

Supplementary Table 1 International Classification of Diseases, Ninth Revision, Procedure Codes Used to Identify Endoscopic Retrograde Cholangiopancreatography

Procedure Description	Procedure Codes
Diagnostic	
Endoscopic retrograde cholangiopancreatography	51.10
Endoscopic retrograde cholangiography	51.11
Closed (endoscopic) biopsy of biliary duct or sphincter of Oddi	51.14
Endoscopic retrograde pancreatography	52.13
Closed (endoscopic) biopsy of pancreatic duct	52.14
Therapeutic	
Endoscopic dilation of ampulla and biliary duct	51.84
Endoscopic sphincterotomy and papillotomy	51.85
Endoscopic insertion of nasobiliary drainage tube	51.86
Endoscopic insertion of stent into bile duct	51.87
Endoscopic removal of stone form biliary tract	51.88
Endoscopic insertion of stent into pancreatic duct	52.93
Endoscopic removal of stone from pancreatic duct	52.94
Endoscopic insertion of naso-pancreatic drainage tube	52.97
Endoscopic dilation of pancreatic duct	52.98

Supplementary Table 2 International Classification of Diseases, Ninth Revision, Procedure and Diagnosis Codes Used to Select Study Groups

Study Groups	ICD-9 and Procedure Codes
Study group 1: ESRD on dialysis	585.6
Study Group 2: Chronic Kidney Disease without Dialysis	585.1, 585.2, 585.3, 585.4, 585.5, and 585.9
Control Group:	ERCP and did not have the above renal disease codes in their discharge diagnosis

ESRD: End-stage renal disease; CKD: Chronic kidney disease; ERCP: Endoscopic retrograde cholangiopancreatography.

Supplementary Table 3: International Classification of Diseases, Ninth Revision (ICD-9), Procedure and Diagnosis Codes Used to Determine Post Endoscopic Retrograde Cholangiopancreatography Complications

Complication	ICD-9 Codes
Pancreatitis	577.0
Bleeding	
Intraoperative bleeding	998.11
Postoperative hematoma	998.12, 909.3
GI bleed	578.9, 533.4
Perforation	569.83
Mechanical ventilation	96.71, 96.72
Coagulopathy	286
Low blood pressure	855.59, 276.52, 458.9
Bile duct repair	51.71, 51.72, 51.79
Laparotomy	54.11, 54.21
Small bowel surgery	
Isolation of intestinal segment, not otherwise specified	45.50
Isolation of segment of small intestine	45.51
Intestinal anastomosis, not otherwise specified	45.90
Small-to-small intestinal anastomosis	45.91
Surgical repair of the duodenum	46.71, 46.72, 46.79

Supplementary Table 4: In-Hospital Complications after Therapeutic and Diagnostic ERCP From 2011 to 2013 Based on Data From the Nationwide Inpatient Sample for ESRD and CKD Compared to Controls

Type of Complications	ESRD aOR/MD (95% CI)	P value	CKD, aOR/MD (95% CI)	P value
Therapeutic ERCP				
Death	3.9 (3 - 5)	<0.001	1.3 (1.1 - 1.6)	0.002
Pancreatitis	1.9 (1.5 - 2.3)	<0.001	1.5 (1.3 - 1.7)	<0.001
Bleeding	2 (1.5 - 2.6)	<0.001	1.4 (1.2 - 1.6)	<0.001
Perforation	1.3 (0.16 - 11)	0.27	1.5 (0.5 - 4)	0.8
Length of Hospital Stay, days	6.3 (5.3 - 7.2)	<0.001	1.4 (1.2 - 1.6)	<0.001
Diagnostic ERCP				
Death	2.8 (1.7 - 4.7)	<0.001	1.34 (0.96 - 1.9)	0.08
Pancreatitis	0.8 (0.35 - 1.6)	0.5	1.1 (0.8 - 1.6)	0.45
Bleeding	1.4 (0.7 - 3)	0.3	1.14 (0.74 - 1.75)	0.5
Perforation	NE	NE	NE	NE
Length of Hospital Stay, days	3.9 (2.3 - 5.5)	<0.001	1.3 (0.6 - 1.9)	<0.001

ERCP: Endoscopic retrograde cholangiopancreatography; ESRD: End-stage renal disease; CKD: Chronic kidney disease; aOR: Adjusted odd ratio; MD: Mean difference; NE: Note estimated.