

Supplementary table 1.

ICD-9 and procedure codes

ICD-9 for disease	
Cholelithiasis	ICD-9-CM 574.0-574.91, 575.0-575.12, 576.1-576.2
Chronic hepatitis B	ICD-9-CM V02.61, 070.20, 070.22, 070.30 and 070.32
Chronic hepatitis C	ICD-9-CM V02.62, 070.41, 070.44, 070.51 and 070.54
Helicobacter infection	041.86
Diabetes mellitus	ICD-9-CM 250
End-stage renal disease	Catastrophic illness card, HV 585
Congenital cystic disease of liver	ICD-9-CM 751.62, 751.69
Clonorchis and Opisthorchis	ICD-9-CM 121.0, 121.1
Inflammatory bowel diseases	ICD-9-CM 555-556
Cholangiocarcinoma	ICD-9-CM 155.1, 156.1, 230.8 and 235.3
Procedure code	
Cholecystectomy	75203B, 75215B
Endoscopic sphincterotomy	56031B, 56033B
Endoscopic papillary balloon dilatation	56032B

Supplementary table 2. Comparisons recurrent biliary events between cholangiocarcinoma patients and non-cholangiocarcinoma patients in ES/EPBD group

		ES/EPBD group		p value
		N=537		
		Cholangiocarcinoma after first 6 months (N=11)	Non-cholangiocarcinoma group (N= 510)	
RBE events		54	892	
Mean (SD)		4.909 (1.749)	4.323 (2.081)	0.563
Patient had events	who RBE	9	357	0.317*

ES=endoscopic sphincterotomy; EPBD= endoscopic papillary balloon dilatation; RBE= recurrent biliary events; *Fisher exact test