

# BILIARY DRAINAGE BY ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY VERSUS PERCUTANEOUS TRANSHEPATIC DRAINAGE IN RESECTABLE PANCREATIC TUMORS WITH HYPERBILIRUBINEMIA: A PROSPECTIVE STUDY

Magdy Akel Sorour, Abdel-Hamid Ahmed Ghazal, Hany Mostafa El-Haddad, Mohamed Al-Sayed Abd El-Moneam

Gastrointestinal (GIT) Surgical Unit, Department of Surgery, Faculty of Medicine, Alexandria University, Alexandria, Egypt.

## Introduction

Hyperbilirubinemia is the main presenting symptom of pancreatic head and periampullary tumors and it has a devastating effect on the patient. the role of preoperative biliary drainage as a step before surgery in case of resectable tumors is a debatable subject due to the add burden of the periporcedural complications on the patient. Currently, Percutaneous transhepatic drainage is considered an alternative to Endoscopic drainage using ERCP due to a false belief that ERCP is superior to PTD.

## Aim of the work

The aim of this randomized comparative study was to assess the difference between Percutaneous transhepatic drainage and endoscopic drainage in regarded to periporcedural complications, on the operation itself, and on the post operative complications and hospital stay.

## Patients and Methods

In the period from January 2019 to December 2021, 84 patients with resectable pancreatic head and periampullary tumors were admitted to the GIT Surgical Unit in AUMH. A total of 24 patients were excluded, 12 refused to consent for preoperative drainage , and 12 were excluded for having either poor liver function or sever systemic diseases. The remaining 60 patients constituted our study pool which were randomly allocated to PTD group (percutaneous transhepatic group) and ERCP group (Endoscopic retrograde cholangiopancreatography) groups with 30 patients per group.

**Preoperative assessment:** Thorough history, laboratory investigation, imaging as CT abdomen and MRCP.

## Results



In this study, we found that technical success rate was higher in the percutaneous group (96%) versus (80%) in the endoscopic group. However, the difference was not statistically significant.

**Table 1:** Comparison between the two studied groups according to success and Failure rate.

	ERCP (n = 30)		PTD (n = 30)		c <sup>2</sup>	p
	No.	%	No.	%		
Success/ failure						
Success	24	80.0	29	96.7	4.043	<sup>FE</sup> p=0.103
Failure	6	20.0	1	3.3		

Furthermore, we observed a higher rate of operative difficulty in dissection, duration of resection and in blood loss in endoscopic group which were of a statistical significance.

**Table 2:** Comparison between the two studied groups according to duration of Resection time, Difficult in Dissection and Blood loss.

	ERCP (n = 30)		PTD (n = 30)		Test of sig.	p
	No.	%	No.	%		
Resection time						
Min. – Max.	150.0 – 280.0		120.0 – 270.0		t=6.295*	<0.001*
Mean ± SD.	225.50 ± 40.82		165.33 ± 32.77			
Median (IQR)	237.50 (200 - 260)		157.50 (145 - 175)			
Difficult dissection	20	66.7	10	33.3	c²=6.667*	0.010*
Blood loss						
Min. – Max.	1100.0 – 2500.0		800.0 – 2000.0		U = 101.50*	<0.001*
Mean ± SD.	1775.0 ± 394.52		1220.0 ± 270.25			
Median (IQR)	1700.0 (1500 - 2000)		1200 (1050 - 1350)			

Finally, we found that ERCP group has a higher rate of post operative complication and a higher hospital stay than PTD group.

**Table 3:** Comparison between the two studied groups according to hospital stay.

Hospital stay	ERCP (n = 30)	PTD (n = 30)	U	p
Min. – Max.	12.0 – 45.0	0.0 – 38.0	199.0*	<0.001*
Mean ± SD.	29.27 ± 9.27	19.87 ± 8.19		
Median (IQR)	29.0 (22.0 – 36.0)	19.0 (14.0 – 26.0)		

## Conclusion

Percutaneous transhepatic biliary drainage is a method for preoperative biliary drainage which carry higher rate of success , less risk for complications , easier dissection , less blood loss and a shorter hospital stay In comparison to endoscopic drainage.