

ORIGINAL ARTICLE

Role of ERCP in Obstructive Jaundice

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ABSTRACT

Objectives: To determine the diagnostic role of ERCP in the management of obstructive jaundice.**Materials and Methods:** This cross-sectional study was done in Lady Reading Hospital Peshawar. In this study 60 patients with obstructive Jaundice were enrolled from April 2022–September 2022. All the enrolled patients were undergoing ERCP.**Results:** Total 80 patients were enrolled with mean age of 47.08±12.1 years. Out of total patients 68.3% were male and 31.7% were female. Stenting was done in 43.3% of patients and success rate was 88.5% and failure rate was 11.5%. Stone extractions were done in 20% of patients and success rate was 75.0%. Warm extractions were done in 10% and success rate was 100.0%. Sphincterotomy was done in 13.3% of patients and success rate was 100%. Some post complications were found, and the most common complication was acute pancreatitis that was 6.7%, followed by perforation that was 5%. Other post procedure complication were bleeding and acute cholangitis.**Practical implication:** In our study we find out that ERCP is an important diagnostic and therapeutic modality for evaluation of patients with obstructive jaundice. In our study the success rate is acceptable for ERCP in the management of obstructive jaundice. So this study will help the health practitioner to choose better treatment option in order to treat Obstructive Jaundice. Despite of its associated complication, ERCP is a reliable method in treating obstructive jaundice.**Conclusion:** It is concluded that ERCP is a best procedure having an affective role in the management of obstructive jaundice despite of complication. The success rate is in acceptable domain for ERCP in the management of obstructive jaundice.**Keywords:** Endoscopic retrograde cholangiopancreatography, Obstructive jaundice, Acute pancreatitis, Complication

INTRODUCTION

Endoscopic retrograde cholangiopancreatography (ERCP) is a useful technique that become the 1st line approach as a treatment for obstructive jaundice^(1, 2). ERCP has the ability to diagnose and treated the patients⁽³⁾ with a success rate of 50%-96%. Different factors responsible for success rate of ERCP includes: endoscopic aspect, severity of the disease, operator and anatomical abnormality^(4, 5). Globally, it is highly used procedure but still it has some complications including pancreatitis, hemorrhage, perforation, cholangitis, and cardiopulmonary events in up to 10% of patients and having the mortality rate about 1%⁽⁶⁾. Recently this method had a significant development globally. ERCP is the speciality of gastroenterologists, but it can also be performed safely by trained surgeons.

ERCP is usually performed using intravenous sedation and analgesia, often in an outpatient setting. Competence in gastrointestinal endoscopy is a prerequisite for ERCP training, and competence in this procedure requires extensive additional training and experience in both diagnostic and therapeutic ERCP. These procedures are associated with a significantly higher morbidity and mortality than upper endoscopy⁽⁷⁾.

Obstructive jaundice is one of the most challenging types of jaundice. It can be treated successfully once the cause is ascertained. Understanding the basic physiology of bilirubin metabolism and the structure of the extrahepatic biliary passages is essential for the adequate diagnostic evaluation of a patient presenting with obstructive jaundice⁽⁸⁾.

The main aim of this study was to determine the diagnostic role of ERCP in the management of obstructive jaundice. This study will help the clinical practitioner to select best treatment procedure in order to diagnose at time and to avoid further complication.

Objective: To determine the diagnostic role of ERCP in the management of obstructive jaundice.

MATERIALS AND METHODS

Study Design and setting: This cross-sectional study was done at Lady Reading Hospital Peshawar.

Duration of the study: Duration of the study was 6 months (April 2022– September 2022).

Sample Size: The sample was calculated 60 by using the online Open Epi Sample size software, keeping the following parameter:

Confidential interval= 95%

Margin of error= 5%

Prevalence of disease is 94%⁽⁹⁾

Inclusion Criteria

- Patients with Obstructive Jaundice.
- Patients of 20-70 years of age.
- Both genders.

Exclusion Criteria

The following patients were excluded

- Patients with gastric outlet obstruction.
- Patients having history of gastric surgery.
- Patients with previous diagnostic or therapeutic endoscopic intervention.

Methods: After the approval of ethical committee and CPSP, totally 80 patients with obstructive Jaundice were enrolled in this study. The purpose of the study was explained to the patients and informed consent were obtained. All the enrolled patients were undergoing ERCP according to the protocol. A predesign questioner were used to collect pre and post procedure data. Consecutive nonprobability sampling technique was used for the recruitment of patients.

Statistical Analysis: For analysis of data, SPSS (version 25.0) was used.

RESULTS

In this study 60 patients with obstructive jaundice were enrolled, out of which 41 (68.3%) were male and 19 (31.7%) were female with mean age of 47.08±12.1 years (ranging 20-70 years) (Table 1, Fig 1-0). The most common age group was 41-60 Years (68.3%), followed by 20-40 Years age group (21.7%) and >60 Years age group (10.0%) (Fig 2-0).

Table 1: Frequency of Patients According to Gender (n=60)

Variable	Frequency	Percentage
Gender		
Male	41	68.3
Female	19	31.7
	Mean	SD
Age (Years)	47.08	12.1

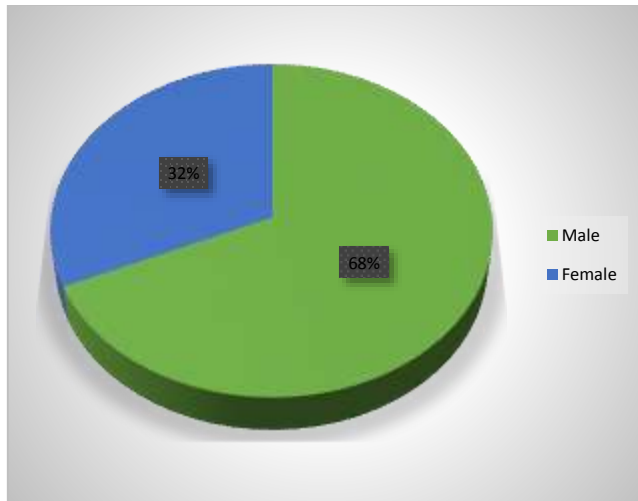


Figure 1: Graphical Representation of Patients on The Basis of Gender.

Stenting was done in 43.3% of patients and success rate was 88.5% and failure rate was 11.5%. Stone extractions were done in 20% of patients and success rate was 75.0%. Warm extractions were done in 10% and success rate was 100.0%. Sphincterotomy was done in 13.3% of patients and success rate was 100%. Some post complications were found, and the most common complication was acute pancreatitis that was 6.7%, followed by perforation that was 5%. Other post procedure complication were bleeding and acute cholangitis.

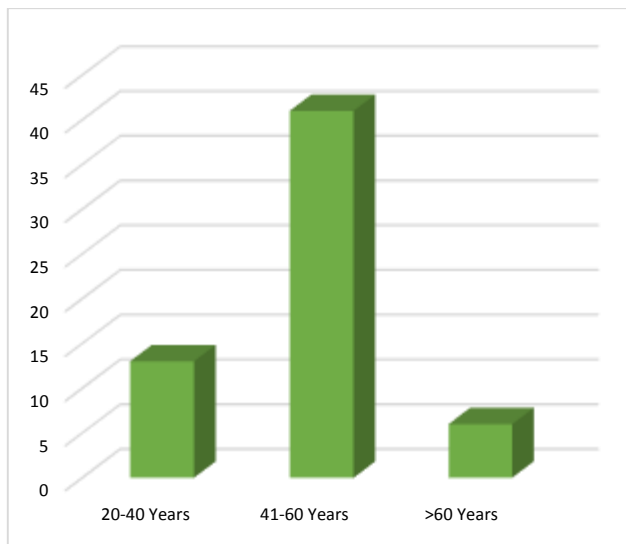


Figure 2: Graphical Representation of Patients on The Basis of Age Groups.

Table 2: Different Procedure during ERCP (n=60)

Procedure	No. of patients (percentage)
Biopsy	8 (13.3%)
Stenting	26 (43.3%)
Stone extraction	12 (20.0%)
Warm extraction	6 (20.0%)
Sphincterotomy	8 (13.3%)

Table 3: Success Rate of ERCP (n=60)

Procedure	Success	Failed
Stenting	23 (88.5%)	3 (11.5%)
Stone extraction	9 (75.0%)	3 (25.0%)
Warm extraction	6 (100.0%)	0 (0.0%)
Sphincterotomy	8 (100.0%)	0 (0.0%)

Table 4-0: Complications of ERCP (n=60)

Complication	Frequency (%)
Acute pancreatitis	4 (6.7%)
Bleeding	1 (1.7%)
Perforation	3 (5.0%)
Acute cholangitis	2 (3.3%)

DISCUSSION

ERCP is an important and useful procedure as a treatment approach for obstructive jaundice. It provides direct visualization and clear images. It has been stated by some researcher that ERCP is considered as a gold standard for the diagnosis of biliary obstruction because other modalities has limited diagnostic yield (10, 11). This study was conducted in order to determine the diagnostic role of ERCP in the management of obstructive jaundice. The present study on the role of ERCP in obstructive jaundice comprised of 32% female and 68% male with mean age of 47.08 years. in another study conducted by Rahman MM et al.(9) man to woman ratio was 1.70. One of the main cause of obstructive jaundice is gall stone and it has been stated that about 50% American women developing gallstones (9). Estrogen is a female hormone and it can take away more cholesterol from the human blood and converting it into the bile (12). In this study different procedure were used in which the most common one is stenting followed by Stone extraction procedure. Stenting is a well-considered as a best treatment therapy of obstructive jaundice (13). Other procedures include in our study were Warm extraction and Sphincterotomy. Both these procedures have 100% success rate.

In different literature the overall success rate of ERCP has ranged from 79.6% to 94.6% (14) this success rate is in the domain of our results. In our study 26 patients with obstructive jaundice undergo stenting procedure during ERCP and it success rate was found in 23 (88.5%) patients and failure rate was found in the remaining 3 (11.5%) patients. Our study was resemble by another study conducted by some other studies (9, 15). Another study stated that the success rate of endoscopic stent placement ranges from 84%-94% (15). So it was described that the stenting procedure gives good results and the success rate of this procedure is high as compared to other procedure such as, warm extraction and sphincterotomy. The success and failure rate of stone extraction procedure during ERCP was 9 (75.0%) and 3 (25.0%) respectively. Our results was supported another study conducted by Rahman MM et al.(9) in which success rate was 18 (95%) cases and failure rate was 01 (05%). Mostly conservative treatment was preferred but those patients who failed to respond to conservative treatment were undergo ERCP. But ERCP is still associated with a number of complications that includes acute pancreatitis, Bleeding, Perforation and Acute cholangitis. In our study the most common complication that occur during treatment procedure was acute pancreatitis, with reported frequencies of 4 (6.7%) followed by Perforation 3 (5.0%). Acute cholangitis occurs in 2 (3.3 %) while Bleeding take place in 1 (1.7%). Bleeding risk during ERCP is lesser than sphincterotomy and in those patients who were under anticoagulant therapy (16, 17). Predictors of acute pancreatitis include the presence of pancreatic duct catheterization, roentgenography, sphincterotomy or suspected sphincter of Oddi dysfunction (18, 19). Mostly ERCP complications take place during the initial 4-6 hours (20). ERCP is considered to be a possible and safe approach (21).

CONCLUSION

It is concluded that ERCP have an affective role in the management of obstructive jaundice. It has some complication, but effectiveness is much high as compared to complication. The success rate is in acceptable domain for ERCP in the management of obstructive jaundice.

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