

Role of Endoscopic retrograde cholangiopancreatography in obstructive jaundice. A retrospective analysis at King Abdullah Hospital, Bisha

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Abstract

Background: Gall bladder stone diseases is a very common in the the world, if not treated in time the stone may progress into the common bile duct causing obstructive jaundice. The laboratory data shows raised total and conjugated bilirubin with raised liver enzyme. Magnetic resonance cholangiopancreatography (MRCP) help in diagnosing pancreato-biliary pathology. Endoscopic retrograde cholangic pancreatography is the gold standard in both diagnosing and treating the pancreato biliary disorders, Bisha is situated in Southern region of Saudi Arabia. We face a huge number of cases of biliary pathology, major bulk of these require laparoscopic cholecystectomy. In spite of adequate facility for laparoscopic colycystectomy we are still facing a good number of cases of obstructive jaundice. We are providing 30-months data of Endoscopic Retrograde Cholangiopancreatography (ERCP) at our endoscopy unit in Bisha.

Material and Methods: All cases who underwent ERCP from April 2017 till October 2019 are included in the study. The patient with previous history of sphincterotomy stent placement or previous papillary intervention are excluded from the study. All demographic finding, indicator of ERCP and outcome of ERCP and its complication entered into a pre-designed proforma and analysed using SPSS version 21.

Results: 112-patients underwent endoscopic retrograde cholangiopancreatography at King Abdullah Hospital from April 2017 till October 2019. The most common pathology was common bile duct stone (choledhocolithiasis) followed by malignant billiary obstruction. Post-ERCP complication was found in 6-patients. The most common complication was post-ERCP acute pancreatitis.

Conclusion: Endoscopic retrograde pancreotocholangiography is a commonly performed safe procedure at specialized centre in the hand of experiences endoscopist. ERCP has minimal complications. Endoscopic retrograde cholangic pancreatography is the gold standard in both diagnosing and treating the pancreato biliary disorders.

Keywords: Obstructive jaundice, ERCP, MRCP, sphincterotomy, acute pancreatitis, Ca head of pancreas, cholangiocarcinoma

Introduction:

Endoscopic retrograde cholangiopancreatography (ERCP) is a commonly performed procedure specially in patient who presents with obstructive jaundice. The first ERCP procedure was performed in 1968.¹

Endoscopic retrograde cholangiopancreaticgraphy requires very high still and needs extensive

training, that is why it is carried out at specialized centres.

Endoscopic retrograde cholangiopancreatography is one of the most technically demanding and very high risk procedure performed by gastro-enterologist.²

On one hand ERCP is a very useful procedure

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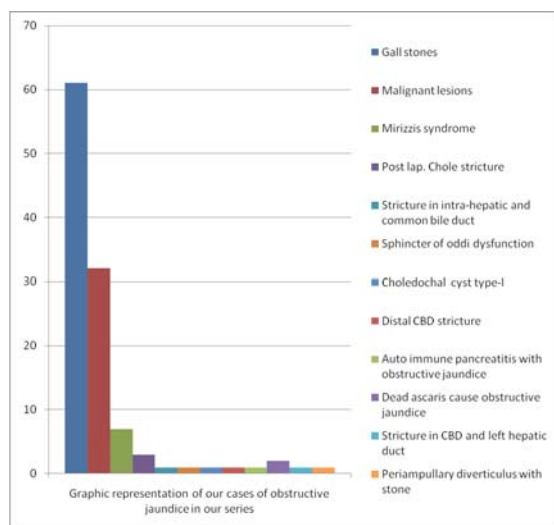
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Table 1: Patient Demographics

	Cases	Percentage
1 Gallstones	61	54.60
2 Malignant lesions	32	28.60
3 Mirizzi syndrome	7	6.25
4 Post-Lap Chole stricture	3	2.67
5 Stricture in intra hepatic & common bile duct	1	0.89
6 Sphincter of oddi dysfunction	1	0.89
7 Choledhocal cyst type-1	1	0.89
8 Distal CBD stricture	1	0.89
9 Autoimmune pancreatic with obstructive jaundice	1	0.89
10 Dead ascar cause obstructive jaundice	2	1.78
11 Stricture in CBD and left hepatic duct	1	0.89
12 Periapullar diverticifes with stone	1	0.89
Total	112	



on the other hand it carries overall risk of adverse events of 7% and mortality rate not more than 0.1%.³

Adverse complications of ERCP includes acute pancreatitis, hemorrhage, infection, perforation and sedation related cardiopulmonary events.³ Pancreatitis is the most common and serious complications in patients undergoing ERCP. The incidence of post-ERCP pancreatitis ranges from 1.6% to 15.7%.^{5,6}

Haemorrhage is primarily a complications relates to sphincterotomy. Haemorrhage may be mild or severe requiring ≥ 5 units of packed red cells. The risk of severe haemorrhage is estimated to occur in less than 1 per 1,000 sphincterotomies. The other complication related to ERCP

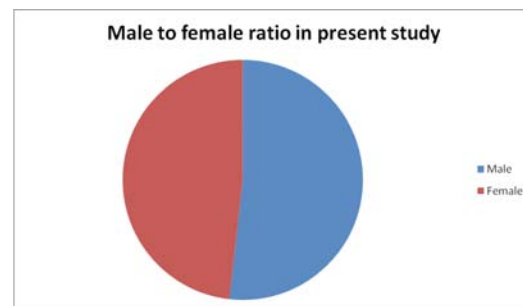
is post-ERCP cholangitis which is seen in less than 1% of cases.^{8,9}

Perforation during ERCP is also a well known complication which may be related to sphincterotomy or guide wire insertion. The perforation rate varies from 0.11 to 0.6%.^{8,9} Death may occur after therapeutic ERCP and death rate range from 0.4% - 0.5%.⁸

Our study highlight the indication of ERCP as well as it presents the rate of complications and comparison with the studies carried out at other centres.

Result:

A total of 112-cases of Endoscopic retrograde cholangiopancreatography carried out during this 2.5 years study. We have 58-male patients and 54-female patients enlisted in the present



study. The Male and female ratio was 1.07:1

The mean age of the patient was 48.33 years and age ranging from 87 years to 14 years. We have choledocholithiasis as a main cause of obstructive jaundice requiring ERCP in 61 (54.60%) of cases, followed by malignant lesions in 32 (28.60%) cases. Interesting fact is that we had 7 cases (6.25%) of Mirizzi syndrome in which stone précising on common bile duct. Our other findings are enlisted in table-1.

We have 61-cases of Choledocholithiasis. The ERCP and stone retrieval was successful in 96% of cases, in remaining 4% of cases initial stenting done and retrieval of stone performed later successfully.

Out of 32-cases of malignant lesion the most

Table 2: Malignant diseases encountered in our present study

	Cases
1 Ca Head of pancreas	13
2 Common hepatic duct cholangiocarcinoma	5
3 Hilar cholangiocarcinoma	3
4 Cholangiocarcinoma	5
5 Periapillary carcinoma	3
6 Distal CBD cholangiocarcinoma	3
Total cases	32

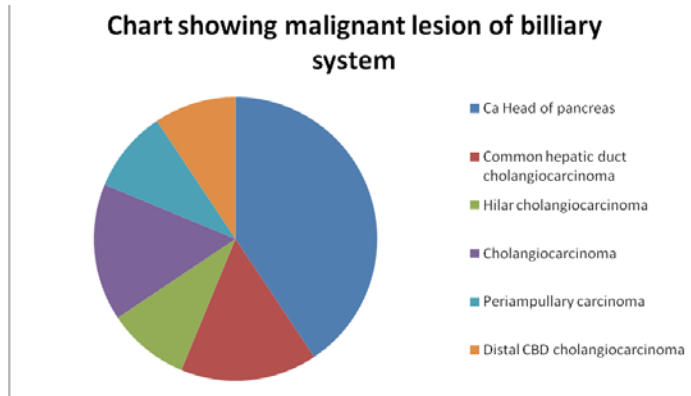


Table 3: Our complication rate is as follows

	Cases
1 Acute pancreatitis	3
2 Haemorrhage	2
3 Post-ERCP hyper-amylasemia	2
4 Cholangitis	1
Total cases	8

common lesion was came head of pancrease in 13-cases. Other malignant lesion are shown in the pie-graph.

We found 7-cases (6.25%) of Mirrizi syndrome causing CBD obstruction. In our study we also reported, two(2) dead Ascric causing obstructive jaundice which was treated successfully via ERCP and extraction of dead Ascric segments done.

Complication rate in this study was 7.14%, the most important complication was acute pancreatitis found in 3-cases, haemorrhage was noted in 2-cases it was managed conservatively. Post-ERCP hyperamylasemia noted in 2-cases and cholangitis was noted in 1-case as mentioned in table-III.

Discussion:

In our study we reviewed 112-patients who underwent ERCP at our institute. In this study Choledocholithiasis was the most common indication for ERCP followed by malignant lesion involving pancreatic-biliary region.

The incidence of biliary pathology is growing due to the overall age of population world wide, and it is surprisingly common in patients who are over 80-years of age.¹⁰

In our study we found 25% cases were more than 65-years of age (28/112 cases). A recent review by Daye et al.¹¹ showed the effectiveness and safety of ERCP in elderly versus younger and late adults patients showing that complications like hemorrhage billiary infection and other complication of the procedure were not statistically different in the three age groups.¹¹

In old age group patient age more than 80-years and above, we noted a significantly high number of female patient and this due to the different life expectancy between men and woman as shown by Han SJ, Lee TH et al.¹² in there study in 2016.

In our study our complication rate was 7.30% which is comparable to study done by Chittaranjan Panda et al.⁴ in which they mentioned overall complication rate of 8%. Masci E et al.⁹ has a complication rate of 4.9%. Simultaneously Vandervoort J et al.¹³ mentioned a complication rate of 11.2%.

Andriulli A et al.¹⁴ in a meta analysis of 21-prospective trials, mentioned hemorrhage as a complication of ERCP in 1.3% with 70% of bleeding episode classified as mild.

Our study showed hemorrhage as a complication in 2.7% of cases (3/112 cases). Chittaranjan Panda et al.⁴ mentioned hemorrhage rate of 1.3% in those patients undergoing ERCP.

Present study showed that 1.8% of our cases developed acute pancreatitis. The incidence of post ERCP pancreatitis is a meta analysis of 21-prospective study was approximately 3.5% ranging

from (1.6% - 15.7%) depending on selection of the patient.^{5,6,14}

Perforation during ERCP is uncommon^{8,9} fortunately we did not have a single case of perforation. The elderly patients who are suppose to undergo ERCP and sphincterotomy should be properly evaluated. There are 2-criteria worth mentioning one is ASA (American Society of Anesthesiologist scoring system) and secondly Charlson comorbidity index.

Day et al.¹¹ in his study pointed out that when we compare younger population with older population age > 80 years there is no much difference of known complication of ERCP like perforation, hemorrhage biliary infection. Other main complication of the procedure were not statistically different among the younger age group as compared to elderly group.

From a geriatric prospective the assessment of older patient in an inter disciplinary process that should include multiple domains such as functional and nutritional status, cognition, and accurate evaluation of comorbidities and many others^{15,16} ERCP related death incidence was 0.7% and 0.5% respectively in younger age and older age group.^{15,16} Fortunately we have no death reported in the present study perhaps majority of our cases were belong to younger age group.

Conclusion:

We conclude that in the hands of experienced and highly trained endoscopist Endoscopic retrograde cholangiopancreatography is very effective and useful procedure both for diagnosis and treatment of pancreatic biliary disorders. It usefulness is proven in cases of choledocholithiasis and malignant disease of pancreas and biliary duct.

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Role and contribution of authors:

Dr Sayed Ammar conceived the idea, collected the data, references and did the writeup.

Dr Saleem Abdul Sattar Khan critically review the article and made the final changes.

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