

Supplementary Table 1. Characteristics of the six re-recurrence patients

	#1	#2	#3	#4	#5	#6
Clinical presentation	Asymptomatic	Asymptomatic	Jaundice	Asymptomatic	Pancreatitis	Jaundice
Age, yr	76	61	80	65	71	63
Initial biopsy finding	High grade	Low grade	Low grade	Low grade	Low grade	Low grade
Size, mm	13	20	18	15	13	15
EUS	Yes	Yes	Yes		No	No
Cholangiogram	Yes	No	Yes	Yes	No	Yes
Pancreatogram	Yes	No	Yes	Yes	Yes	Yes
En-bloc resection	No	Yes	No	Yes	Yes	No
Thermal ablation	No	No	No	Yes	Yes	No
Complication	No	No	No	Bleeding	Bleeding	No
Final pathology	High grade	Low grade	Low grade	Low grade	Low grade	Low grade
Time to recurrence, months	1	2	6	10	12	12
Pathology in recurrence	Low grade	Low grade	Low grade	Low grade	Low grade	Low grade
Management at first recur	Thermal ablation	Thermal ablation	Thermal ablation	Thermal ablation	Biopsy	Biopsy
Management at second recur	Thermal ablation	EP	Thermal ablation	Thermal ablation	Biopsy	Thermal ablation
Follow-up	No more recurrence	Surgery due to persistent lesion	No more recurrence	Surgery due to persistent lesion	No more recurrence	No more recurrence
Morbidity	None	None	None	None	None	None

EUS: Endoscopic ultrasound; EP: Endoscopic papillectomy.

Supplementary Table 2. Univariate analysis of hospitals and endoscopists as risk factors for early and late recurrence and curative resection

	N (%)	Early recurrence		Late recurrence		Curative resection	
		OR (95% CI)	P-value	OR (95% CI)	P-value	OR (95% CI)	P-value
Hospital							
1	29 (27.4)	Ref		Ref		Ref	
2	22 (20.8)	1.926 (0.384- 9.665)	0.426	-	0.998	0.698 (0.176- 2.769)	
3	31 (29.2)	0.598 (0.093- 3.862)	0.589	0.670 (0.136- 3.287)	0.621	0.604 (0.168- 2.175)	
4	9 (8.5)	-	0.999	1.786 (0.269- 11.856)	0.548	0.898 (0.150- 5.361)	
5	15 (14.2)	1.333 (0.198- 8.996)	0.768	2.273 (0.479- 10.781)	0.301	2.095 (0.550- 7.986)	
Endoscopist							
1	19 (17.9)	Ref		Ref		Ref	
2	22 (20.8)	4.000 (0.406- 39.367)	0.235	-	0.998	1.185 (0.230- 6.119)	0.839
3	20 (18.9)	0.947 (0.055- 16.309)	0.970	0.944 (0.119- 7.477)	0.957	0.941 (0.165- 5.361)	0.946
4	9 (8.5)	-	0.999	2.429 (0.283- 20.818)	0.418	1.524 (0.207- 11.232)	0.679
5	15 (14.2)	2.769 (0.226- 33.879)	0.425	3.091 (0.482- 19.838)	0.234	3.556 (0.712- 17.763)	0.122
6	10 (9.4)	4.500 (0.355- 57.106)	0.246	2.125 (0.252- 17.927)	0.488	3.556 (0.608- 20.805)	0.159
7	11 (10.4)	1.800 (0.101- 31.988)	0.689	0.850(0.068- 10.610)	0.900	1.185 (0.166- 8.471)	0.866