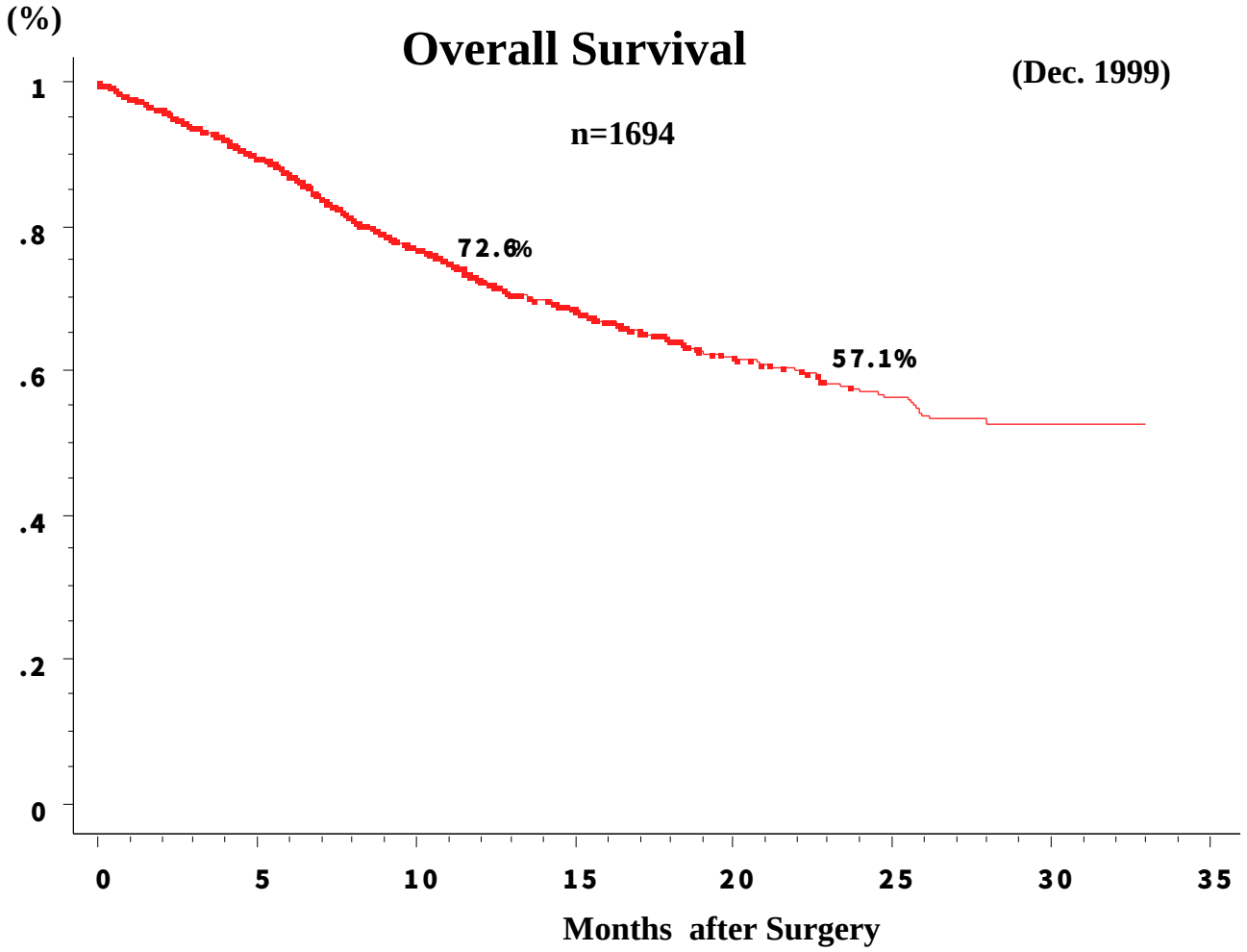


Figure12) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)

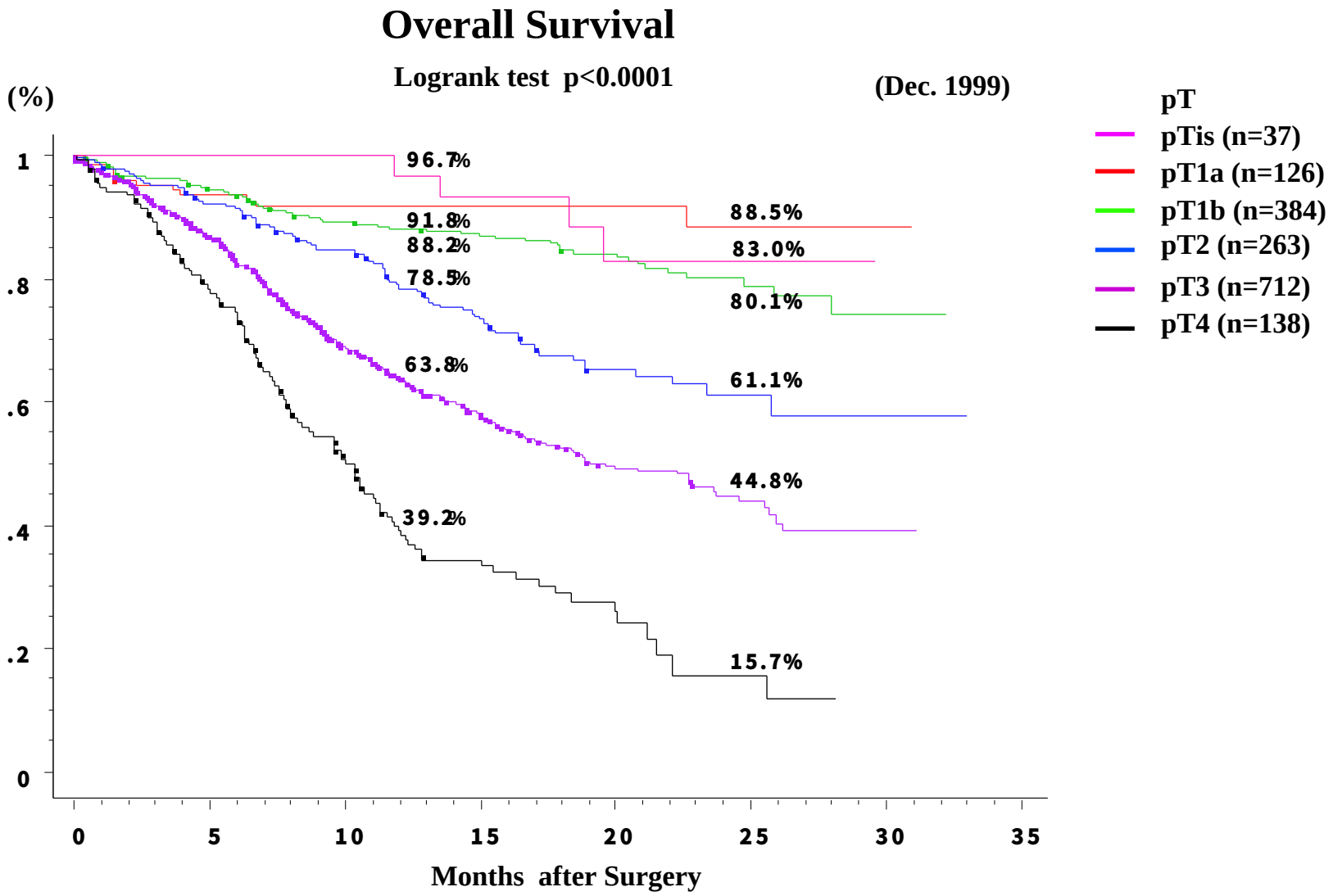


Figure 13) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN)

(Dec. 1999)

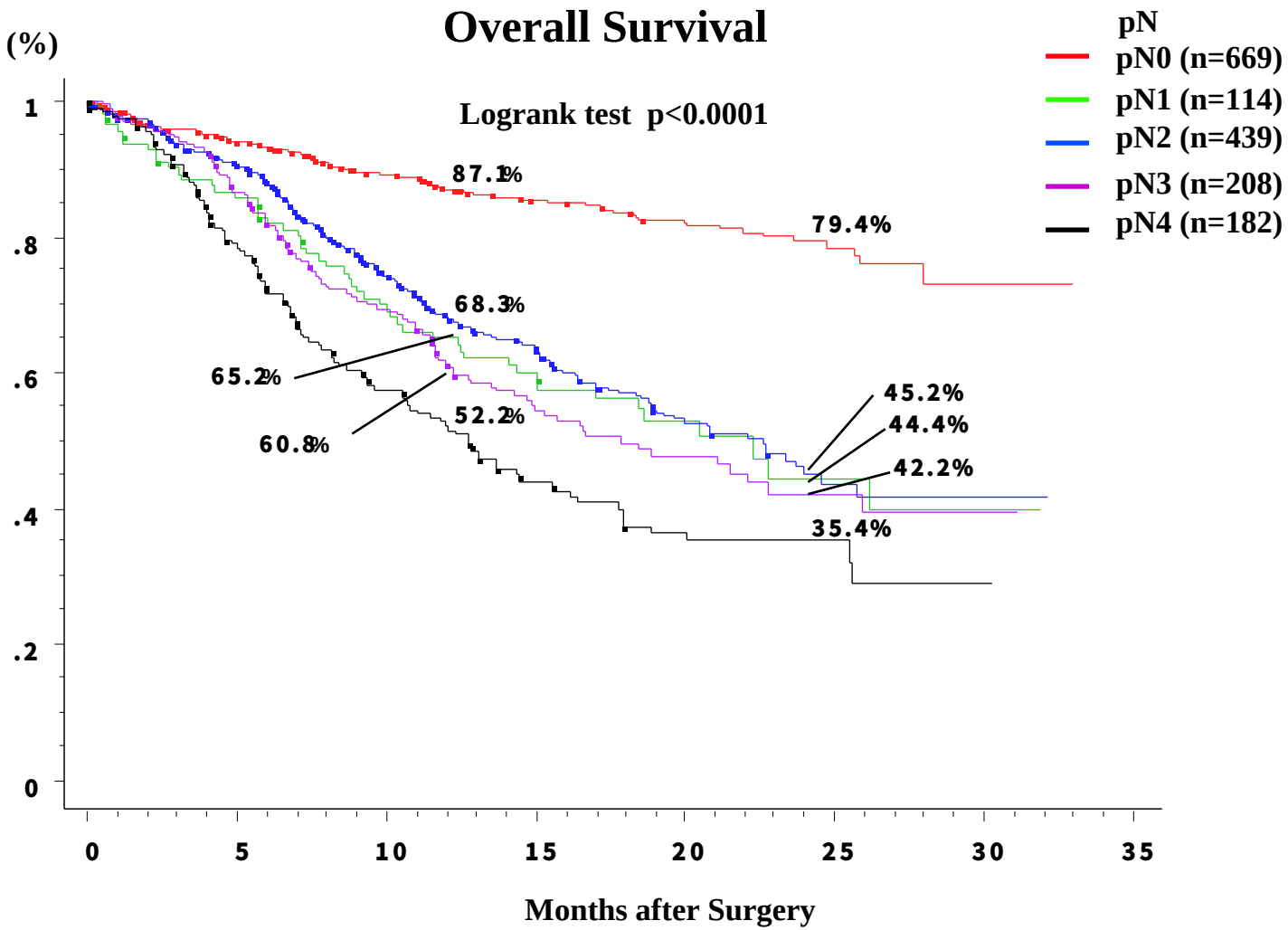


Figure 14) Survival of patients treated by esophagectomy in relation to pathological stage

(Dec. 1999)

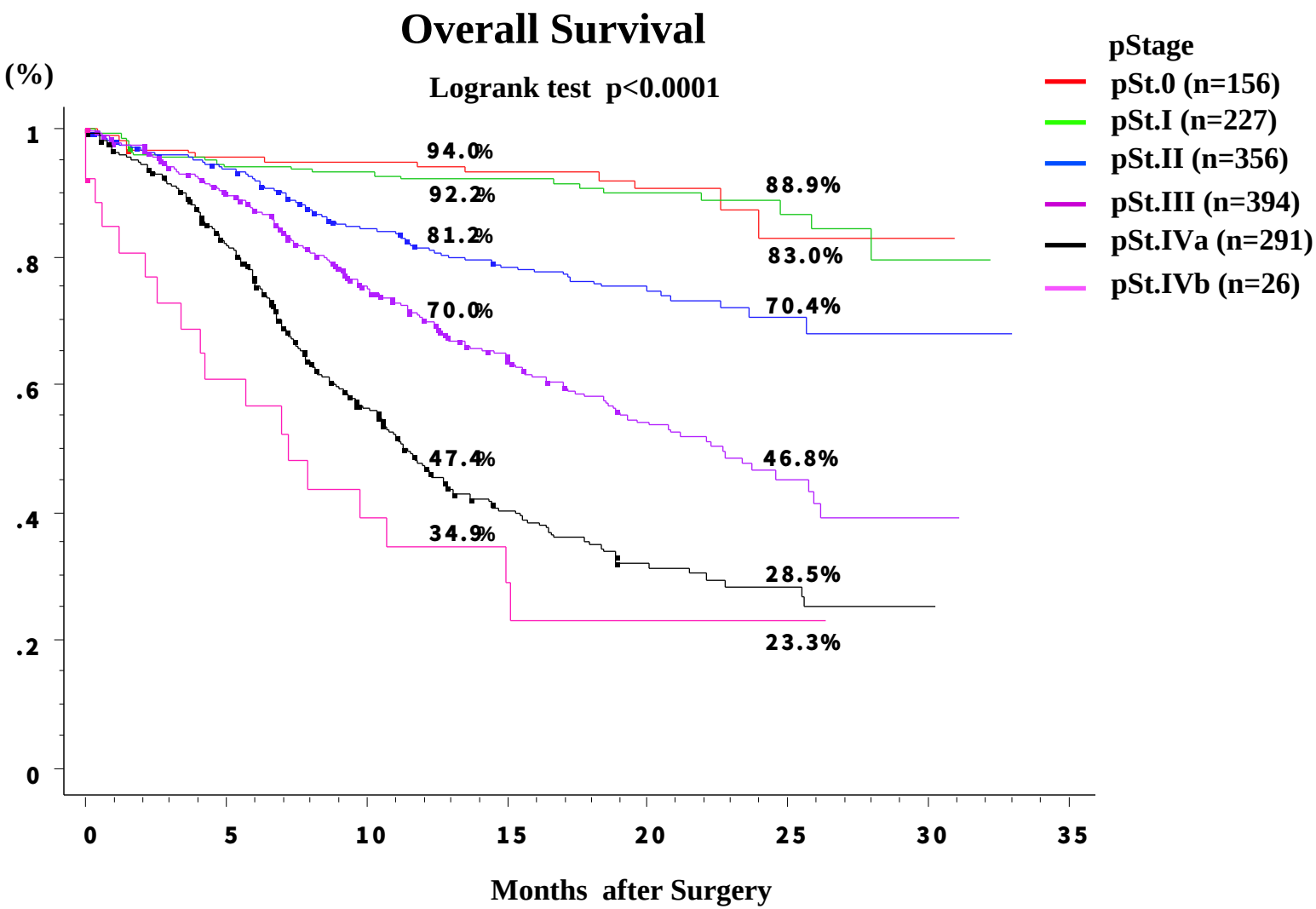


Figure 15) Survival of patients treated by esophagectomy in relation to residual tumor (R)

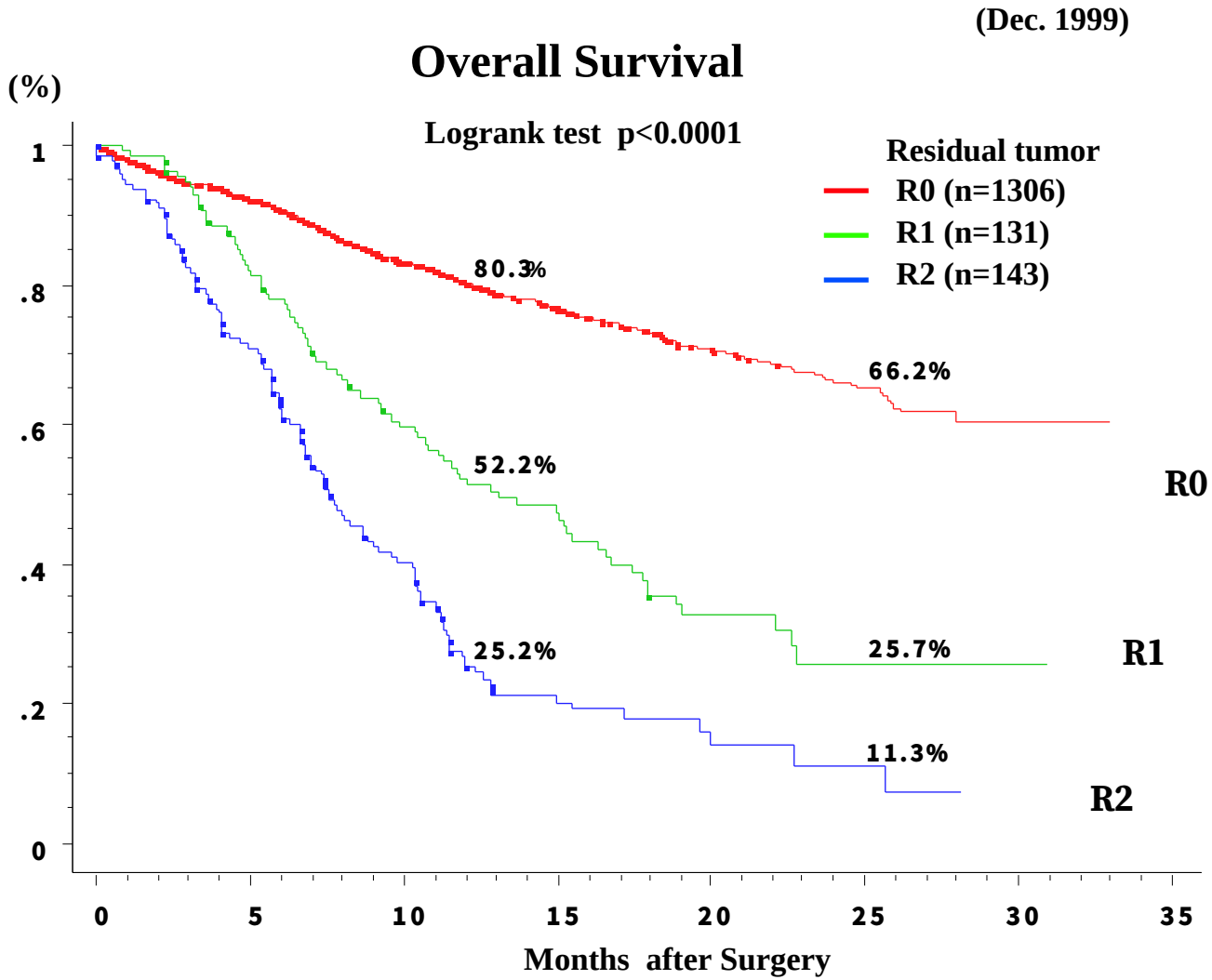


Figure 16) Survival of patients treated by esophagectomy in relation to number of metastatic node

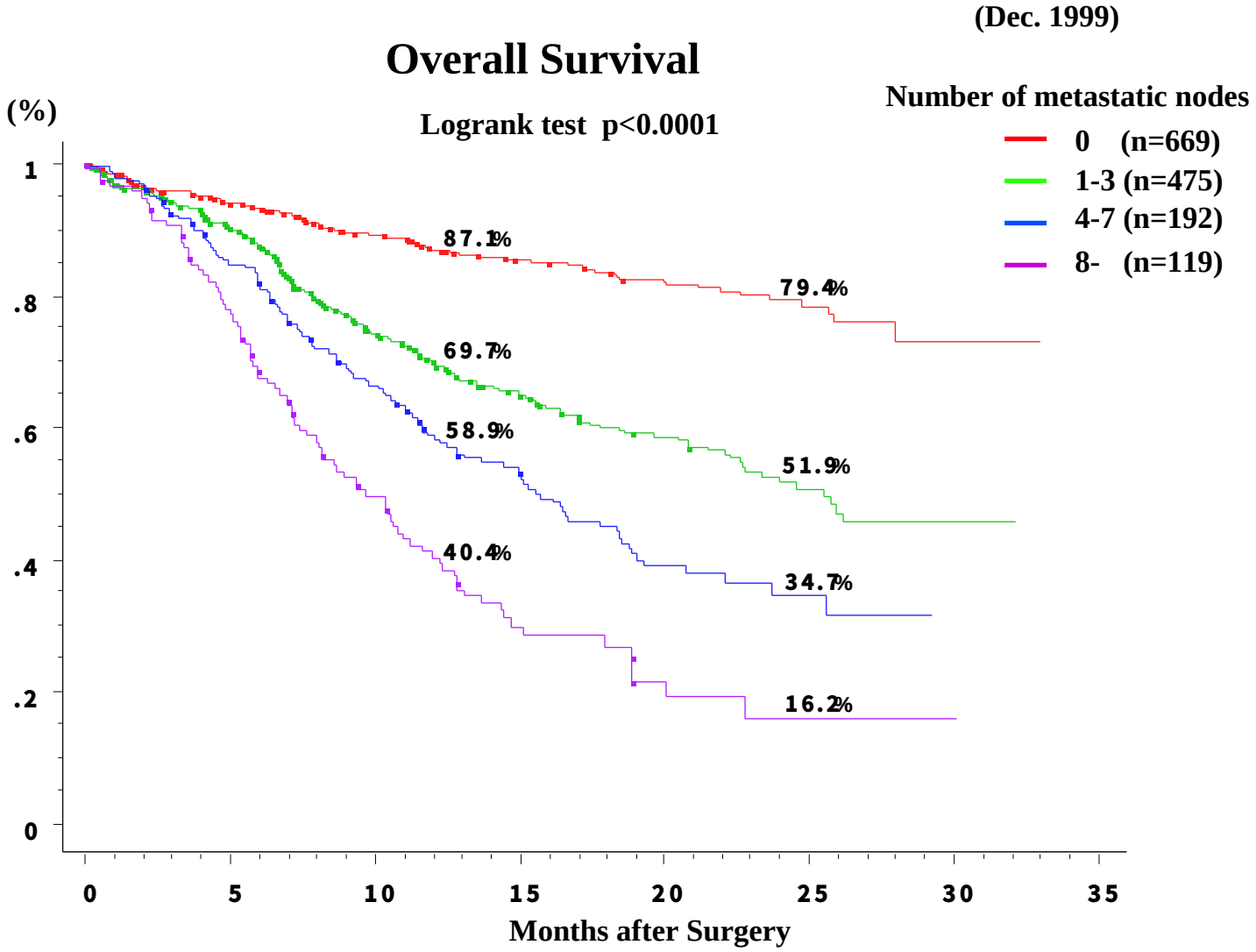
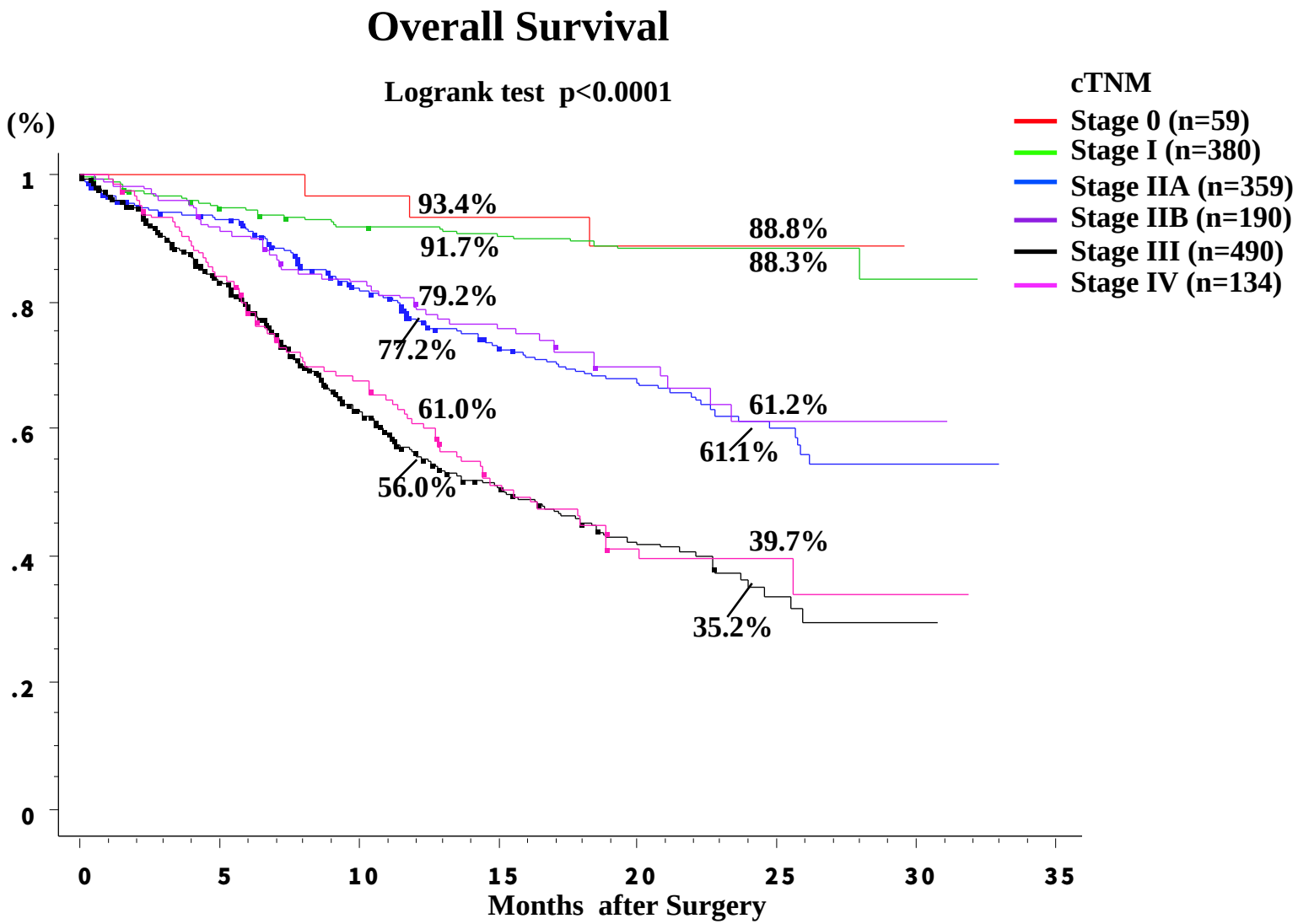


Figure 17) Survival of patients treated by esophagectomy in relation to clinical TMN-Stage

(Dec. 1999)



The incidence of lymph node metastasis in the comprehensive registry of cases in Japan between 1995 and 1997

JSED

Table 1 Metastatic rate of lymph node according to tumor location

LN/No.	Location of tumor Ut(%)	Mt(%)	Lt(%)
Cervical nodes			
100L	0.4	0.2	0.3
R	0.2	0.2	0.3
101L	5.3	2.2	1.1
R	5.1	3.1	2.7
102mL	2.2	0.9	0.5
mR	1.8	0.8	0.3
sL	0.2	0.2	0.1
sR	0.2	0.2	0.2
103	0.2	0.1	0
104L	5.5	4.1	1.9
R	5.7	3.1	1.4
Mediastinal nodes			
105	15.6	7.9	4.5
108	5.9	14.5	10.1
110	3.8	9.2	18.1
106p	4.7	1.7	1.5
106recL	11.9	5.9	3.9
recR	19.2	12.1	6.9
tbL	3.4	2.1	1.1
tbR	0.4	0.3	0.1
107	5.1	8.2	7.0
109L	1.6	3.6	3.1
R	2.8	2.9	2.8
111	0.6	2.4	4.0
112a	1.8	4.9	5.5
113	0.2	0.04	0
Abdominal nodes			
1	3.2	16.2	27.6
2	5.3	10.1	18.8
3	3.8	9.1	19.6
4	0.2	0.2	0.7
5	0	0.1	0.2
6	0.2	0.2	0.2
7	2.4	10.7	18.3
8	0	1.8	4.3
9	0.4	2.5	5.3
10	0	0.4	0.3
11	0.4	1.3	2.5
12	0	0	0.3
16	0	0.6	2.2
19	0	0.1	0.5

Number of patients

Upper thoracic (Ut) : 494 cases

Middle thoracic (Mt) : 2553 cases

Lower thoracic (Lt) :1166 cases

excluded unknown cases of metastatic region

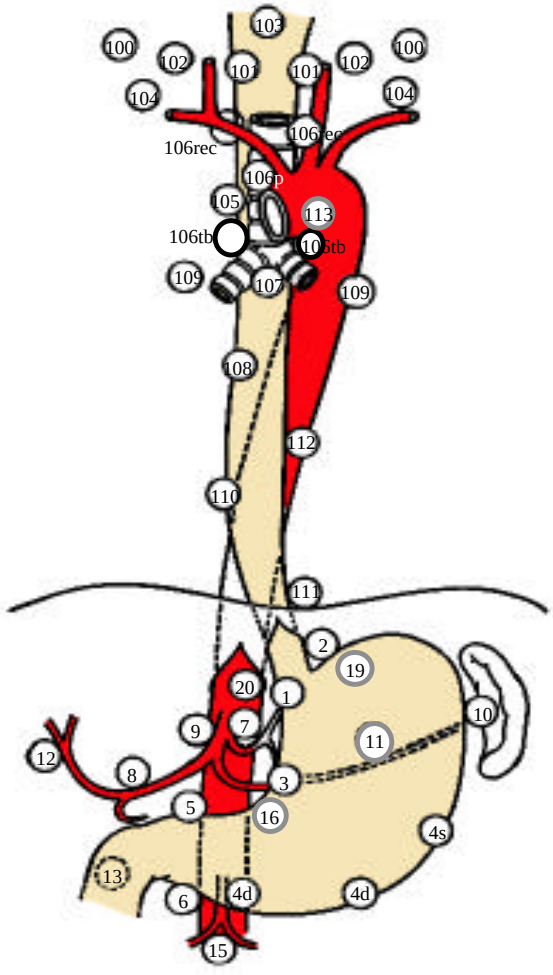


Table 2 Metastatic rate of lymph node according to tumor location in cases with single node metastasis

LN/No.	Location of tumor Ut(%)	Mt(%)	Lt(%)
Cervical nodes			
100L	0	0	0
R	0	0.3	0
101L	1.3	1.1	0.5
R	5.2	2.2	0.5
102mL	0	0.6	0
mR	1.3	0	0
sL	0	0.3	0
sR	0	0	0
103	0	0.3	0
104L	1.3	1.7	0
R	2.6	1.1	0
Mediastinal nodes			
105	22.1	6.5	1.1
108	5.2	12.9	3.8
110	1.2	7.0	14.6
106p	5.2	1.1	0.5
106recL	11.7	4.5	2.2
recR	25.9	12.4	3.2
tbL	2.6	1.7	0
tbR	0	0	0
107	1.3	3.7	2.2
109L	0	1.4	1.1
R	1.3	1.1	0.5
111	1.3	0.6	1.6
112a	0	2.0	0.5
113	0	0	0
Abdominal nodes			
1	3.9	14.9	23.8
2	3.9	9.0	15.1
3	1.3	4.8	14.6
4	0	0	0
5	0	0.3	0
6	0	0.3	0
7	0	7.0	9.7
8	0	0.3	1.6
9	1.3	1.1	2.2
10	0	0	0
11	0	0	0
12	0	0	0
16	0	0	0
19	0	0	0.5

Number of patients

Upper thoracic (Ut) : 77 cases
Middle thoracic (Mt) : 356 cases
Lower thoracic (Lt) :185 cases

excluded unknown cases of metastatic region

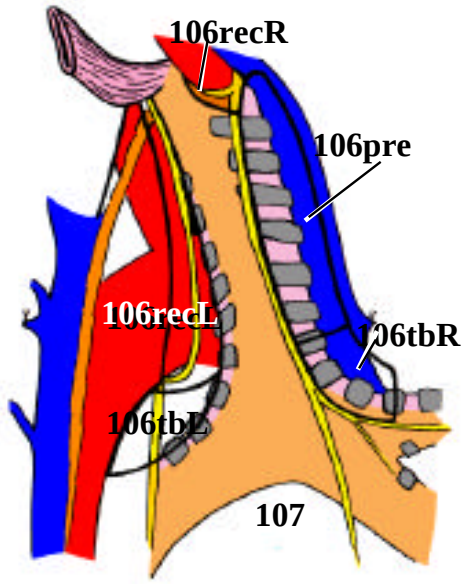


Table 3 Metastatic rate of lymph node according to tumor location in cases with 1-3 node metastasis

LN/No.	Location of tumor Ut(%)	Mt(%)	Lt(%)
Cervical nodes			
100L	0	0	0
R	0	0.4	0
101L	7.4	2.1	0.6
R	6.6	3.1	0.7
102mL	1.2	0.6	0
mR	0.6	0.4	0
sL	0	0.1	0
sR	0	0.1	0
103	0	0.3	0
104L	4.3	2.8	0.3
R	5.5	3.1	0.3
Mediastinal nodes			
105	22..5	10.0	2.4
108	7.4	18.7	8.8
110	4.9	9.4	18.5
106p	4.9	1.2	0.6
106recL	20.1	6.5	3.1
recR	33.5	15.8	6.1
tbL	4.3	2.5	0.3
tbR	0	0.1	0
107	3.7	5.9	2.4
109L	0	2.8	1.3
R	1.2	2.5	0.6
111	0.6	1.8	2.7
112a	0	3.6	5.2
113	0	0	0
Abdominal nodes			
1	6.6	20.1	33.0
2	5.5	12.2	19.2
3	1.8	8.9	18.5
4	0	0.1	0.3
5	0	0.1	0.3
6	0	0.3	0
7	1.2	10.1	14.6
8	0	0.6	2.4
9	0.6	1.8	4.8
10	0	0	0
11	0	0.4	1.0
12	0	0	0
16	0	0.1	0.6
19	0	0.1	0.7

Number of patients

Upper thoracic (Ut) : 164 cases

Middle thoracic (Mt) : 757 cases

Lower thoracic (Lt) : 379 cases

excluded unknown cases of metastatic region