

Supplementary Table 1. Patient demographics, preoperative investigation results, pathology findings, and operative characteristics (n = 288)

Characteristic	Value
Age (yr)	63.5 ± 10.3
Sex (male : female)	166 (57.6) : 122 (42.4)
ASA	
1	46 (16.0)
2	183 (63.5)
3	59 (20.5)
Hemoglobin (g/dL)	12.2 ± 1.6
Platelet (× 10 ⁹ /L)	262.0 ± 91.9
White cell count (× 10 ⁹ /L)	6.9 ± 2.6
International normalized ratio	1.01 ± 0.08
Creatinine (μmol/L)	75.8 ± 22.1
Albumin (g/L)	36.3 ± 5.9
Bilirubin (μmol/L)	59.7 ± 93.6
Alkaline phosphatase (IU/L)	208.0 ± 201.8
Histological diagnosis	
Carcinoma of pancreas	92 (31.9)
Carcinoma of ampulla	62 (21.5)
Cholangiocarcinoma	36 (12.5)
Intraductal papillary mucinous tumor	22 (7.6)
Carcinoma of duodenum	12 (4.2)
Neuroendocrine tumor of pancreas	12 (4.2)
Cystic neoplasm of pancreas	6 (2.1)
Gastrointestinal stromal tumor	6 (2.1)
Carcinoma of stomach	4 (1.4)
Chronic pancreatitis	4 (1.4)
Carcinoma of gallbladder	3 (1.0)
Pseudo-papillary tumor	3 (1.0)
Tubulovillous adenoma	2 (0.7)
Carcinoma of colon extend to duodenum	2 (0.7)
IgG4 related disease	2 (0.7)
Inflammation and fibrosis of common bile duct	2 (0.7)
Intraductal papillary neoplasm of bile duct	1 (0.3)
Choledochocyst	1 (0.3)
Arteriovenous malformation	1 (0.3)
Benign duodenal ulcer	1 (0.3)
Cholangitis	1 (0.3)
Chronic inflammation with fibrosis	1 (0.3)
Duodenal diverticulum	1 (0.3)
Focal erosion with low grade dysplasia	1 (0.3)
Inflamed granulation at ampulla	1 (0.3)
Leiomyosarcoma	1 (0.3)
Liposarcoma	1 (0.3)
Pancreatic hamartoma	1 (0.3)
Pancreatic heterotopia	1 (0.3)
Periductal fibrosis and inflammation	1 (0.3)
Pseudocyst	1 (0.3)
Retroperitoneal teratoma	1 (0.3)
Dilated pancreatic duct with inflammation	1 (0.3)
No evidence of malignancy	1 (0.3)

Supplementary Table 1. Continued

Characteristic	Value
Pancreas texture	
Soft	194 (67.4)
Hard	94 (32.6)
Operative approach	
Open	280 (97.2)
Laparoscopic/robotic to open	4 (1.4)
Robotic	4 (1.4)
Type of operation	
Standard Whipple	112 (38.9)
Pylorus preserving pancreaticoduodenectomy	176 (61.1)
Vascular resection / reconstruction	14 (4.9)
Concomitant procedures	12 (4.2)
Pancreatic duct size (mm)	4.0 ± 2.2
Use of pancreatic internal stent	39 (13.5)
Prophylactic Sandostatin	274 (95.1)

Values are presented as mean ± standard deviation or number (%).
ASA: American Society of Anesthesiologists.

Supplementary Table 2. Logistic regression for clinical significant pancreatic fistula with different pancreatic duct sizes cut off

Variable	Univariate		Multivariable	
	Odds ratio (95% CI)	<i>p</i> -value	Odds ratio (95% CI)	<i>p</i> -value
Pancreatic duct as continuous variable				
Pancreas texture				
Soft	15.687 (2.100–117.163)	0.007*	12.222 (1.445, 103.380)	0.022*
Hard	-		-	
Carcinoma of pancreas	0.311 (0.105–0.921)	0.035*	0.850 (0.262–2.761)	0.450
Pancreatic duct size (mm)	0.795 (0.643, 0.984)	0.035*	0.919 (0.739–1.144)	0.028*
Pancreatic duct > 1 mm vs. ≤ 1 mm				
Pancreas texture				
Soft	15.687 (2.100–117.163)	0.007*	12.691 (1.532–105.135)	0.019*
Hard	-		-	
Carcinoma of pancreas	0.311 (0.105, 0.921)	0.035*	0.877 (0.268, 2.869)	0.828
Pancreatic duct size (mm)				
≤ 1	5.787 (1.795–18.659)	0.003*	3.758 (1.155–12.232)	0.028*
> 1	-		-	

CI, confidence interval.

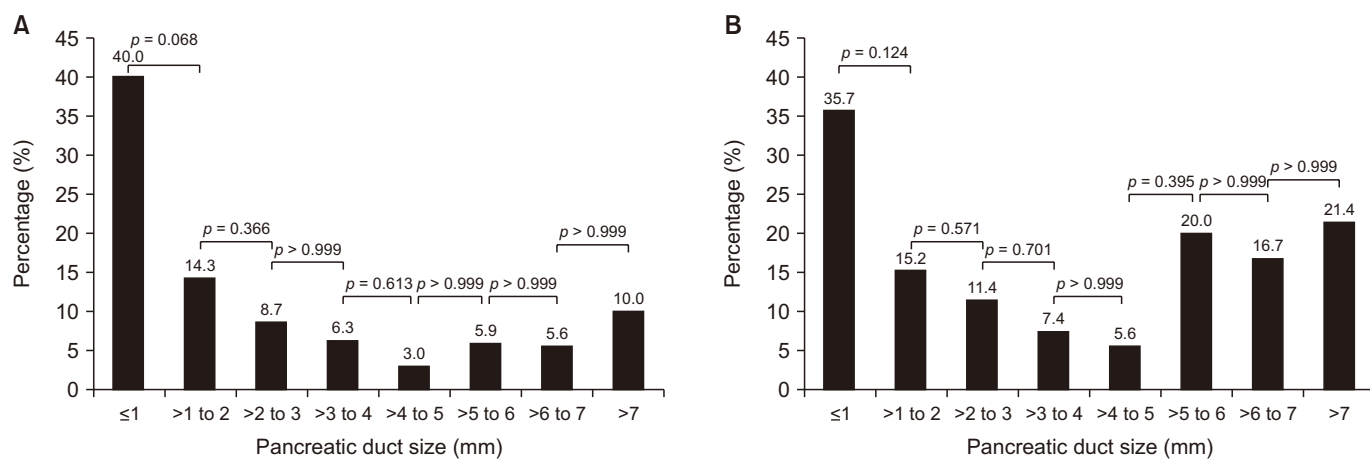
*Statistically significant ($p < 0.05$).

Supplementary Table 3. Logistic regression for clinical significant pancreatic fistula with different pancreatic duct size cut off (excluding patients whose duct size were measured on the CT or MRI)

Variable	Univariate		Multivariable	
	Odds ratio (95% CI)	<i>p</i> -value	Odds ratio (95% CI)	<i>p</i> -value
Pancreatic duct as continuous variable				
Pancreas texture				
Soft	16.071 (2.140–120.697)	0.007*	12.805 (1.508–108.739)	0.019*
Hard	-		-	
Carcinoma of pancreas	0.310 (0.103–0.930)	0.035*	0.822 (0.251–2.696)	0.747
Pancreatic duct size (mm)	0.805 (0.649, 1.000)	0.050	0.938 (0.752, 1.170)	0.568
Pancreatic duct > 1 mm vs. ≤ 1 mm				
Pancreas Texture				
Soft	16.071 (2.140–120.697)	0.007*	12.893 (1.556–106.795)	0.018*
Hard	-		-	
Carcinoma of pancreas	0.310 (0.103–0.930)	0.035*	0.842 (0.254–2.788)	0.778
Pancreatic duct size (mm)				
≤ 1	6.788 (1.780–25.892)	0.005*	4.214 (1.095–16.220)	0.036*
> 1	-		-	

CI, confidence interval.

*Statistically significant ($p < 0.05$).



Supplementary Fig. 1. The relationship between pancreatic duct size and clinical significant pancreatic fistula; (A) excluding patients whose duct size measured on CT or MRI, (B) excluding patients with hard pancreas.