

Table 1. Patient characteristics (n=94)

Parameter	Number
Age, median (range) (years)	70 (34–87)
Sex, male, <i>n</i> (%)	58 (62)
Tumor size, median (IQR) (mm)	25 (20-35)
Tumor location, <i>n</i> (%)	
Ph/ Pb/ Pt	27 (29)/ 56 (59)/ 11 (11)
Tumor marker, median (IQR)	
CEA, ng/mL	3.3 (2-5.9)
CA19-9, U/mL	113 (15-324)
DUPAN-2, U/mL	110 (25-354)
Span-1, U/mL	53 (17-147)
T stage ^a	
1/2/3	5 (5)/7 (8)/82 (87)
N stage ^a	
0/1	46 (49)/48 (51)
Pathological stage ^a , <i>n</i> (%)	
I A / I B/ II A/ II B	4 (4)/5 (5)/37 (40)/48 (51)
Adjuvant chemotherapy, <i>n</i> (%)	81 (86)
Median interval between FNA and surgery (IQR), days	15 (11-21)
Median overall survival (IQR), days	864 (525-2462)

IQR: interquartile range, Ph: pancreatic head, Pb: pancreatic body, Pt: pancreatic tail,

CEA: carcinoembryonic antigen, CA19-9: carbohydrate antigen 19-9,

DUPAN-2: duke pancreatic monoclonal antigen type 2, Span-1: serum pancreas antigen type

FNA: fine-needle aspiration

^a UICC 7th International Union against Cancer TNM Classification of Malignant Tumors 7th ed

Table 2a. Concordance of the PD-L1 expression between resected and FNA specimens

		Resected specimen (positive: $\geq 5\%$)	
		(+)	(-)
FNA specimen (positive: $\geq 5\%$)	(+)	7	2
	(-)	9	76

PD-L1: programmed death ligand 1, FNA: fine needle aspiration

Table 2b. Concordance of the PD-L1 expression between resected and FNA specimens

		Resected specimen (positive: $\geq 10\%$)	
		(+)	(-)
FNA specimen (positive: $\geq 10\%$)	(+)	6	1
	(-)	5	82

PD-L1: programmed death ligand 1, FNA: fine needle aspiration

Table 2c. The diagnostic accuracy of FNA for evaluating the PD-L1 expression on resected specimens (n=94)

	No. of PD-L1 positive patients, (%)	Sensitivity, % (95% CI)	Specificity, % (95% CI)	PPV, % (95% CI)	NPV, % (95% CI)	Accuracy, % (95% CI)
Cut-off point \geq 5% on resected and FNA specimens	16 (17)	44 (20-70)	97 (91-100)	78 (40-97)	89 (81-95)	88 (80-94)
Cut-off point \geq 10% on resected and FNA specimens	11 (10)	55 (23-83)	99 (93-100)	86 (42-100)	94 (87-98)	94 (87-98)

PPV: positive predictive value, NPV: negative predictive value, CI: confidence interval, FNA: fine-needle aspiration, PD-L1: programmed death ligand 1

Table 3. Relationship between the PD-L1 expression and clinicopathological features

Variable	PD-L1 expression (+)	PD-L1 expression (-)	P value
	(n = 11)	(n = 83)	
Age, median (range) (years)	71 (57-81)	70 (34-87)	0.85
Sex, male/female	7/4	51/32	0.89
Tumor size, median (IQR) (mm)	28 (22-42)	25 (20-31)	0.11
Tumor location, Ph/Pbt	5/6	47/32	0.37
Tumor marker, median (IQR)			
CEA, ng/mL	5.1 (2.6-7.8)	3.1 (1.9-5.3)	0.2
CA19-9, U/mL	247 (37-596)	71 (12-290)	0.04
DUPAN-2, U/mL	68 (25-334)	113 (25-362)	0.89
Span-1, U/mL	115 (50-343)	48 (17-145)	0.18
Median no. of needle passes (IQR)	2 (2-3)	2 (2-3)	0.87
Selected FNA needle, 22/25G	7/4	68/15	0.16
Number of tumor cells counted for IHC on FNA specimens (IQR)	399 (193-607)	530 (235-1123)	0.47
T stage, 1/2/3	0/1/10	5/6/72	0.7
N stage, 0/1	6/5	40/43	0.69
Adjuvant therapy, yes/no	8/3	73/10	0.17
Median interval between FNA and surgery (IQR), days	13 (11-27)	15 (11-21)	0.81
Median overall survival, days	831	915	0.77

IQR: interquartile range, Ph: pancreatic head, Pbt, pancreatic body and tail, FNA: fine-needle aspiration

IHC: immunohistochemistry, PD-L1: programmed death ligand 1

PD-L1 expression (+): PD-L1 was expressed \geq 10% on resected specimen