

# Assessment of Clinical Profile of Patients with Obstructive Jaundice

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## ABSTRACT

**Introduction:** Early detection of obstructive jaundice etiology can help clinicians to treat accurately and thus will improve quality of life of patient and particularly the survival rates among the patients with malign pathology. Hence, present study was undertaken to diagnose the cause, site of obstruction, and other clinical features of obstructive jaundice among patients reporting at A. J. Institute of Medical Sciences, Mangalore.

**Material and methods:** The present study was conducted among forty six patients suffering from obstructive jaundice of all age groups. All the patients in the study underwent ultrasonography and magnetic resonance cholangiopancreatogram (MRCP). Related parameters were studied and the results so obtained was expressed as percentages and variables as required.

**Results:** The patients affected with obstructive jaundice were over the age of 50 years. Common bile duct were dilated in 28 % of cases and narrowed in 11 % cases. Pancreatic duct was dilated in 28 % of cases and in 72 % cases was neither dilated nor narrowed. 22 % were malignant lesions and pancreatitis (22%) was the most common cause followed by cholangiocarcinoma (20%) choledocholithiasis (13%), CBD Stricture inflammatory (11%) and CBD Stricture malignant (11%) of obstructive jaundice.

**Conclusion:** Obstructive jaundice was prevalent more in males than in females in the study population with patients over the age of 50 years. The pancreatitis was the most common cause followed by cholangiocarcinoma and choledocholithiasis.

**Keywords:** Clinical Profile, Liver Pathologies, Obstructive Jaundice

## INTRODUCTION

Obstructive jaundice is strictly defined as due to a block in the pathway between the site of conjugation of bile in liver cells and the entry of bile into the duodenum through the ampulla.<sup>1</sup> It is a common surgical problem that occurs when there is an obstruction to the passage of conjugated bilirubin from liver cells to intestine. Jaundice due to biliary obstruction may be caused by a heterogeneous group of diseases that include both benign and malignant conditions.<sup>2</sup> Thus, the causes of obstructive jaundice can be intrahepatic or extrahepatic. Among intrahepatic causes, hepatitis, cirrhosis and hepatocellular carcinoma are the commonest. Extrahepatic causes include ductal and extrahepatic aetiologies. Neoplasms, choledocholithiasis, biliary strictures, parasites and primary sclerosing cholangitis leads to intraductal obstruction. Extraductal obstruction occurs due to external compression of biliary channels by neoplasms, pancreatitis, and cystic duct stones with subsequent gall bladder distension.<sup>3</sup> An accurate diagnosis can usually be made with standard diagnostic techniques such as history, physical examination, and biochemical tests, and when appropriate cholangiography and liver biopsy and observation of the patient's course.<sup>1</sup> Early detection of obstructive jaundice etiology can help clinicians to treat accurately and thus will improve quality of life of patient and particularly the survival rates among the patients

with malign pathology.<sup>4</sup> Hence, present study was undertaken to diagnose the cause, site of obstruction, and other clinical features of obstructive jaundice among patients reporting at A. J. Institute of Medical Sciences, Mangalore.

## MATERIAL AND METHODS

The present study was conducted in the Department of Radio Diagnosis, A. J. Institute of Medical Sciences, Mangalore. A total number of forty six patients suffering from obstructive jaundice of all age groups and either sex were included in this study. The inclusion criteria was that the patient be clinically diagnosed as suffering from obstructive jaundice and referred to the Department of Radio-Diagnosis for further investigation. The study protocol was approved by the ethical committee at RGUHS University and all the patients gave informed consent to participate. All the patients in the study underwent ultrasonography and (magnetic resonance cholangiopancreatogram (MRCP). Level of obstruction, presence of bile duct calculi, status of cbd, degree of dilatation of intra hepatic biliary radicles, gall bladder pathology, dilatation of pancreatic duct, any pancreatic atrophy, calcifications or pseudocysts, presence of masses, invasion of viscera, presence of metastasis were studied. Final diagnosis was established with per operative or histopathological correlation. Probably benign lesions were considered as benign and similarly probably malignant lesions were considered as malignant.

## STATISTICAL ANALYSIS

The results so obtained were expressed as percentages and variables as required.

## RESULTS

The table 1 shows that most of the patients affected with obstructive jaundice were over the age of 50 years. The table 2 showed that incidence of men who presented with obstructive jaundice were greater than females in our study population. The table 3 showed that of the 46 patients, common bile duct (CBD) (figure 1) were dilated in 28 % of cases and narrowed in 11 % cases. 61 % cases were neither dilated nor narrowed. Figure 2 showed that of the 46 patients, pancreatic duct were dilated in 28 % of cases and 72 % cases were neither dilated nor narrowed. Figure 3 shows out of 46 patients, 78% of lesions were benign and 22 % were malignant lesions. Figure

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4 shows coronal thick slab MRCP showing cholelithiasis with choledocholithiasis. Table 4 shows causes of obstructive jaundice with pancreatitis (22%) as the most common cause followed by cholangiocarcinoma (20%) choledocholithiasis (13%), CBD Stricture inflammatory (11%) and CBD Stricture malignant (11%).

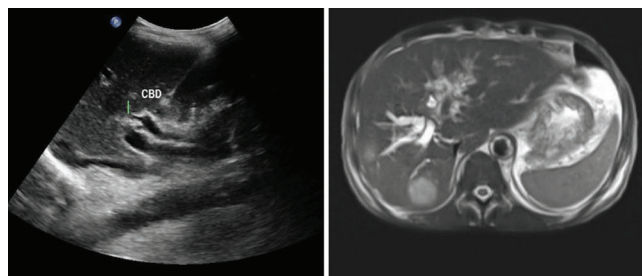
**DISCUSSION**

Obstructive jaundice is strictly defined as due to a block in the pathway between the site of conjugation of bile in liver cells and the entry of bile into the duodenum through the ampulla. An accurate diagnosis can usually be made with standard diagnostic techniques such as history, physical examination, and biochemical tests, and when appropriate cholangiography and liver biopsy and observation of the patient's course.<sup>5</sup>

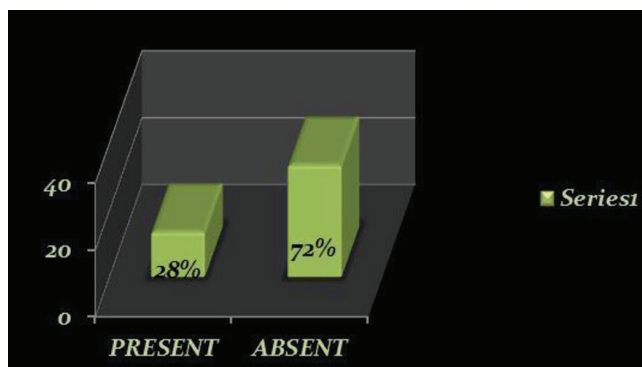
It is a problem frequently encountered by general surgeons. It is very important to differentiate the medical causes of jaundice from the obstructive or surgical causes. A clear understanding of the etiology, presentation and management is a prerequisite for the management of obstructive jaundice. Hence, a detailed study of the various causes of obstructive jaundice and their management is of paramount importance.<sup>6</sup>

The present study found that most of the patients affected

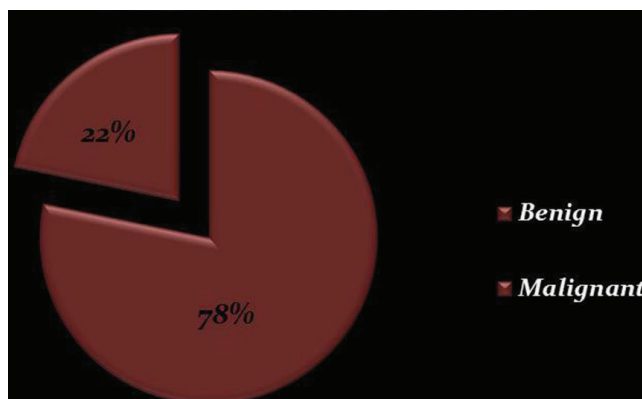
with obstructive jaundice were over the age of 50 years and the incidence of men were greater than females in our study population, 78% of lesions were benign and 22% were malignant



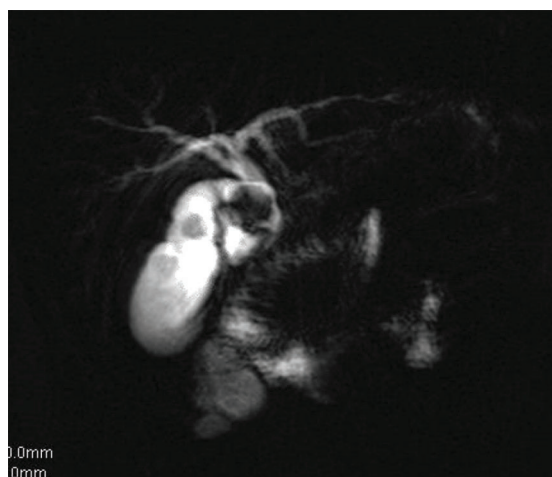
**Figure-1:** USG image showing dilated Common Bile Duct. MRCP image showing dilated Intrahepatic biliary tree radicals.



**Figure-2:** Shows status of pancreatic duct in study population.



**Figure-3:** Types of Lesions



**Figure-4:** Coronal thick slab MRCP showing cholelithiasis with choledocholithiasis

Age	No. of Cases	Percentage (%)
10 – 20	4	9
21-30	5	11
31-40	2	4
41-50	9	20
51-60	13	28
Above 60	13	28
Total No. of Cases	46	100

**Table-1:** Distribution of the study population according to age

Sex	No. of Cases	Percentage (%)
Men	34	74
Female	12	26
Total	46	100

**Table-2:** Distribution of the study population according to gender

Status of CBD	No. of Cases	Percentage (%)
Dilatation	13	28
Narrowing	5	11
None	28	61
Total	46	100

**Table-3:** Shows status of common bile duct in study population

Causes of obstruction	No. of Cases	Percentage (%)
Choledocholithiasis	6	13
CBD Stricture (Inflammatory)	5	11
CBD Stricture (Malignant)	5	11
Pancreatitis	10	22
Choledochal cyst	1	2
Post OP Leak	2	4
Periampullary Carcinoma	2	4
Cholangiocarcinoma	9	20
Miscellaneous	6	13
Total	46	100

**Table-4:** Various causes of obstruction in the study population.

lesions. The pancreatitis was the most common cause followed by cholangiocarcinoma (20%) choledocholithiasis (13%), CBD Stricture inflammatory (11%) and CBD Stricture malignant (11%) among patients with obstructive jaundice.

Anand S et al<sup>1</sup> evaluated the clinical profile and the different modalities of treatment of obstructive jaundice and revealed that occurrence of surgical jaundice was maximum in the 31-70 year age group, all patients presented with icterus, most common cause of obstruction was choledocholithiasis followed by malignancy and ultrasonogram was the most common investigation of choice.

Chen T et al<sup>7</sup> conducted a study on the average size of diameter of normal common bile duct (CBD) and revealed that CBD diameters were significantly different in patients both younger and older than 65 years of age. CBD diameter was significantly correlated with age.<sup>7</sup> Shehu K et al<sup>4</sup> reported that the malignant pathologies were found in 52% of patients. The patients who presented at admission with a history of pain less than 48 h were more likely to have a benign etiology of the obstructive jaundice and the presence of colic pain and fever during the episode of the obstructive jaundice were more likely associated with the benign etiology of the obstructive jaundice.

Lawal D et al<sup>8</sup> reported that pancreatic carcinoma and choledocholithiasis as the most common malignant and benign causes of obstructive jaundice. Bekele Z et al<sup>9</sup> reported that choledocholithiasis and malignant conditions were the two important causes of obstructive jaundice. Syed N et al<sup>10</sup> and Khurram S et al<sup>11</sup> reported that cancer head of pancreas as the commonest malignant cause while choledocholithiasis as the commonest benign cause of obstruction. Umeshchandra DG et al<sup>2</sup> reported carcinoma head of pancreas constituted as the most common cause of malignant obstructive jaundice, choledocholithiasis as most common cause of benign obstructive jaundice. Chalya PL et al<sup>12</sup> reported carcinoma of head of pancreas followed by choledocholithiasis and Rahman GA et al<sup>13</sup> found that carcinoma head of pancreas as the commonest cause of obstructive jaundice.

Partial or complete obstruction of the duct can be produced by carcinoma of the head of the pancreas. Risk factors are smoking and alcohol consumption. It occurs in sixth to eighth decade. Mostly they are adenocarcinoma. USG may show a poorly defined, homogenous or inhomogenous hypoechoic mass lesion. On MR it is invariably hypointense on T1 weighted images and variable on T2 weighted images due to the desmoplastic reaction.<sup>14,15</sup> The causes of obstructive jaundice are varied, but it is most commonly due to choledocholithiasis; benign strictures of the biliary tract; pancreaticobiliary malignancies; and metastatic disease.<sup>16</sup> Due to lack of advanced diagnostic imaging and as therapeutic facilities are not readily available in most centers in developing countries, the outcome of treatment of obstructive jaundice may be poor.<sup>17</sup> The cause of the obstruction and the associated factors influence the morbidity and mortality in patients with obstructive jaundice. It has been revealed that obstructive jaundice persists to be associated with significant morbidity and mortality regardless of recent advances both in preoperative diagnosis and postoperative care.<sup>18</sup> Thus, understanding factors associated with increased morbidity and mortality in these patients will facilitate appropriate management and lead to improved survival.<sup>12,19</sup>

## CONCLUSION

Obstructive jaundice was prevalent more in males than in females in the study population with patients over the age of 50 years and 78% of lesions were benign and 22 % were malignant lesions. The pancreatitis was the most common cause followed by cholangiocarcinoma and choledocholithiasis.

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