

VIII. 合併症

a. 膵頭部癌切除例の合併症

表 3.8.a.1 膵頭部癌切除例における術後合併症の年次推移 (重複あり)

Yearly trend of postoperative complications after resection of the tumor in the pancreatic head (With overlap)

	2001	2002	2003	2004	Total	%
術後早期合併症 Early abdominal complications						
消化管出血 GI bleeding	4	9	10	6	29	2.7
腹腔内出血 Intraperitoneal bleeding	7	6	4	7	24	2.3
その他の出血 Other bleeding	5	1	0	0	6	0.6
膵空腸吻合結合不全 Pancreatic anastomosis insufficiency	13	12	17	22	64	6.0
胆管空腸吻合結合不全 Biliary anastomosis insufficiency	8	8	6	8	30	2.8
胃空腸吻合結合不全 Gastric anastomosis insufficiency	3	3	3	1	10	0.9
その他の結合不全 Other anastomotic insufficiency	0	2	0	0	2	0.2
胃排出遅延 Delayed gastric emptying	4	6	40	34	84	7.9
吻合部狭窄 Anastomotic stenosis	3	0	9	9	21	2.0
急性膵炎 Acute pancreatitis	1	1	0	4	6	0.6
膵液瘻 Pancreatic fistula	17	16	22	15	70	6.6
胆汁瘻 Biliary fistula	2	4	5	5	16	1.5
腹膜炎 Peritonitis	3	4	5	4	16	1.5
術後早期全身合併症 Early systemic complications						
肝不全 Liver failure	4	5	2	3	14	1.3
腎不全 Renal failure	5	5	2	3	15	1.4
低血糖 Hypoglycemia	0	0	2	2	4	0.4
肺合併症 Pulmonary complication	14	12	6	9	41	3.8
心不全 Heart failure	3	2	1	1	7	0.7
術後晚期合併症 Late complications						
イレウス Ileus	6	9	7	4	26	2.4
糖尿病 Diabetes mellitus	24	25	22	20	91	8.5
頑固な下痢 Persistent diarrhea	21	23	26	8	78	7.3
栄養不良 Malnutrition	30	13	27	15	85	8.0
ケトアシドーシス Ketoacidosis	0	0	0	0	0	0.0
感染症 Infection	8	11	18	18	55	5.2
胆管炎 Cholangitis	12	21	17	18	68	6.4
Total	259	240	277	289	1065	100.0

表 3.8.a.2 膵頭部癌切除例における主な術式と術後早期局所合併症 (重複あり)

Postoperative complications by major procedures after resection of the tumor in the pancreatic head

(Procedures that were performed more than 10 cases in four years. With overlap between each complication)

	TP	PD	Subtotal PD	PPPD	SSPPD	Total	%
術後早期合併症 Early abdominal complications							
消化管出血 GI bleeding	0	20	0	7	1	28	2.7
腹腔内出血 Intraperitoneal bleeding	0	12	0	7	3	22	2.1
その他の出血 Other bleeding	0	4	0	1	0	5	0.5
膵空腸吻合結合不全 Pancreatic anastomosis insufficiency	0	29	0	29	5	63	6.0
胆管空腸吻合結合不全 Biliary anastomosis insufficiency	0	19	1	10	0	30	2.9
胃空腸吻合結合不全 Gastric anastomosis insufficiency	0	5	0	5	0	10	1.0
その他の結合不全 Other anastomotic insufficiency	0	1	0	0	1	2	0.2
胃排出遅延 Delayed gastric emptying	0	42	0	33	8	83	7.9
吻合部狭窄 Anastomotic stenosis	0	13	1	5	0	19	1.8
急性膵炎 Acute pancreatitis	0	4	0	1	1	6	0.6
膵液瘻 Pancreatic fistula	0	41	2	22	4	69	6.6
胆汁瘻 Biliary fistula	0	12	1	2	1	16	1.5
腹膜炎 Peritonitis	0	8	1	5	1	15	1.4
術後早期全身合併症 Early systemic complications							
肝不全 Liver failure	0	11	0	2	0	13	1.2
腎不全 Renal failure	1	9	0	5	0	15	1.4
低血糖 Hypoglycemia	0	3	0	1	0	4	0.4
肺合併症 Pulmonary complication	1	18	2	13	5	39	3.7
心不全 Heart failure	0	5	0	1	0	6	0.6
術後晚期合併症 Late complications							
イレウス Ileus	0	11	0	10	5	26	2.5
糖尿病 Diabetes mellitus	7	41	1	31	10	90	8.6
頑固な下痢 Persistent diarrhea	3	27	1	23	23	77	7.4
栄養不良 Malnutrition	2	42	1	25	13	83	7.9
ケトアシドーシス Ketoacidosis	0	0	0	0	0	0	0.0
感染症 Infection	1	31	1	12	9	54	5.2
胆管炎 Cholangitis	1	41	0	14	10	66	6.3
Total	16	535	28	346	120	1045	100.0

表 3.8.a.3 膵頭部癌切除例における合併切除臓器と術後局所早期合併症 (重複あり)
Postoperative complications by combined resection for tumor in the pancreatic head (With overlap)

	Portal vein	Artery	Plexus
術後早期合併症 Early abdominal complications			
消化管出血 GI bleeding	14	2	17
腹腔内出血 Intraperitoneal bleeding	11	2	15
その他の出血 Other bleeding	1	0	2
膵空腸吻合結合不全 Pancreatic anastomosis insufficiency	16	1	23
胆管空腸吻合結合不全 Biliary anastomosis insufficiency	12	2	12
胃空腸吻合結合不全 Gastric anastomosis insufficiency	4	0	3
その他の結合不全 Other anastomotic insufficiency	1	0	1
胃排出遅延 Delayed gastric emptying	34	0	34
吻合部狭窄 Anastomotic stenosis	9	0	5
急性膵炎 Acute pancreatitis	4	0	3
膵液瘻 Pancreatic fistula	21	1	26
胆汁瘻 Biliary fistula	5	2	6
腹膜炎 Peritonitis	2	0	5
術後早期全身合併症 Early systemic complications			
肝不全 Liver failure	6	1	9
腎不全 Renal failure	5	2	8
低血糖 Hypoglycemia	1	1	2
肺合併症 Pulmonary complication	7	0	17
心不全 Heart failure	2	0	2
術後晩期合併症 Late complications			
イレウス Ileus	9	1	5
糖尿病 Diabetes mellitus	37	2	31
頑固な下痢 Persistent diarrhea	52	6	61
栄養不良 Malnutrition	40	1	43
ケトアシドーシス Ketoacidosis	0	0	0
感染症 Infection	23	3	19
胆管炎 Cholangitis	27	2	32
Total	376	27	416

表 3.8.a.4 膵頭部癌切除例におけるリンパ節郭清度と術後早期局所合併症 (重複あり)
Postoperative complications by lymph node dissection for tumor in the pancreatic head (With overlap)

	D0	D1	D2	D3	Total	%
術後早期合併症 Early abdominal complications						
消化管出血 GI bleeding	0	5	20	3	28	2.7
腹腔内出血 Intraperitoneal bleeding	1	2	15	4	22	2.1
その他の出血 Other bleeding	0	1	4	1	6	0.6
膵空腸吻合結合不全 Pancreatic anastomosis insufficiency	4	16	34	8	62	6.0
胆管空腸吻合結合不全 Biliary anastomosis insufficiency	2	7	20	0	29	2.8
胃空腸吻合結合不全 Gastric anastomosis insufficiency	0	5	5	0	10	1.0
その他の結合不全 Other anastomotic insufficiency	0	1	0	1	2	0.2
胃排出遅延 Delayed gastric emptying	1	15	49	15	80	7.7
吻合部狭窄 Anastomotic stenosis	2	6	10	2	20	1.9
急性膵炎 Acute pancreatitis	1	1	2	1	5	0.5
膵液瘻 Pancreatic fistula	3	15	40	9	67	6.5
胆汁瘻 Biliary fistula	2	3	9	2	16	1.5
腹膜炎 Peritonitis	3	3	7	3	16	1.5
術後早期全身合併症 Early systemic complications						
肝不全 Liver failure	1	1	8	4	14	1.4
腎不全 Renal failure	1	4	6	3	14	1.4
低血糖 Hypoglycemia	0	0	4	0	4	0.4
肺合併症 Pulmonary complication	4	8	23	3	38	3.7
心不全 Heart failure	2	0	4	1	7	0.7
術後晩期合併症 Late complications						
イレウス Ileus	2	8	12	4	26	2.5
糖尿病 Diabetes mellitus	2	17	47	23	89	8.6
頑固な下痢 Persistent diarrhea	1	7	41	25	74	7.2
栄養不良 Malnutrition	1	14	46	19	80	7.7
ケトアシドーシス Ketoacidosis	0	0	0	0	0	0.0
感染症 Infection	3	10	32	10	55	5.3
胆管炎 Cholangitis	4	8	48	7	67	6.5
Total	35	189	643	167	1034	100.0

表 3.8.a.5 膵頭部癌切除例におけるその他の合併症
Other descriptive postoperative complications after pancreatectomy for tumor in the pancreatic head

術後早期合併症 Early complications
吻合部潰瘍 Anastomotic ulcer
嚥下障害 Dysphagia
うつ病 Depression
DIC, 高カリウム血症 DIC, hyperpotassemia
カテーテル感染 Infection of catheter
リンパ瘻・乳糜瘻 Lymphatic fistula
肝膿瘍 Liver abscess
偽膜性腸炎 Pseudomembranous colitis
狭心症 Angina pectoris
術創感染 Wound infection
遅延性肝機能障害 Delayed liver dysfunction
脳梗塞、肝膿瘍 Cerebral infarction, liver abscess
敗血症、DIC Sepsis, DIC
腹腔内膿瘍 Intraperitoneal abscess
門脈血栓 Portal vein thrombosis
術後晚期合併症 Late complications
乳糜・難治性乳び漏 Persistent lymphatic fistula
下血 Melena
肝性脳症 Hepatic brain damage
肝膿瘍 Liver abscess
好酸球性腸炎 Eosinophilic colitis
難治性腹水 Persistent ascitis
脳梗塞 Cerebral infarction
皮膚炎 Dermatitis
腹腔内膿瘍 Intraperitoneal abscess
吻合部潰瘍出血 Bleeding from anastomotic ulcer
門脈閉塞静脈瘤出血 Bleeding due to portal vein obstruction

b. 膵体尾部癌切除例の合併症 Postoperative complications after pancreatectomy for tumor in the pancreatic body and tail
表 3.8.b.1 膵体尾部癌切除例における術後早期局所合併症の年次推移(重複あり)
Yearly trend of postoperative complications after resection of the tumor in the pancreatic body and tail (With overlap)

	2001	2002	2003	2004	Total	%
術後早期合併症 Early abdominal complications						
消化管出血 GI bleeding	2	0	0	2	4	1.1
腹腔内出血 Intraperitoneal bleeding	2	2	1	1	6	1.6
その他の出血 Other bleeding	0	0	0	0	0	0.0
膵空腸吻合不全 Pancreatic anastomosis insufficiency	3	1	0	0	4	1.1
胆管空腸吻合不全 Biliary anastomosis insufficiency	1	0	0	0	1	0.3
胃空腸吻合不全 Gastric anastomosis insufficiency	0	4	3	0	7	1.9
その他の吻合不全 Other anastomotic insufficiency	1	0	0	0	1	0.3
胃排出遅延 Delayed gastric emptying	1	1	4	5	11	2.9
吻合部狭窄 Anastomotic stenosis	1	0	0	0	1	0.3
急性膵炎 Acute pancreatitis	1	0	0	1	2	0.5
膵液瘻 Pancreatic fistula	19	15	19	10	63	16.8
胆汁瘻 Biliary fistula	5	0	0	1	6	1.6
腹膜炎 Peritonitis	8	2	0	0	10	2.7
術後早期全身合併症 Early systemic complications						
肝不全 Liver failure	2	1	1	0	4	1.1
腎不全 Renal failure	1	0	0	1	2	0.5
低血糖 Hypoglycemia	1	1	0	0	2	0.5
肺合併症 Pulmonary complication	5	1	3	3	12	3.3
心不全 Heart failure	1	0	0	2	3	0.8
術後晚期合併症 Late complications						
イレウス Ileus	6	1	4	1	12	3.3
糖尿病 Diabetes mellitus	18	10	8	10	46	12.5
頑固な下痢 Persistent diarrhea	9	2	4	9	24	6.5
栄養不良 Malnutrition	3	4	4	2	13	3.5
ケトアシドーシス Ketoacidosis	0	0	0	0	0	0.0
感染症 Infection	0	1	5	5	11	3.0
胆管炎 Cholangitis	1	0	2	0	3	0.8
Total	111	71	94	92	368	100.0

表 3.8.b.2 膵体尾部癌切除例における主な術式と術後早期局所合併症 (重複あり)
 Postoperative complications by major procedures after resection of the tumor in the pancreatic body and tail
 (Procedures that were performed more than 10 cases in four years. With overlap between each complication)

	DP tail	DP body-tail	DP subtotal	Total	%
術後早期合併症 Early abdominal complications					
消化管出血 GI bleeding	0	1	0	1	0.3
腹腔内出血 Intraperitoneal bleeding	0	3	1	4	1.2
その他の出血 Other bleeding	0	0	0	0	0.0
膵空腸吻合不全 Pancreatic anastomosis insufficiency	0	2	0	2	0.6
胆管空腸吻合不全 Biliary anastomosis insufficiency	0	0	0	0	0.0
胃空腸吻合不全 Gastric anastomosis insufficiency	1	3	2	6	1.8
その他の吻合不全 Other anastomotic insufficiency	0	0	0	0	0.0
胃排出遅延 Delayed gastric emptying	1	6	2	9	2.6
吻合部狭窄 Anastomotic stenosis	0	0	1	1	0.3
急性膵炎 Acute pancreatitis	0	2	0	2	0.6
膵液瘻 Pancreatic fistula	9	40	10	59	17.4
胆汁瘻 Biliary fistula	1	1	2	4	1.2
腹膜炎 Peritonitis	1	5	2	8	2.4
術後早期全身合併症 Early systemic complications					
肝不全 Liver failure	0	3	0	3	0.9
腎不全 Renal failure	0	1	0	1	0.3
低血糖 Hypoglycemia	1	0	1	2	0.6
肺合併症 Pulmonary complication	3	8	0	11	3.2
心不全 Heart failure	0	2	0	2	0.6
術後晩期合併症 Late complications					
イレウス Ileus	1	4	5	10	2.9
糖尿病 Diabetes mellitus	5	25	11	41	12.1
頑固な下痢 Persistent diarrhea	1	16	5	22	6.5
栄養不良 Malnutrition	3	6	3	12	3.5
ケトアシドーシス Ketoacidosis	0	0	0	0	0.0
感染症 Infection	1	7	1	9	2.6
胆管炎 Cholangitis	0	1	0	1	0.3
Total	47	252	41	340	100.0

表 3.8.b.3 膵体尾部癌切除例における合併切除臓器と術後早期局所合併症 (重複あり)
 Postoperative complications by combined resection for tumor in the pancreatic body and tail (With overlap)

	Portal vein	Artery	Plexus
術後早期合併症 Early abdominal complications			
消化管出血 GI bleeding	1	0	0
腹腔内出血 Intraperitoneal bleeding	1	1	2
その他の出血 Other bleeding	0	0	0
膵空腸吻合不全 Pancreatic anastomosis insufficiency	2	0	1
胆管空腸吻合不全 Biliary anastomosis insufficiency	0	0	0
胃空腸吻合不全 Gastric anastomosis insufficiency	2	1	2
その他の吻合不全 Other anastomotic insufficiency	0	0	0
胃排出遅延 Delayed gastric emptying	2	2	4
吻合部狭窄 Anastomotic stenosis	0	0	0
急性膵炎 Acute pancreatitis	0	0	1
膵液瘻 Pancreatic fistula	10	6	22
胆汁瘻 Biliary fistula	1	0	1
腹膜炎 Peritonitis	4	1	2
術後早期全身合併症 Early systemic complications			
肝不全 Liver failure	0	0	1
腎不全 Renal failure	0	0	0
低血糖 Hypoglycemia	1	0	0
肺合併症 Pulmonary complication	1	1	4
心不全 Heart failure	0	0	1
術後晩期合併症 Late complications			
イレウス Ileus	3	0	4
糖尿病 Diabetes mellitus	12	8	18
頑固な下痢 Persistent diarrhea	10	8	18
栄養不良 Malnutrition	1	2	6
ケトアシドーシス Ketoacidosis	0	0	0
感染症 Infection	0	0	2
胆管炎 Cholangitis	0	0	1
Total	60	41	98

表 3.8.b.4 膵体尾部癌切除例におけるリンパ節郭清度と術後早期局所合併症 (重複あり)
Postoperative complications by lymph node dissection for tumor in the pancreatic body and tail (With overlap)

	D0	D1	D2	D3	Total	%
術後早期合併症 Early abdominal complications						
消化管出血 GI bleeding	1	3	0	0	4	1.1
腹腔内出血 Intraperitoneal bleeding	0	3	2	1	6	1.7
その他の出血 Other bleeding	0	0	0	0	0	0.0
膵空腸吻合不全 Pancreatic anastomosis insufficiency	0	2	2	0	4	1.1
胆管空腸吻合不全 Biliary anastomosis insufficiency	0	1	0	0	1	0.3
胃空腸吻合不全 Gastric anastomosis insufficiency	0	4	3	0	7	2.0
その他の吻合不全 Other anastomotic insufficiency	1	0	0	0	1	0.3
胃排出遅延 Delayed gastric emptying	2	4	1	4	11	3.1
吻合部狭窄 Anastomotic stenosis	0	0	1	0	1	0.3
急性膵炎 Acute pancreatitis	1	0	0	1	2	0.6
膵液瘻 Pancreatic fistula	5	22	26	5	58	16.4
胆汁瘻 Biliary fistula	1	3	2	0	6	1.7
腹膜炎 Peritonitis	1	5	4	0	10	2.8
術後早期全身合併症 Early systemic complications						
肝不全 Liver failure	0	3	0	1	4	1.1
腎不全 Renal failure	0	1	0	1	2	0.6
低血糖 Hypoglycemia	0	2	0	0	2	0.6
肺合併症 Pulmonary complication	1	3	7	1	12	3.4
心不全 Heart failure	0	2	1	0	3	0.8
術後晩期合併症 Late complications						
イレウス Ileus	1	4	7	0	12	3.4
糖尿病 Diabetes mellitus	5	18	17	5	45	12.7
頑固な下痢 Persistent diarrhea	1	3	16	4	24	6.8
栄養不良 Malnutrition	1	4	4	3	12	3.4
ケトアシドーシス Ketoacidosis	0	0	0	0	0	0.0
感染症 Infection	1	7	3	0	11	3.1
胆管炎 Cholangitis	2	0	1	0	3	0.8
Total	43	132	142	36	353	100.0

表 3.8.b.5 膵頭部癌切除例におけるその他の合併症
Other descriptive postoperative complications after pancreatectomy for tumor in the pancreatic head

術後早期合併症 Early complications	
創部感染 Wound infection	
うつ病 Depression	
乳糜腹水 Lymphatic ascitis	
脳梗塞 Cerebral infarction	
腹腔内膿瘍 Intraperitoneal abscess	
術後晩期合併症 Late complications	
門脈閉塞 Portal vein obstruction	
DIC	
パニック障害 Panic syndrome	

c. 姑息手術例・単開腹例の合併症 Postoperative complications after palliative procedures and exploratory laparotomy

表 3.8.c.1 姑息手術例における術後早期局所合併症の年次推移 (重複あり)

Yearly trend of postoperative complications after palliative procedures and exploratory laparotomy (With overlap)

	2001	2002	2003	2004	Total	%
術後早期合併症 Early abdominal complications						
消化管出血 GI bleeding	4	3	2	3	12	2.8
腹腔内出血 Intraperitoneal bleeding	0	1	0	0	1	0.2
その他の出血 Other bleeding	0	0	0	0	0	0.0
膵空腸吻合結合不全 Pancreatic anastomosis insufficiency	0	0	0	0	0	0.0
胆管空腸吻合結合不全 Biliary anastomosis insufficiency	1	0	0	1	2	0.5
胃空腸吻合結合不全 Gastric anastomosis insufficiency	0	0	0	1	1	0.2
その他の結合不全 Other anastomotic insufficiency	0	0	0	1	1	0.2
胃排出遅延 Delayed gastric emptying	1	2	2	2	7	1.6
吻合部狭窄 Anastomotic stenosis	0	0	3	2	5	1.1
急性膵炎 Acute pancreatitis	0	2	0	1	3	0.7
膵液瘻 Pancreatic fistula	0	0	0	0	0	0.0
胆汁瘻 Biliary fistula	1	0	0	1	2	0.5
腹膜炎 Peritonitis	1	0	3	1	5	1.1
術後早期全身合併症 Early systemic complications						
肝不全 Liver failure	0	1	2	2	5	1.1
腎不全 Renal failure	1	2	2	0	5	1.1
低血糖 Hypoglycemia	0	0	2	0	2	0.5
肺合併症 Pulmonary complication	2	1	3	2	8	1.8
心不全 Heart failure	0	3	0	0	3	0.7
術後晚期合併症 Late complications						
イレウス Ileus	0	4	5	1	10	2.3
糖尿病 Diabetes mellitus	3	5	3	2	13	3.0
頑固な下痢 Persistent diarrhea	1	2	0	1	4	0.9
栄養不良 Malnutrition	2	4	5	1	12	2.8
ケトアシドーシス Ketoacidosis	0	0	0	0	0	0.0
感染症 Infection	1	4	3	0	8	1.8
胆管炎 Cholangitis	4	2	4	3	13	3.0
Total	100	105	114	116	435	100.0

IX. 化学療法 Chemotherapy

a. 切除例における化学療法 Chemotherapy for pancreatectomy cases

表 3.9.a.1 切除例における化学療法 (重複あり) Preoperative chemotherapy for pancreatectomy cases (With overlap)

	2001	2002	2003	2004	Total	%
術前化学療法施行例 Preoperative chemotherapy						
術前 Preoperative ADM Adriamycin	1	0	1	.1	3	2.8
術前 Preoperative MMC Mitomycin	1	0	1	1	3	2.8
術前 Preoperative CDDP Cisplatin	14	4	6	9	39	35.8
術前 Preoperative 5FU Fluorouracil related drugs	20	1	3	1	19	17.4
術前 Preoperative GEM Gemcitabine	18	22	21	26	87	79.8
術前化学療法有効例 Effective cases	9	12	12	8	41	37.6
術前化学療法無効例 Non-effective cases	1	3	10	10	24	22.0
術前化学療法効果不明例 Effect unknown cases	16	11	7	10	44	40.4
小計 Subtotal	26	26	29	28	109	100.0
術中化学療法施行例 Intraoperative chemotherapy						
術中 Intraoperative ADM Adriamycin	0	0	0	0	0	0.0
術中 Intraoperative MMC Mitomycin	1	1	4	0	6	11.3
術中 Intraoperative CDDP Cisplatin	1	0	0	1	2	3.8
術中 Intraoperative 5FU Fluorouracil related drugs	3	2	0	1	6	11.3
術中 Intraoperative GEM Gemcitabine	5	6	10	17	38	71.7
術中化学療法有効例 Effective cases	0	0	0	0	0	0.0
術中化学療法無効例 Non-effective cases	2	1	6	5	14	26.4
術中化学療法効果不明例 Effect unknown cases	8	10	8	13	39	73.6
小計 Subtotal	10	11	14	18	53	100.0
術後化学療法施行例 Postoperative chemotherapy						
術後 Postoperative ADM Adriamycin	7	3	4	0	14	1.8
術後 Postoperative MMC Mitomycin	9	5	10	0	24	3.1
術後 Postoperative CDDP Cisplatin	24	8	16	6	54	7.0
術後 Postoperative 5FU Fluorouracil related drugs	86	55	70	46	257	33.2
術後 Postoperative GEM Gemcitabine	108	96	190	195	589	76.0
術後化学療法有効例 Effective cases	35	16	35	13	99	12.8
術後化学療法無効例 Non-effective cases	48	36	83	66	233	30.1
術後化学療法効果不明例 Effect unknown cases	91	98	113	141	443	57.2
小計 Subtotal	174	150	231	220	775	100.0
切除例総数 Total cases with pancreatectomy	407	337	408	421	1573	

表 3.9.a.2 切除例における化学療法の合併症(重複あり) Complication of chemotherapy for pancreatectomy cases (With overlap)

	2001	2002	2003	2004	Total	%
好中球減少 Granulocytopenia	3	5	34	32	74	4.7
血小板減少 Thrombocytopenia	0	1	6	6	13	0.8
口内炎 Stomatitis	0	0	1	0	1	0.1
嘔吐 Vomiting	1	4	5	5	15	1.0
便秘 Constipation	0	0	2	1	3	0.2
皮膚炎 Dermatitis	0	0	0	1	1	0.1
発熱 Fever	1	0	10	2	13	0.8
疼痛 Pain	1	0	2	0	3	0.2
体重減少 Body weight loss	3	3	6	3	15	1.0
切除例総数 Total cases with pancreatectomy	407	337	408	421	1573	100.0

図3.9.a.3 Stage I-III切除例における術後化学療法と生存率 Postoperative chemotherapy and survival after resection for JPS Stage I-III disease.

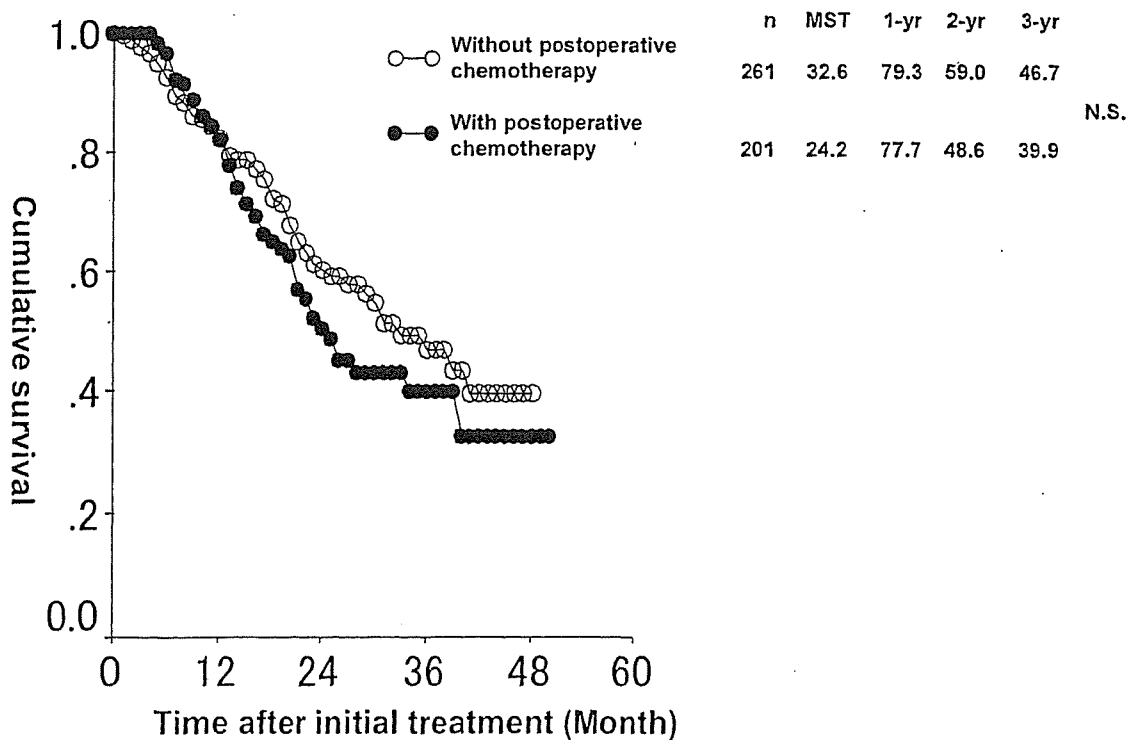


表 3.9.a.4 Stage I-III 切除例における術後化学療法と Stage の分布
Distribution of JPS Stage and postoperative chemotherapy in pancreatectomy cases

	術後化学療法なし Without postoperative chemotherapy	術後化学療法あり With postoperative chemotherapy	術後化学療法不明 Unknown	Total
JPS Stage I	29	14	3	46
JPS Stage II	35	22	2	59
JPS Stage III	197	165	23	385
	261	201	28	490

χ^2 乗検定による有意差なし No significant difference between with/without postoperative chemotherapy groups by chi-square test

図3.9.a.5 Stage IVa切除例における術前化学療法と生存率 Preoperative chemotherapy and survival after resection for JPS Stage IVa disease.

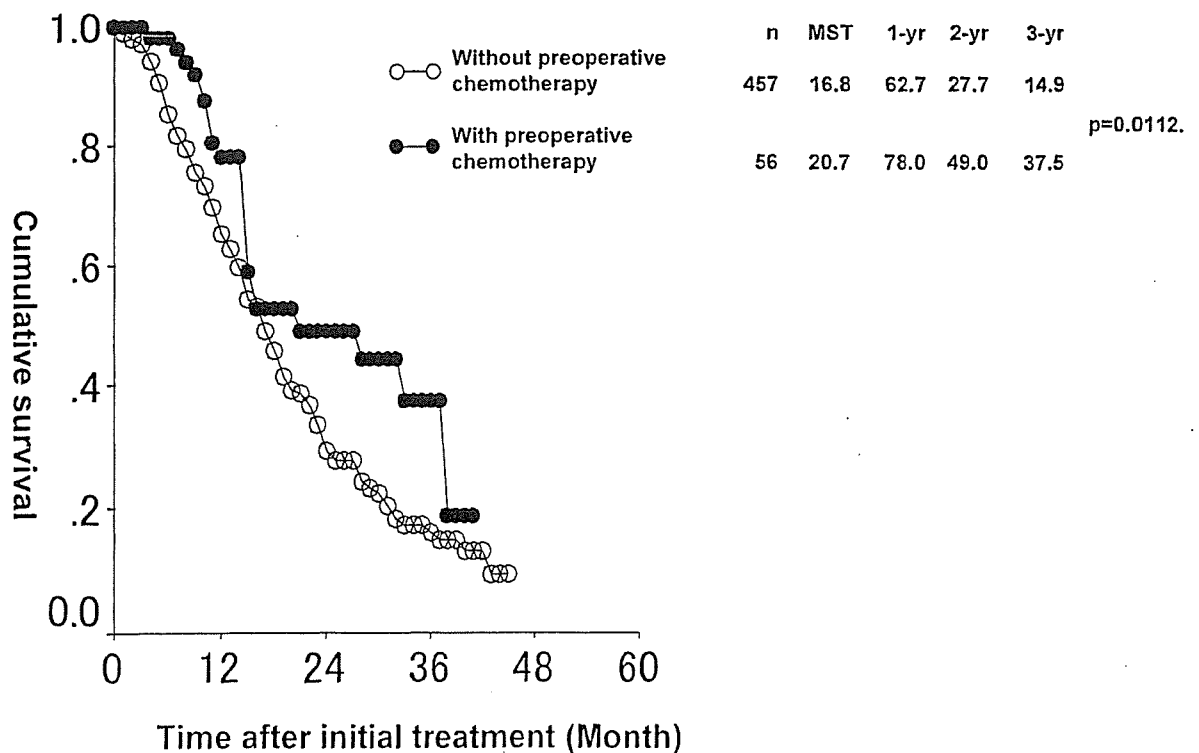


図3.9.a.6 Stage IVa切除例における術後化学療法と生存率 Postoperative chemotherapy and survival after resection for JPS Stage IVa disease.

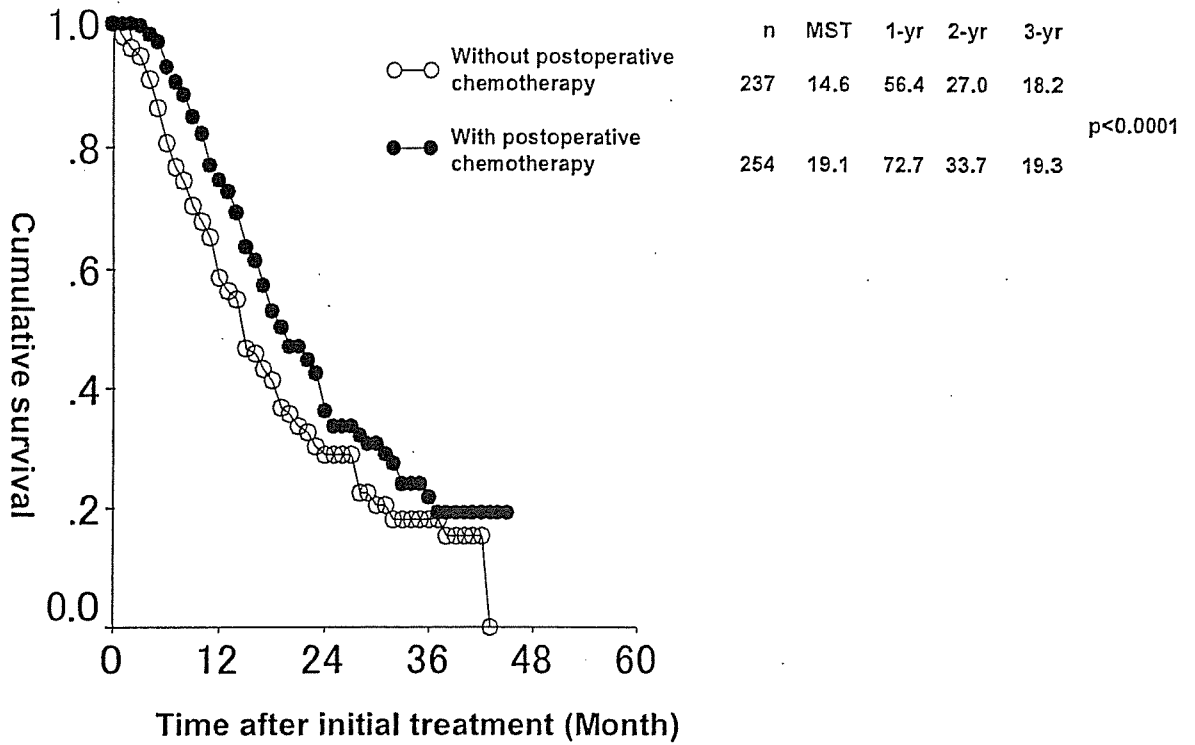


図3.9.a.7 Stage IVa切除例における術後fluorouracilの使用と生存率
Postoperative chemotherapy using fluorouracil and survival after resection for JPS Stage IVa disease.

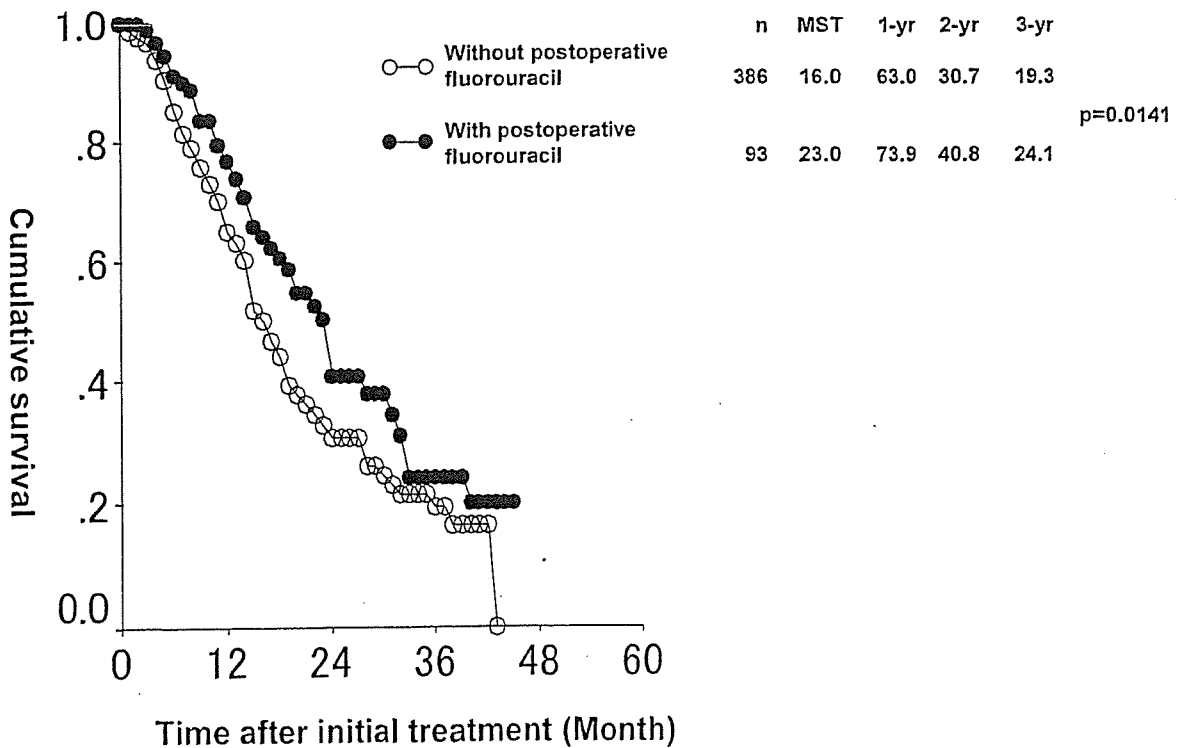


図3.9.a.8 Stage IVa切除例における術後gemcitabineの使用と生存率
 Postoperative chemotherapy using gemcitabine and survival after resection for JPS Stage IVa disease.

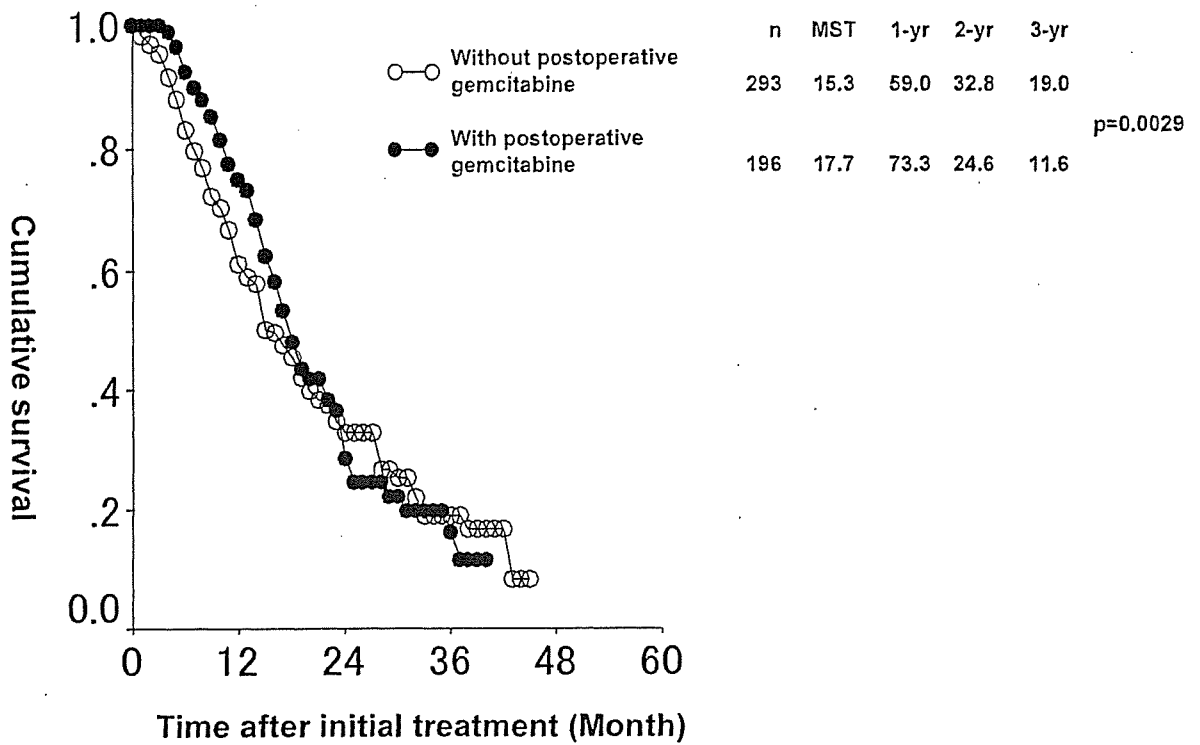


図3.9.a.9 Stage IVb切除例における術後化学療法と生存率
 Postoperative chemotherapy and survival after resection for JPS Stage IVb disease.

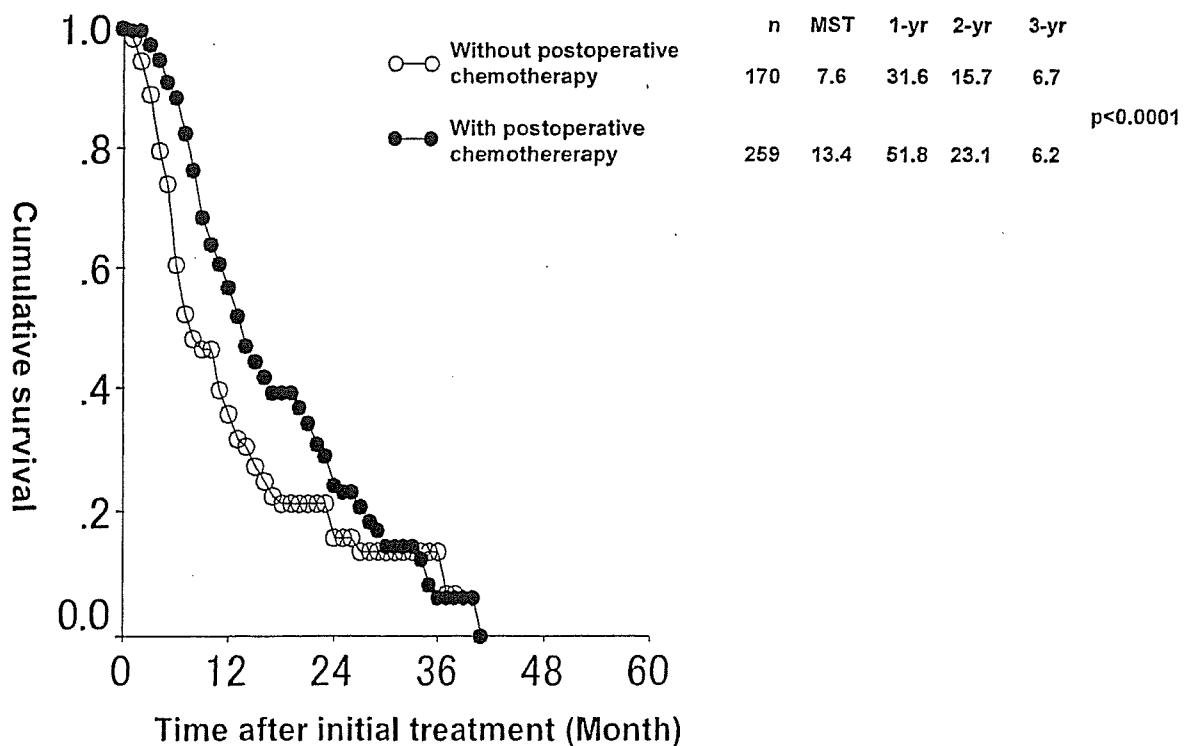


図3.9.a.10 Stage IVb切除例における術後fluorouracil使用と生存率
 Postoperative chemotherapy using fluorouracil and survival after resection for JPS Stage IVb disease.

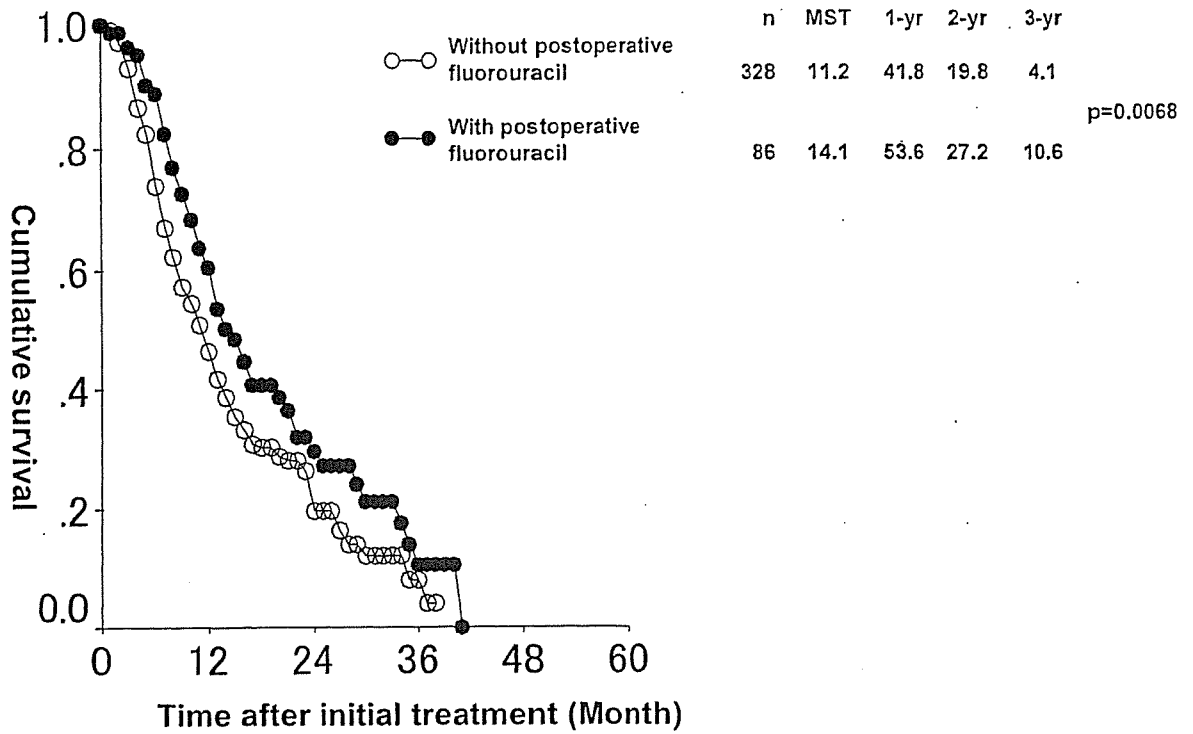
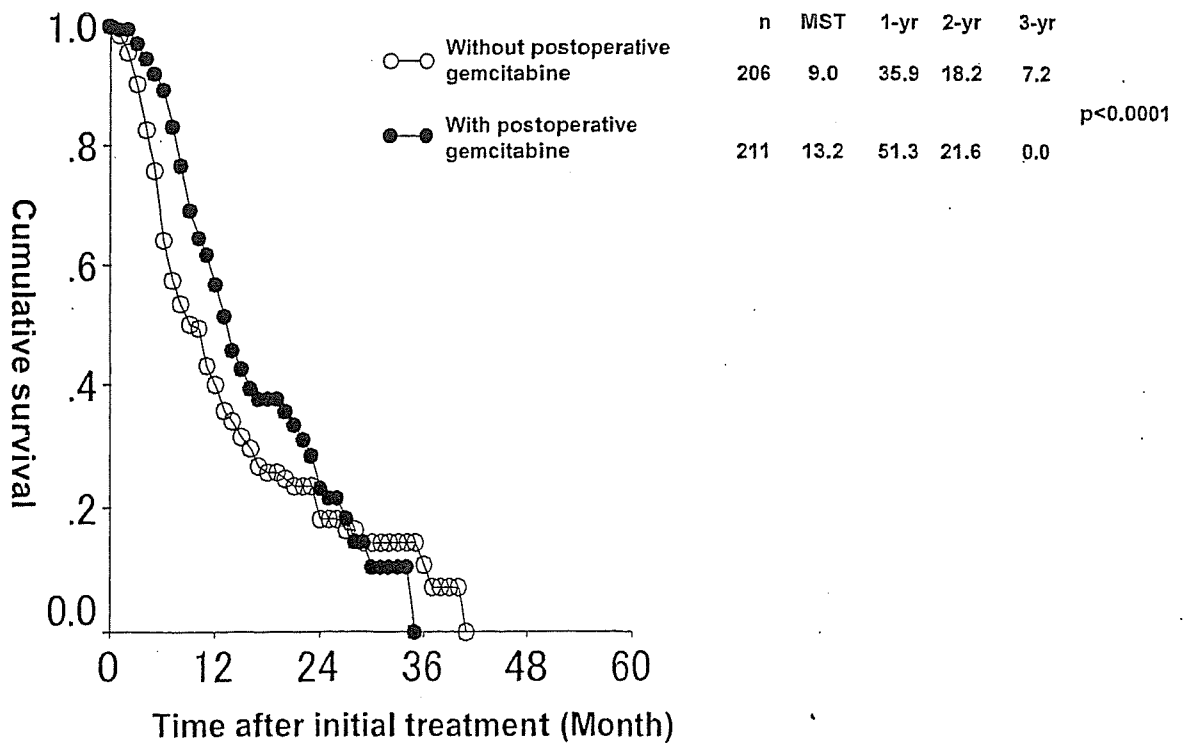


図3.9.a.11 Stage IVb切除例における術後gemcitabine使用と生存率
 Postoperative chemotherapy using gemcitabine and survival after resection for JPS Stage IVb disease.



b. 姑息手技・単開腹例における化学療法 Chemotherapy for palliative procedures and exploratory laparotomy

表 3.9.b.1 姑息手技・単開腹例における化学療法(重複あり) Preoperative chemotherapy for palliative procedures and exploratory laparotomy cases (With overlap)

	2001	2002	2003	2004	Total	%
術前化学療法施行例 Preoperative chemotherapy						
術前 Preoperative ADM Adriamycin	0	0	0	0	0	0.0
術前 Preoperative MMC Mitomycin	0	0	0	1	1	1.4
術前 Preoperative CDDP Cisplatin	1	0	1	1	3	4.1
術前 Preoperative 5FU Fluorouracil related drugs	3	2	1	5	11	15.1
術前 Preoperative GEM Gemcitabine	5	18	19	23	65	89.0
術前化学療法有効例 Effective cases	3	5	6	6	20	27.4
術前化学療法無効例 Non-effective cases	1	4	11	8	24	32.9
術前化学療法効果不明例 Effect unknown cases	2	12	3	12	29	39.7
小計 Subtotal	6	21	20	26	73	100.0
術中化学療法施行例 Intraoperative chemotherapy						
術中 Intraoperative ADM Adriamycin	0	0	0	0	0	0.0
術中 Intraoperative MMC Mitomycin	0	1	1	0	2	6.9
術中 Intraoperative CDDP Cisplatin	0	1	0	1	2	6.9
術中 Intraoperative 5FU Fluorouracil related drugs	3	0	0	0	3	10.3
術中 Intraoperative GEM Gemcitabine	0	8	0	2	10	34.5
術中化学療法有効例 Effective cases	0	6	0	0	6	20.7
術中化学療法無効例 Non-effective cases	1	0	1	0	2	6.9
術中化学療法効果不明例 Effect unknown cases	4	5	7	5	21	72.4
小計 Subtotal	5	11	8	5	29	100.0
術後化学療法施行例 Postoperative chemotherapy						
術後 Postoperative ADM Adriamycin	0	0	0	0	0	0.0
術後 Postoperative MMC Mitomycin	1	2	2	1	6	2.4
術後 Postoperative CDDP Cisplatin	9	5	5	3	22	8.7
術後 Postoperative 5FU Fluorouracil related drugs	22	14	7	7	50	19.8
術後 Postoperative GEM Gemcitabine	31	50	69	68	218	86.2
術後化学療法有効例 Effective cases	12	16	19	20	67	26.5
術後化学療法無効例 Non-effective cases	13	9	28	23	73	28.9
術後化学療法効果不明例 Effect unknown cases	20	35	25	33	113	44.7
小計 Subtotal	45	60	72	76	253	100.0
姑息手技・単開腹総数 Total cases with palliative procedures and exploratory laparotomy	100	105	114	116	435	

表 3.9.b.2 姑息手技・単開腹例における化学療法の合併症(重複あり) Complication of chemotherapy for palliative procedures and exploratory laparotomy cases (With overlap)

	2001	2002	2003	2004	Total	%
好中球減少 Granulocytopenia	1	0	21	8	30	6.9
血小板減少 Thrombocytopenia	1	0	8	1	10	2.3
口内炎 Stomatitis	0	1	2	0	3	0.7
嘔吐 Vomiting	1	0	2	2	5	1.1
便秘 Constipation	1	0	3	0	4	0.9
皮膚炎 Dermatitis	0	0	1	2	3	0.7
発熱 Fever	0	0	1	2	3	0.7
疼痛 Pain	0	0	0	0	0	0.0
体重減少 Body weight loss	1	0	3	1	5	1.1
姑息手技・単開腹総数 Total cases with palliative procedures and exploratory laparotomy	100	105	114	116	435	100.0

図3.9.b.3 姑息手技・単開腹例における術前化学療法と生存率
Preoperative chemotherapy and survival after palliative procedures or exploratory laparotomy.

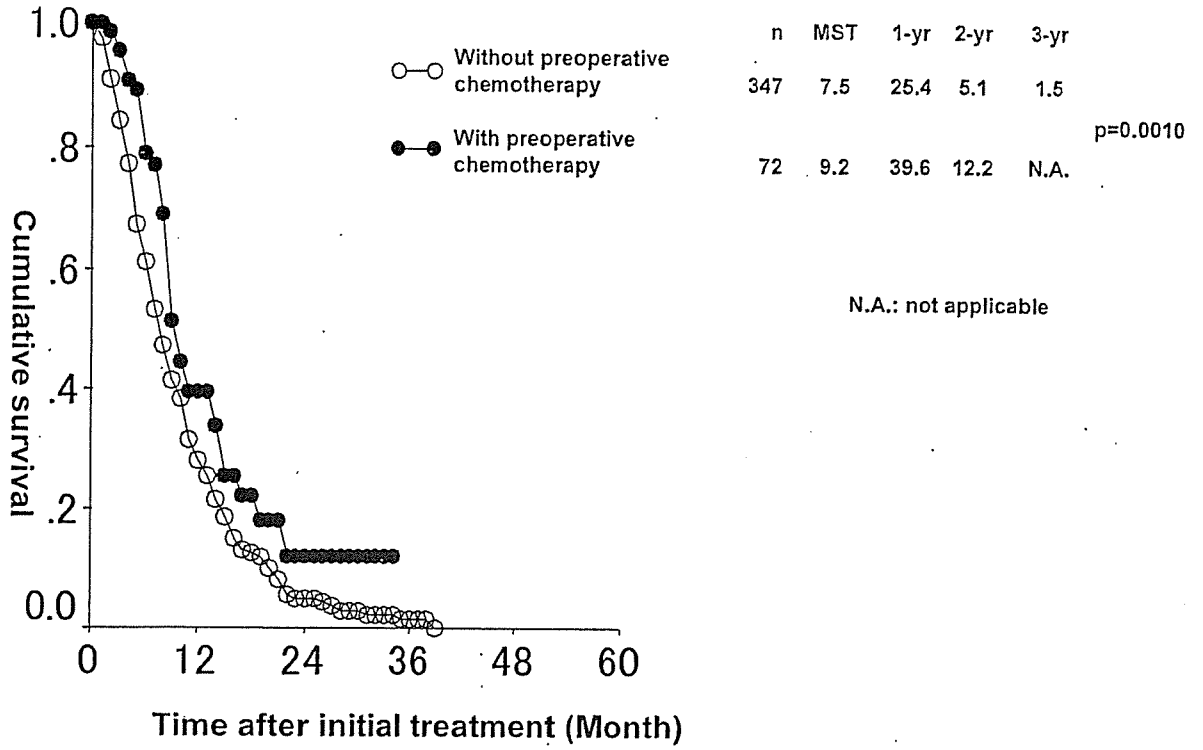


図3.9.b.4 姑息手技・単開腹例における術後化学療法と生存率
Postoperative chemotherapy and survival after palliative procedures or exploratory laparotomy.

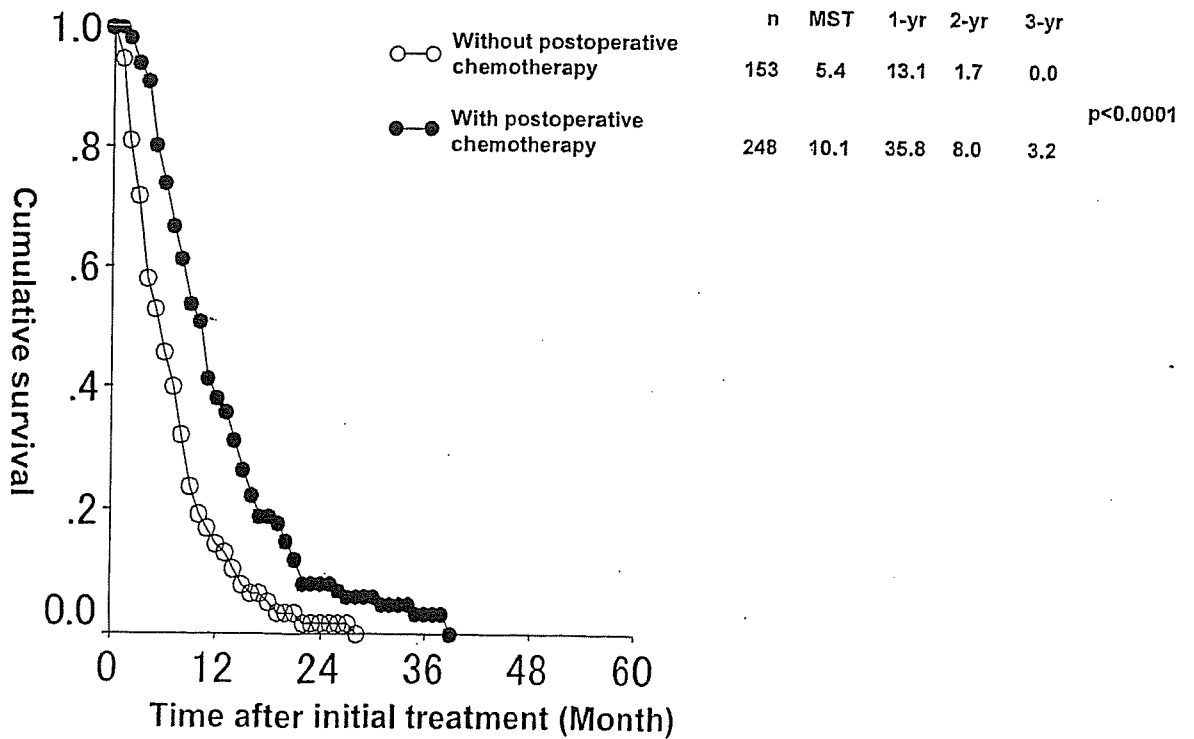


図3.9.b.5 姑息手技・単開腹例における術後fluorouracil使用と生存率
 Postoperative chemotherapy using fluorouracil and survival after palliative procedures or exploratory laparotomy.

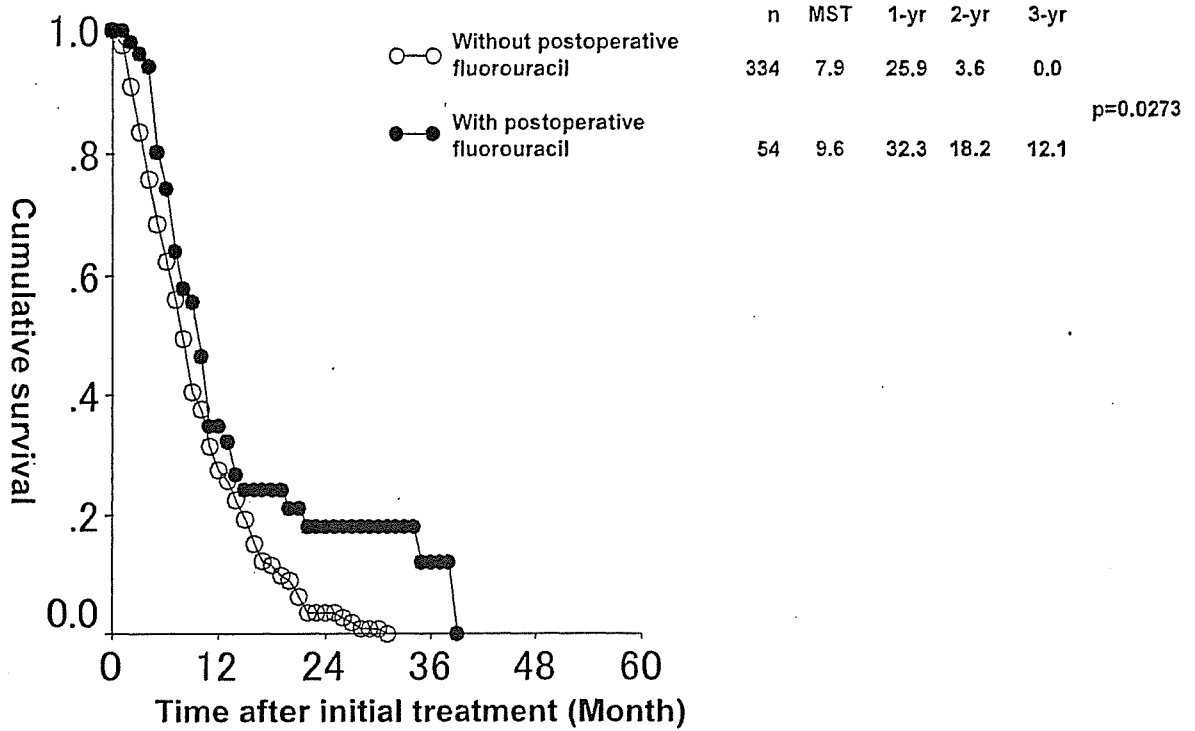
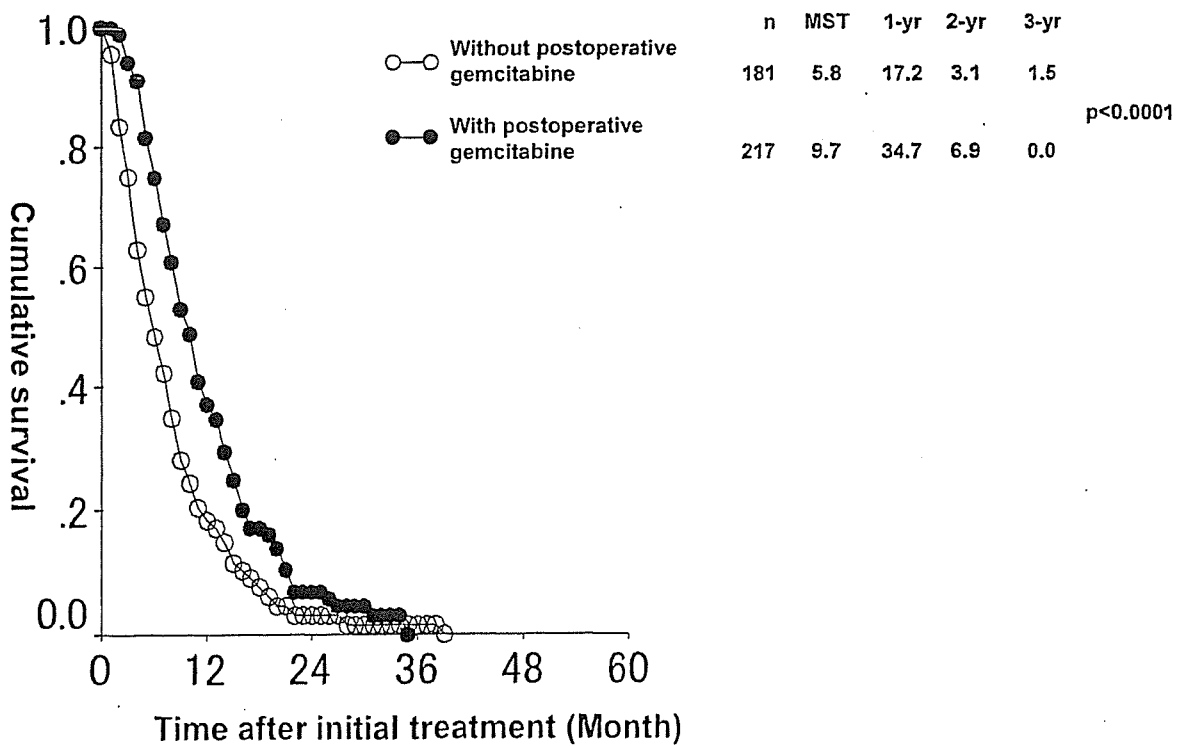


図3.9.b.6 姑息手技・単開腹例における術後gemcitabine使用と生存率
 Postoperative chemotherapy using gemcitabine and survival after palliative procedures or exploratory laparotomy.



c. 非手術例の化学療法 Chemotherapy for non-surgical cases of histologically confirmed invasive pancreatic cancer
 表 3.9.c.1 非手術例における化学療法 (重複あり) Chemotherapy for non-surgical cases (With overlap)

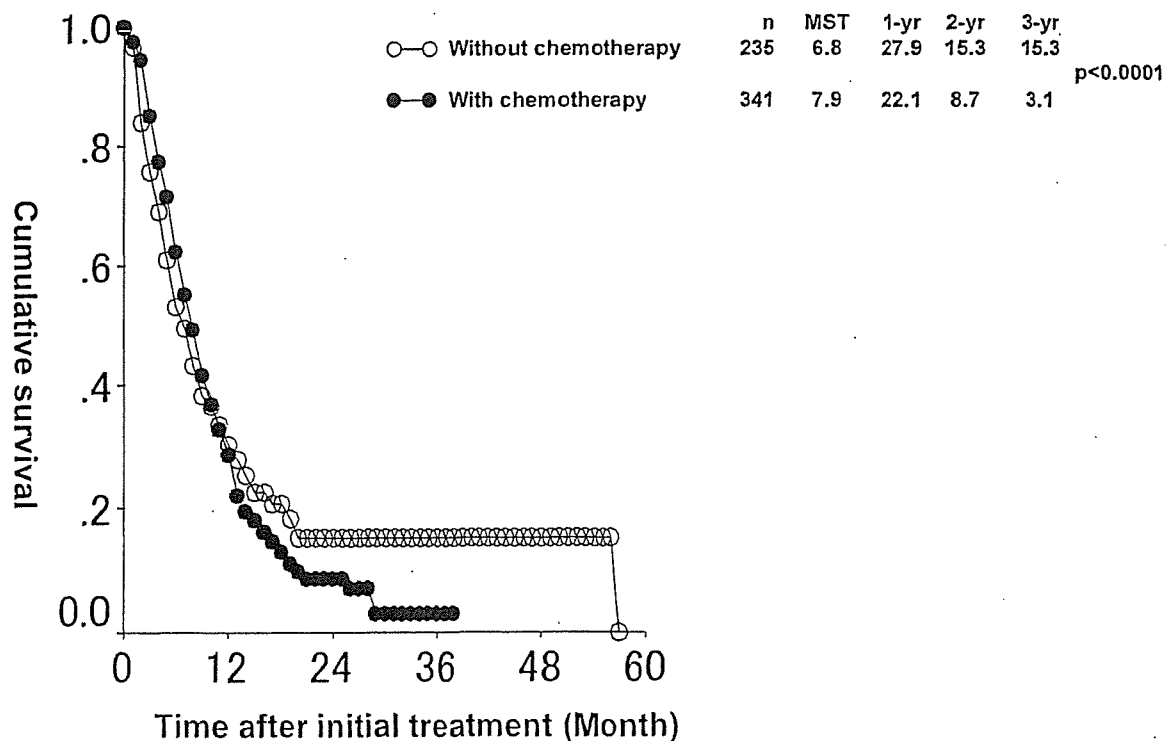
	2001	2002	2003	2004	Total	%
化学療法施行例 Chemotherapy						
ADM Adriamycin	0	0	1	0	1	0.3
MMC Mitomycin	0	0	0	0	0	0.0
CDDP Cisplatin	25	9	17	2	53	15.5
5FU Fluorouracil related drugs	38	12	40	33	123	35.9
GEM Gemcitabine	38	52	115	88	293	85.4
化学療法有効例 Effective cases	22	24	60	37	143	41.7
化学療法無効例 Non-effective cases	19	25	55	52	151	44.0
化学療法効果不明例 Effect unknown cases	19	11	8	11	49	14.3
小計 Subtotal	60	60	123	100	343	100.0
非手術症例総数 Total non-surgical cases	103	97	223	186	609	

表 3.9.c.2 非手術例における化学療法の合併症 (重複あり) Complication of chemotherapy for non-surgical cases (With overlap)

	2001	2002	2003	2004	Total	%
好中球減少 Granulocytopenia	N.A.	N.A.	19	16	35	8.6
血小板減少 Thrombocytopenia	N.A.	N.A.	5	6	11	2.7
口内炎 Stomatitis	N.A.	N.A.	0	1	1	0.2
嘔吐 Vomiting	N.A.	N.A.	13	5	18	4.4
便秘 Constipation	N.A.	N.A.	1	0	1	0.2
皮膚炎 Dermatitis	N.A.	N.A.	1	3	4	1.0
発熱 Fever	N.A.	N.A.	0	3	3	0.7
疼痛 Pain	N.A.	N.A.	1	1	2	0.5
体重減少 Body weight loss	N.A.	N.A.	2	0	2	0.5
非手術症例総数 Total non-surgical cases	N.A.	N.A.	223	186	409	100.0

2001年、2002年の登録では記載されなかった。These adverse effects were not asked in 2001 and 2002 registration.

図3.9.c.3 非手術例における化学療法と生存率
 Chemotherapy and survival of non-surgical cases.



X. 放射線療法

a. 切除例における放射線療法 Radiotherapy with pancreatectomy

表 3.10.a.1 切除例における術前放射線療法 Preoperative radiotherapy for pancreatectomy cases

	2001	2002	2003	2004	Total	%
放射線線種 Type of ray						
1. γ線 γ-ray	10	9	14	15	48	78.7
2. 電子線 β-ray	0	8	0	2	10	16.4
3. その他 Other type of ray	0	1	0	1	2	3.3
増感剤 Radiosensitizer						
0. なし No sensitizer	0	0	1	4	5	8.2
1. 純酸素 Oxygen	0	0	0	0	0	0.0
2. 5FU Fluorouracil	7	3	2	0	12	19.7
3. CDDP Cisplatin	1	0	1	0	2	3.3
4. PR350	0	0	0	0	0	0.0
5. GEM Gemcitabine	2	12	10	13	37	60.7
有効例 Effective cases	7	13	13	15	48	78.7
無効例 Non-effective cases	0	1	0	1	2	3.3
効果不明例 Effect unknown cases	3	5	1	2	11	18.0
Total	10	19	14	18	61	100.0

表 3.10.a.2 切除例における術中放射線療法 Intraoperative radiotherapy for pancreatectomy cases

	2001	2002	2003	2004	Total	%
放射線線種 Type of ray						
1. γ線 γ-ray	9	8	15	21	53	20.5
2. 電子線 β-ray	58	57	37	43	195	75.3
3. その他 Other type of ray	0	1	0	0	1	0.4
増感剤 Radiosensitizer						
0. なし No sensitizer	54	45	44	52	195	75.3
1. 純酸素 Oxygen	0	4	8	10	22	8.5
2. 5FU Fluorouracil	1	3	0	0	4	1.5
3. CDDP Cisplatin	0	0	0	0	0	0.0
4. PR350	0	0	0	0	0	0.0
5. GEM Gemcitabine	3	3	0	1	7	2.7
有効例 Effective cases	2	1	7	10	20	7.7
無効例 Non-effective cases	5	6	1	2	14	5.4
効果不明例 Effect unknown cases	62	61	48	54	225	86.9
Total	69	68	56	66	259	100.0

表 3.10.a.3 切除例における術後放射線療法 Postoperative radiotherapy for pancreatectomy cases

	2001	2002	2003	2004	Total	%
放射線線種 Type of ray						
1. γ線 γ-ray	13	6	21	17	57	59.4
2. 電子線 β-ray	5	3	3	1	12	12.5
3. その他 Other type of ray	6	4	10	4	24	25.0
増感剤 Radiosensitizer						
0. なし No sensitizer	14	6	10	2	32	33.3
1. 純酸素 Oxygen	0	0	0	0	0	0.0
2. 5FU Fluorouracil	9	6	7	3	25	26.0
3. CDDP Cisplatin	0	0	0	0	0	0.0
4. PR350	0	0	0	0	0	0.0
5. GEM Gemcitabine	1	1	16	16	34	35.4
有効例 Effective cases	2	3	3	1	9	9.4
無効例 Non-effective cases	8	1	5	3	17	17.7
効果不明例 Effect unknown cases	16	10	26	18	70	72.9
Total	26	14	34	22	96	100.0

図3.10.a.4 Stage I-III切除例における術中放射線療法と生存率 Intraoperative radiotherapy and survival after resection for JPS Stage I-III disease.

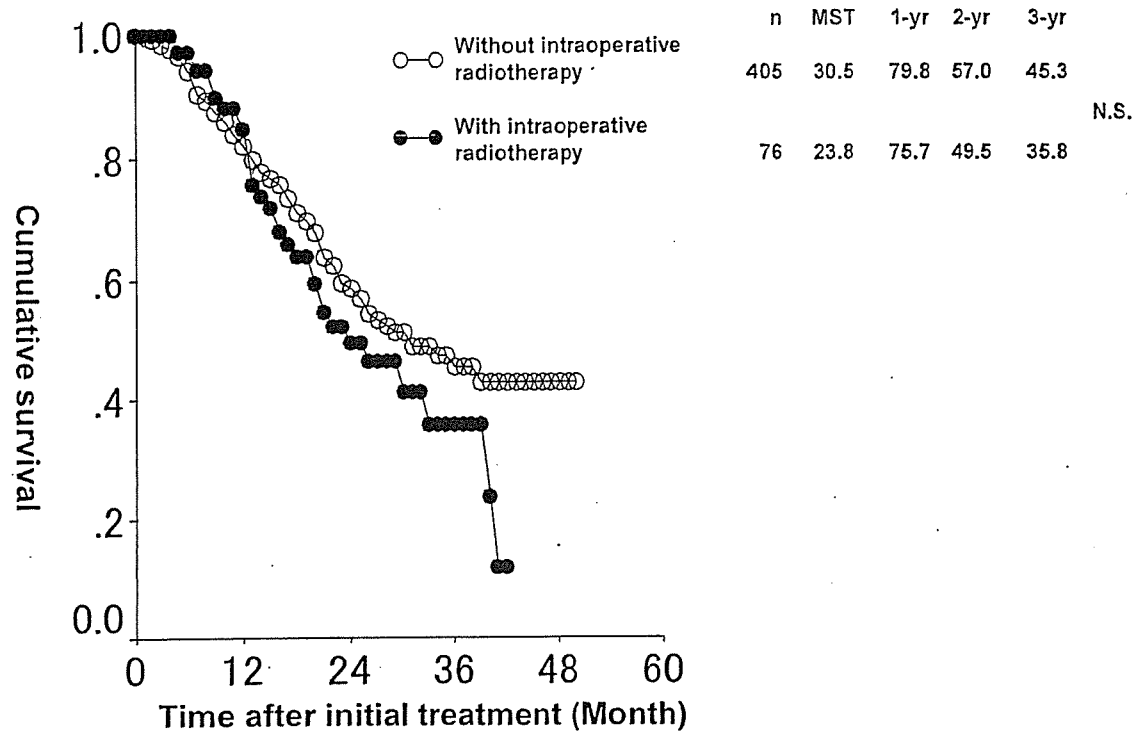


図3.10.a.5 Stage IVa切除例における術中放射線療法と生存率 Intraoperative radiotherapy and survival after resection for JPS Stage IVa disease.

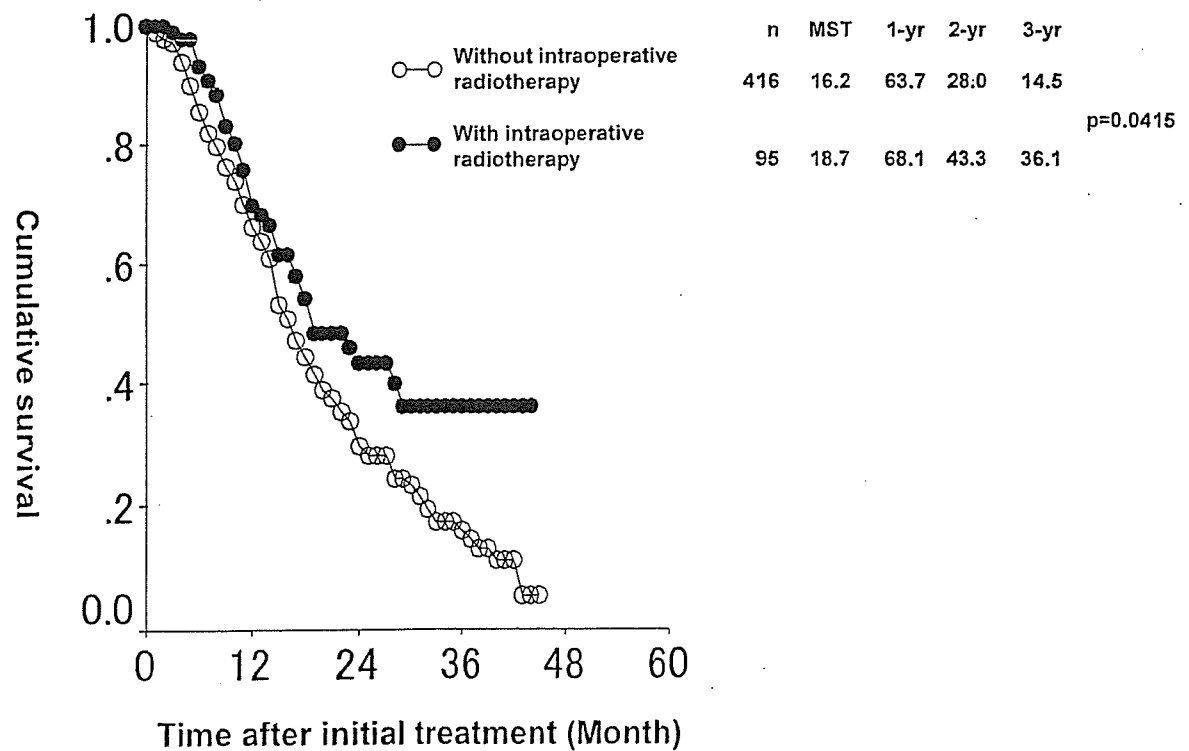
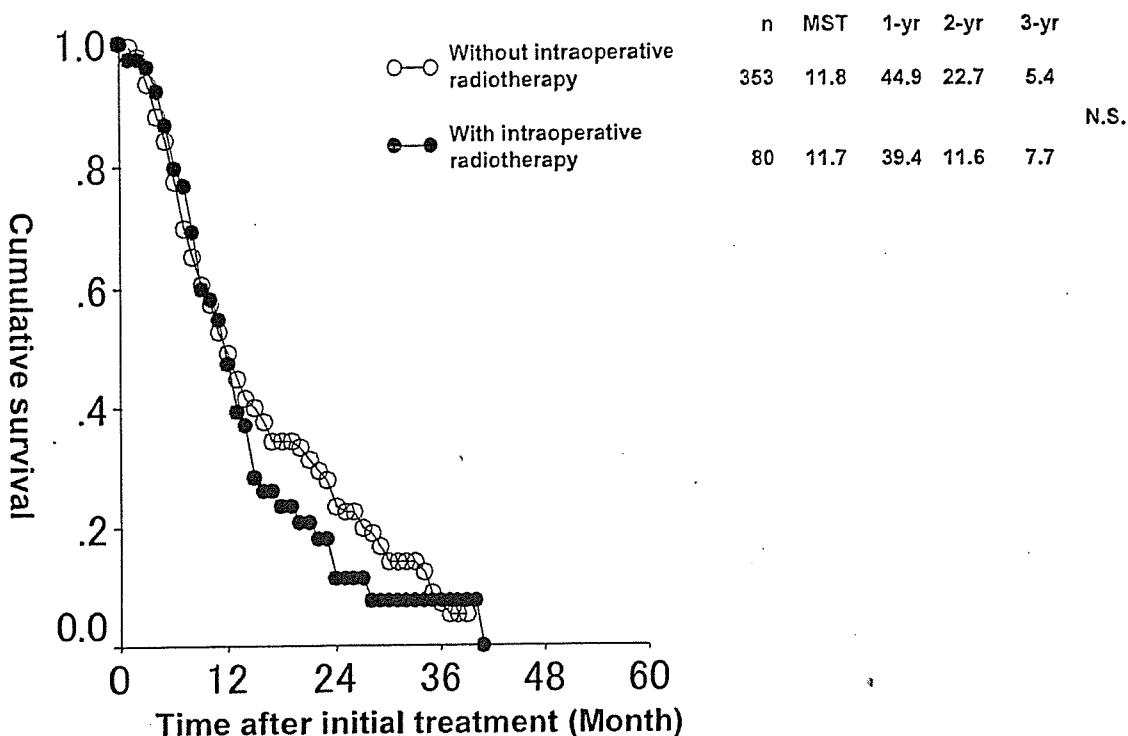


図3.10.a.6 Stage IVb切除例における術中放射線療法と生存率 Intraoperative radiotherapy and survival after resection for JPS Stage IVb disease.



b. 姑息手技・単開腹例における放射線療法 Radiotherapy with palliative procedures and exploratory laparotomy

表 3.10.b.1 姑息手技・単開腹例における術前放射線療法 Preoperative radiotherapy for palliative procedures and exploratory laparotomy cases

	2001	2002	2003	2004	Total	%
放射線線種 Type of ray						
1. γ線 γ-ray	2	2	7	4	15	68.2
2. 電子線 β-ray	0	1	1	0	2	9.1
3. その他 Other type of ray	0	2	1	0	3	13.6
増感剤 Radiosensitizer						
0. なし No sensitizer	0	1	2	0	3	13.6
1. 純酸素 Oxygen	0	0	0	0	0	0.0
2. 5FU Fluorouracil	2	2	0	2	5	22.7
3. CDDP Cisplatin	0	0	0	0	0	0.0
4. PR350	0	0	0	0	0	0.0
5. GEM Gemcitabine	0	2	7	1	10	45.5
有効例 Effective cases	1	2	3	2	8	36.4
無効例 Non-effective cases	1	2	2	1	6	27.3
効果不明例 Effect unknown cases	0	3	4	1	8	36.4
Total	2	7	9	4	22	100.0

表 3.10.b.2 姑息手技・単開腹例における術中放射線療法 Intraoperative radiotherapy for palliative procedures and exploratory laparotomy cases

	2001	2002	2003	2004	Total	%
放射線線種 Type of ray						
1. γ線 γ-ray	20	4	1	6	31	29.8
2. 電子線 β-ray	14	14	25	18	71	68.3
3. その他 Other type of ray	0	0	0	0	0	0.0
増感剤 Radiosensitizer						
0. なし No sensitizer	27	8	10	11	56	53.8
1. 純酸素 Oxygen	0	1	12	5	18	17.3
2. 5FU Fluorouracil	1	0	0	0	1	1.0
3. CDDP Cisplatin	0	0	0	0	0	0.0
4. PR350	4	0	0	0	4	3.8
5. GEM Gemcitabine	0	8	4	7	19	18.3
有効例 Effective cases	5	6	7	11	29	27.9
無効例 Non-effective cases	9	1	2	3	15	14.4
効果不明例 Effect unknown cases	22	11	17	10	60	57.7
Total	36	18	26	24	104	100.0

表 3.10.b.3 姑息手技・単開腹例における術後放射線療法 Postoperative radiotherapy for palliative procedures and exploratory laparotomy cases

	2001	2002	2003	2004	Total	%
放射線種 Type of ray						
1. γ線 γ-ray	16	12	7	8	43	
2. 電子線 β-ray	12	2	3	5	22	
3. その他 Other type of ray	1	1	1	3	6	
増感剤 Radiosensitizer						
0. なし No sensitizer	16	3	3	4	26	
1. 純酸素 Oxygen	0	0	0	0	0	
2. 5FU Fluorouracil	8	4	2	1	15	
3. CDDP Cisplatin	2	0	0	1	3	
4. PR350	0	0	0	0	0	
5. GEM Gemcitabine	1	6	6	9	22	
有効例 Effective cases	11	7	6	9	33	
無効例 Non-effective cases	4	2	1	3	10	
効果不明例 Effect unknown cases	16	7	4	4	31	
Total	31	16	11	16	74	100.0

図3.10.b.4 姑息手技・単開腹例における術前放射線療法と生存率
Preoperative radiotherapy and survival after palliative procedures and exploratory laparotomy.

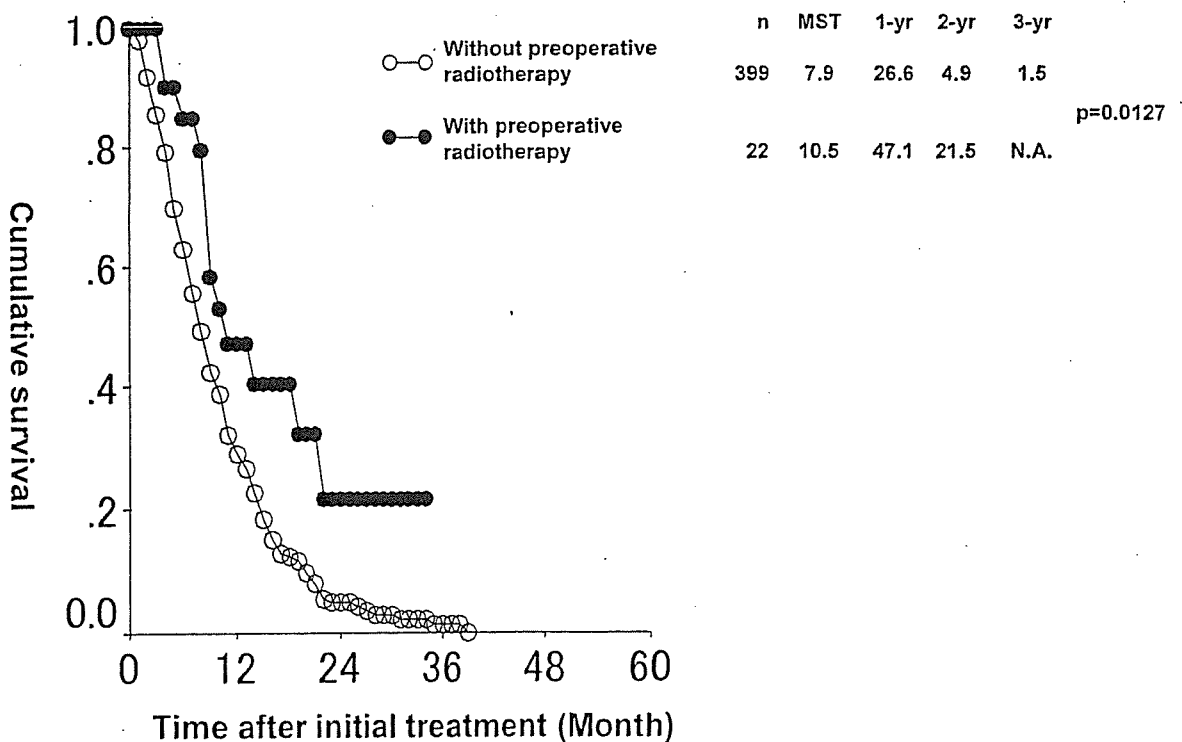


図3.10.b.5 姑息手技・単開腹例における術中放射線療法と生存率
 Intraoperative radiotherapy and survival after palliative procedures and exploratory laparotomy.

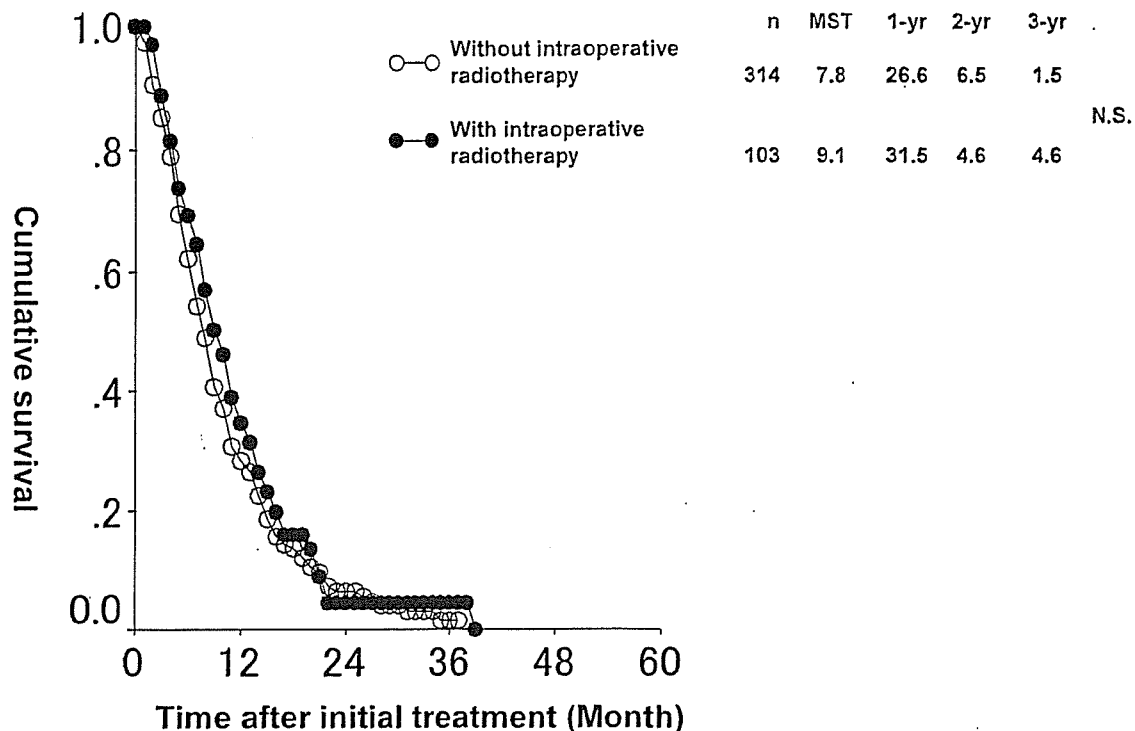


図3.10.b.6 姑息手技・単開腹例における術後放射線療法と生存率
 Postoperative radiotherapy and survival after palliative procedures and exploratory laparotomy.

