

## Introduction

- Primary sclerosing cholangitis (PSC) is associated with hepatobiliary complications including increased risk of cholangiocarcinoma and bile duct stones that require endoscopic therapy.
- Use of per-oral-cholangioscopy (POC) during ERCP can provide direct intraductal visualization and aid in diagnosis and treatment of PSC related biliary complications.
- There is little data regarding safety of this device in PSC patients.

## Methodology

- We aimed to compare rates of complications such as infection, bleeding, pancreatitis, perforation and thirty-day mortality following ERCP procedures with and without the use of POC.
- Approval for the study obtained from Henry Ford Hospital institutional review board.
- Patients who were diagnosed with PSC and underwent ERCP with or without POC between 2013 and 2021 were identified using relevant diagnostic and billing codes from ProVation software.
- Each chart was then individually reviewed to gather data about demographics, procedural details and rate of complications.

## Results

	ERCP + Cholangioscopy	ERCP	P value
Age, Median (IQR)	50.5 (38.5-57)	42 (33-57)	0.38
Gender, Female, N (%)	6 (30)	29 (47.%)	0.17
Underlying Cirrhosis	10 (50)	33 (54.1)	0.75
Cholangiocarcinoma	2 (10.0)	4 (6.6)	0.63
<b>ERCP Findings</b>			
Stone	6 (30.0)	11 (18.0)	0.25
Dominant Stricture	12 (65.0)	34 (55.7)	0.47
Cholangitis	1 (5.0)	6 (9.8)	0.68
<b>Diagnostic Modality</b>			
Brush	13 (65.0)	35 (57.4)	
Forceps	2 (10.0)	4 (6.6)	
Spybites	8 (40.0)	0 (0)	
Complications	2 (10.0)	8 (13.1)	0.67
Infection/Cholangitis	1 (5.0)	7 (11.5)	
Pancreatitis	0 (0)	1 (1.6)	
Bleeding	0	2 (3.3)	
Perforation	1 (5.0)	0 (0)	
Total Procedure Time (mins), Median (IQR)	90.0 (50 – 99)	70.0 (48 – 81)	0.22
Flouroscopy Time (mins), Median (IQR)	10.4 (6.7 – 14.2)	11.5 (7.0 – 18.4)	0.59

Difference in Rate of Complications between ERCP + Cholangioscopy versus ERCP alone.

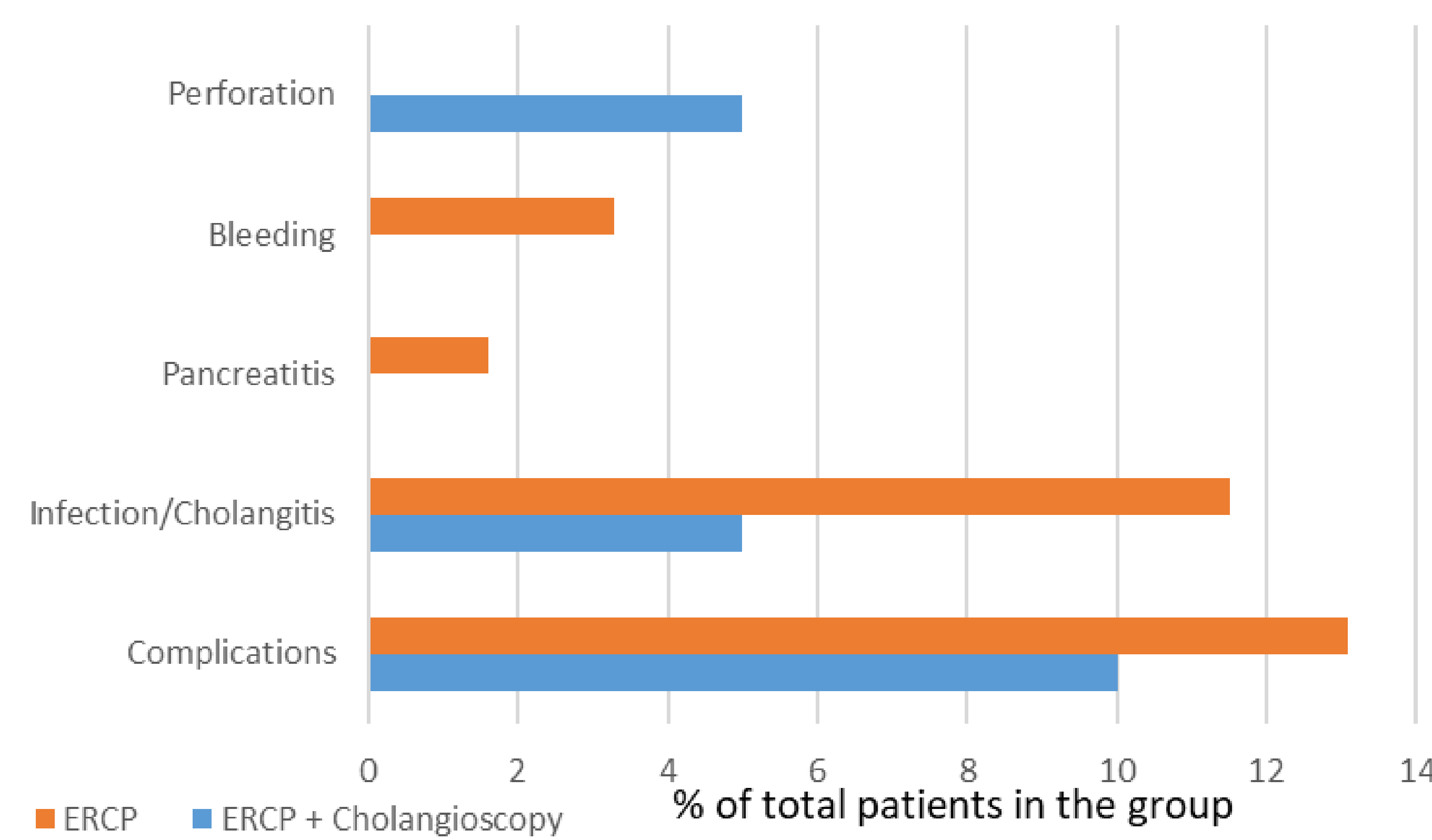


Figure 1. Comparison of percentage of patients who had complications in each group.

## Results (cont.)

- 81 patients were identified, 20 underwent ERCP with POC compared to 61 who underwent standard ERCP alone.
- There was no major difference in age and gender between the two groups.
- Similar proportion of individuals had cirrhosis and cholangiocarcinoma between the two groups.
- Main ERCP findings were dominant stricture in 65% in the POC compared to 55.7%, stone disease in 30% POC group compared to 18% and cholangitis in 5% POC group compared to 9.8% in standard ERCP group.
- Overall complication rate was 10% in the POC group compared to 13.1% in the standard ERCP group.
- In the POC group, one patient (5.0%) had perforation during the procedure, and another had post procedural bacteremia (5%).
- In the standard ERCP group, there were 7 (11.5%) patients who had infections, 2 (3.3%) had bleeding episodes and one patient had pancreatitis.
- There was no patient death within thirty days of the procedure in either group.
- Median total procedure time was 90 mins in the POC group, compared to 70 mins for standard ERCP group.
- Total fluoroscopy time was 10.4 mins in the POC group compared to 11.5 mins in the standard ERCP group.

## Conclusions

- Direct cholangioscopy with ERCP in PSC patients has a similar rate of complications compared to standard ERCP in this patient population.
- Total procedure time was longer in the POC group
- Similar fluoroscopy time for the two groups.