



Belgian Cancer Registry

COMPLEX SURGERY PANCREAS

APPENDIX E



**Table E1 - Overview of all surgically treated patients with a malignant or benign peri-pancreatic tumour, [1/7/2019 - 30/06/2022]**

	<b>Malignant (N=2058)</b>		<b>Benign (N=373)</b>	
<b>Sex</b>				
Male	1115	54%	185	50%
Female	943	46%	188	50%
<b>Age at surgery</b>				
<= 69	1155	56%	238	64%
70-79	709	34%	119	32%
>=80	194	9%	16	4%
Median age	68		65	
IQR 25	57		57	
IQR 75	73		73	
<b>Lesion to treat malignant (in peri pancreas)</b>				
Primary tumour	1990	97%		
Relapse of primary tumour	39	2%		
Metastasis	29	1%		
<b>Lesion to treat benign (in peri pancreas)</b>				
Adenoma			24	6%
Cystadenoma			88	24%
IPMN			206	55%
Other benign			55	15%
<b>Morphology</b>				
Adenocarcinoma	1590	77%		
NET	302	15%		
Other, unspecified or missing	166	8%		
<b>Primary tumour localisation</b>				
C17.0 Duodenum	96	5%		
C24.0 Extrahepatic bile duct	135	7%		
C24.1 (Peri-) ampullary region	200	10%		
C25.0 Head of pancreas	926	45%		
C25.1 Body of pancreas	188	9%		
C25.2 Tail of pancreas	291	14%		
C25.3 Pancreatic duct	10	0%		
C25.4 Islands of Langerhans	27	1%		
C25.7-9 Other specified parts of pancreas	122	6%		
Other	63	3%		
<b>Clinical stage</b>				
0	30	2%		
I	939	47%		

II	561	28%		
III	200	10%		
IV	55	3%		
X	203	10%		
TNM not applicable or relapse	70			
<b>Pathological stage</b>				
0	64	4%		
I	431	26%		
II	562	34%		
III	483	29%		
IV	61	4%		
X	41	2%		
TNM not applicable or relapse	57			
Neoadjuvant treatment	359			
<b>yPathological stage</b>				
0	12	3%		
I	112	32%		
II	120	35%		
III	83	24%		
IV	18	5%		
X	1	0%		
TNM not applicable or relapse	13			
No neoadjuvant treatment	1699			
<b>Type of first diagnostic method</b>				
CT	1239	60%		
ERCP	74	4%		
EUS	290	14%		
MRI	365	18%		
PET	12	1%		
PET/CT	67	3%		
Surgery	11	1%		
<b>Method to obtain first tissue sample for APO</b>				
CT	15	1%		
ERCP	214	10%		
EUS	1083	53%		
MRI	15	1%		
Surgery	730	35%		
Missing	1	0%		
<b>Prior surgery or other treatment</b>				
Prior abdominal surgery	309	15%		
Other treatment modality (that could affect the pancreas)	276	13%		
<b>Neoadjuvant treatment</b>				
Chemotherapy	316	15%		
Radiotherapy	2	0%		

Chemoradiotherapy	41	2%		
No chemo or radiation treatment	1699	83%		
<b>Charlson Comorbidity Index</b>				
0	839	41%	167	45%
1	480	23%	91	24%
2	348	17%	54	14%
3	171	8%	31	8%
4	95	5%	16	4%
5	43	2%	5	1%
6	38	2%	6	2%
7	20	1%	1	0%
8	12	1%	0	0%
9	7	0%	1	0%
10	4	0%	0	0%
11	0	0%	1	0%
12	1	0%	0	0%
<b>WHO score at surgery</b>				
0 - Asymptomatic, normal activity	559	27%	185	50%
1 - Symptomatic, but ambulant	1256	61%	165	44%
2 - Symptomatic, bedbound < 50% day	205	10%	21	6%
3 - Symptomatic, bedbound > 50% day	36	2%	2	1%
4 - Completely dependent, 100% bedbound	2	0%	0	0%
<b>ASA score</b>				
1 - Healthy person	153	7%	48	13%
2 - Mild systemic disease, normal activity	1101	53%	215	58%
3 - Serious systemic disease, limited activity	779	38%	108	29%
4 - Life-threatening illness, handicapped	25	1%	2	1%
<b>Type of surgery</b>				
<i>Minimally invasive surgery</i>	695		215	
Minimally invasive surgery (MIS) – Laparoscopic	558	27%	174	47%
Minimally invasive surgery (MIS) - Hybrid	2	0%	2	1%
Minimally invasive surgery (MIS) - Robotic	135	7%	39	10%
Open surgery	1271	62%	143	38%
Conversion from MIS to open surgery	100	5%	15	4%
<b>Simultaneous venous resection</b>				
No	1759	85%		
Simultaneous superior mesenteric vein/portal vein resection	299	15%		
<b>Simultaneous arterial resection</b>				
No	2014	98%		
Hepatic artery resection	18	1%		
Coeliac trunk resection	20	1%		
Superior mesenteric artery	6	0%		
<b>Nomenclature code for complex surgery</b>				
242830-242841: Pancreaticoduodenectomy	1471	71%	175	47%

Pancreaticoduodenectomy	1358	92%	146	83%
Total Pancreatectomy	113	8%	29	17%
242852-242863: Hemipancreatectomy left with jejunal anastomosis of the resection plane of the pancreas, or almost total pancreatectomy (95 pct)	168	8%	57	15%
242874-242885: Hemipancreatectomy left	390	19%	127	34%
242896-242900: Enucleation of a pancreatic tumour	29	1%	14	4%
<b>Antithrombotic medication</b>				
No	1445	70%	272	73%
Yes	613	30%	101	27%
<b>Was the patient referred?</b>				
No	899	44%	199	53%
Yes	1159	56%	174	47%

**Table E2 - Comparison between all primary malignant peri-pancreatic tumours with surgery during the convention [1/7/2019 – 30/6/2022] and during the T0 period [2015-2018]**

	Convention (N=1990)		T0 <sub>2015-2018</sub> (N=2262)	
<b>Sex</b>				
Male	1076	54%	1224	54%
Female	914	46%	1038	46%
<b>Age at MC</b>				
<= 69	1114	56%	1335	59%
70-79	685	34%	719	32%
>=80	191	10%	208	9%
Median age	68		67	
IQR 25	60		59	
IQR 75	74		74	
<b>Morphology</b>				
Adenocarcinoma	1553	78%	1826	81%
NEN	288	14%	324	14%
Other, unspecified or missing	149	7%	112	5%
<b>Primary tumour localisation</b>				
C17.0 Duodenum	89	4%	111	5%
C24.0 Extrahepatic bile duct	135	7%	154	7%
C24.1 (Peri-) ampullary region	199	10%	225	10%
C25.0 Head of pancreas	913	46%	1045	46%
C25.1 Body of pancreas	182	9%	168	7%
C25.2 Tail of pancreas	278	14%	291	13%
C25.3 Pancreatic duct	10	1%	22	1%
C25.4 Islands of Langerhans	27	1%	5	0%
C25.7-9 Other specified parts of pancreas	121	6%	240	11%
Other	36	2%		

<b>Clinical stage</b>				
0	30	2%	6	0%
I	934	48%	548	26%
II	557	28%	436	21%
III	197	10%	109	5%
IV	50	3%	60	3%
X	196	10%	929	44%
TNM not applicable or relapse	26		174	
<b>Pathological stage</b>				
0	64	4%	0	0%
I	428	26%	426	23%
II	561	35%	915	49%
III	479	30%	382	20%
IV	56	3%	72	4%
X	34	2%	76	4%
TNM not applicable or relapse	24		171	
Neoadjuvant treatment	344		220	
<b>yPathological stage</b>				
0	12	4%	1	0%
I	111	32%	32	15%
II	120	35%	102	47%
III	82	24%	33	15%
IV	17	5%	23	11%
X	0	0%	26	12%
TNM not applicable or relapse	2		3	
No neoadjuvant treatment	1646		2042	
<b>Neoadjuvant treatment</b>				
Chemotherapy	302	15%	188	8%
Radiotherapy	2	0%	2	0%
Chemoradiotherapy	6	0%	30	1%
No chemo, radiation or targeted treatment <sup>#</sup>	1646	83%		
<b>WHO score at surgery</b>				
0 - Asymptomatic, normal activity	535	27%	366	16%
1 - Symptomatic, but ambulant	1219	61%	1337	59%
2 - Symptomatic, bedbound < 50% day	199	10%	118	5%
3 - Symptomatic, bedbound > 50% day	35	2%	11	0%
4 - Completely dependent, 100% bedbound	2	0%	16	1%
<b>Nomenclature code for complex surgery</b>				
242830-242841: Pancreaticoduodenectomy	1440	72%	1646	73%
Pancreaticoduodenectomy	1332	93%		
Total Pancreatectomy	108	8%		
242852-242863: Hemipancreatectomy left with jejunal anastomosis of the resection plane of the pancreas, or almost total pancreatectomy (95 pct)	161	8%	616	27%
242874-242885: Hemipancreatectomy left	363	18%		

242896-242900: Enucleation of a pancreatic tumour	26	1%		
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# no information on targeted therapy for T0 period

**Table E3 - Comparison between all malignant peri-pancreatic tumours with surgery and those without surgery during the convention [1/7/2019 – 30/6/2022]**

	Surgery (N=2058)		No surgery (N=2306)	
<b>Sex</b>				
Male	1115	54%	1206	52%
Female	943	46%	1100	48%
<b>Age at surgery/multidisciplinary consult</b>				
<= 69	1155	56%	1012	44%
70-79	709	34%	778	34%
>=80	194	9%	516	22%
Median age	68		71	
IQR 25	57		63	
IQR 75	73		78	
<b>Lesion to treat (in peri pancreas)</b>				
Primary tumour	1990	97%	2221	96%
Relapse of primary tumour	39	2%	52	2%
Metastasis	29	1%	33	1%
<b>Morphology</b>				
Adenocarcinoma	1590	77%	1818	79%
NEN	302	15%	170	7%
Other, unspecified or missing	166	8%	318	14%
<b>Primary tumour localisation</b>				
C17.0 Duodenum	96	5%	50	2%
C24.0 Extrahepatic bile duct	135	7%	72	3%
C24.1 (Peri-) ampullary region	200	10%	48	2%
C25.0 Head of pancreas	926	45%	1079	47%
C25.1 Body of pancreas	188	9%	357	15%
C25.2 Tail of pancreas	291	14%	333	14%
C25.3 Pancreatic duct	10	0%	1	0%
C25.4 Islands of Langerhans	27	1%	7	0%
C25.7-9 Other specified parts of pancreas	122	6%	282	12%
Other	63	3%	76	3%
<b>Clinical stage</b>				
0	30	2%	11	0%
I	939	47%	342	15%
II	561	28%	298	13%
III	200	10%	391	18%
IV	55	3%	1071	48%

X	203	10%	110	5%
TNM not applicable or relapse	70		83	
<b>WHO score</b>				
0 - Asymptomatic, normal activity	559	27%	253	11%
1 - Symptomatic, but ambulant	1256	61%	1171	51%
2 - Symptomatic, bedbound < 50% day	205	10%	215	9%
3 - Symptomatic, bedbound > 50% day	36	2%	59	3%
4 - Completely dependent, 100% bedbound	2	0%	11	0%
<b>Was the patient referred?</b>				
No	899	44%	1270	55%
Yes	1159	56%	1035	45%

**Table E4 - Comparison between all benign peri-pancreatic tumours with surgery and those without surgery during the convention [1/7/2019 – 30/6/2022]**

	Surgery (N=373)		No surgery (N=1029)	
<b>Sex</b>				
Male	185	50%	407	40%
Female	188	50%	622	60%
<b>Age at surgery/multidisciplinary consult</b>				
<= 69	238	64%	499	48%
70-79	119	32%	370	36%
>=80	16	4%	160	16%
Median age	65		70	
IQR 25	57		61	
IQR 75	73		76	
<b>Lesion to treat</b>				
Adenoma	24	6%	48	5%
Cystadenoma	88	24%	150	15%
IPMN	206	55%	718	70%
Other benign	55	15%	113	11%
<b>Was the patient referred?</b>				
No	199	53%	769	75%
Yes	174	47%	260	25%



**Table E5 - Comparison between primary malignant peri-pancreatic tumours that were discussed and those that were not discussed on a multidisciplinary consultation for complex pancreatic pathology in an expert centre during the convention.**

	Discussed (N=4208)		Not discussed <sup>o</sup> (N=3227)	
<b>Sex</b>				
Male	2232	53%	1658	51%
Female	1976	47%	1569	49%
<b>Age at surgery/diagnosis</b>				
<= 69	2075	49%	1136	35%
70-79	1433	34%	1001	31%
>=80	700	17%	1090	34%
Median age	70		74	
IQR 25	62		65	
IQR 75	77		82	
<b>Morphology</b>				
Adenocarcinoma	3307	79%	2220	69%
NEN	448	11%	281	9%
Other, unspecified or missing	453	11%	726	22%
<b>Primary tumour localisation</b>				
C17.0 Duodenum	139	3%	282	9%
C24.0 Extrahepatic bile duct	195	5%	354	11%
C24.1 (Peri-) ampullary region	244	6%	64	2%
C25.0 Head of pancreas	1963	47%	999	31%
C25.1 Body of pancreas	532	13%	412	13%
C25.2 Tail of pancreas	597	14%	457	14%
C25.3 Pancreatic duct	11	0%	6	0%
C25.4 Islands of Langerhans	34	1%	19	1%
C25.7-9 Other specified parts of pancreas	397	9%	617	19%
Other	96	2%	17	1%
<b>Clinical stage</b>				
0	41	1%	2	0%
I	1268	31%	302	11%
II	850	20%	214	8%
III	585	14%	201	7%
IV	1108	27%	1768	63%
X	301	7%	337	12%
TNM not applicable or relapse	55		403	

<sup>o</sup>For the patients that were not discussed on a multidisciplinary consultation for complex pancreatic pathology the considered time period is [1/7/2019 – 31/12/2022] because the information is coming from the cancer registration database