



## ASSESSMENT AND MANAGEMENT OF PATIENT PRESENTING WITH OBSTRUCTIVE JAUNDICE AT TERTIARY CARE HOSPITAL

### General Surgery

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### ABSTRACT

**Objective:** The objective of the study is to evaluate the presentation, clinical features and treatment of Obstructive Jaundice cases. **Material and Methods:** The study was carried out in the Upgraded Department of Surgery, DMCH, Laheriasarai. All patients that were included in the study were initially evaluated with complete history and physical examination. Clinical data about age, sex, clinical manifestation, complication and outcomes were recorded. The nature of surgical procedure carried out depended upon the cause and the findings at the time of surgery. **Results:** In the study, there were 24 patients, 7(29%) patients were males and 17(71%) were females with male female ratio of 1:2.4. 9(37.7%) patients have obstructive jaundice due to malignancy, 12(50%) patients due to stone in CBD, 1(4.1%) patient due to benign biliary stricture, 1(4.1%) patient due to Hepaticolithiasis and 1(4.1%) patient due to liver abscess. All 24 patients presented with yellowish discolouration of eye and urine, abdominal pain and nausea and vomiting, 23(95.8%) patients presented with dark coloured urine and pale stool, 15(62.5%) patients had Pruritis, 19(79.2%) patients had loss of appetite and weight loss and 10(41.7%) had fever with chills. **Conclusion:** The most common cause of obstructive jaundice was CBD stones followed by CBD stricture, which can be benign or malignant. In malignant jaundice, resection is only possible when the diagnosis is made early, otherwise palliation is only alternative.

### KEYWORDS

Obstructive Jaundice, Cholelithiasis, Carcinoma Head of Pancreas

### INTRODUCTION

Obstructive jaundice (OJ), i.e., obstructed bile outflow, can be either intrahepatic or extrahepatic. Intrahepatic OJ can be subdivided into non-obstructive intrahepatic cholestasis and obstructive intrahepatic obstructive cholestasis. Non-obstructive intrahepatic cholestasis may result from viral hepatitis, drug-related cholestasis (e.g., caused by chlorpromazine, methandrostenolone, and birth control pills), primary biliary cirrhosis, or intrahepatic cholestasis during pregnancy.<sup>1</sup> In contrast, obstructive intrahepatic cholestasis occurs due to intrahepatic sediment-like stones, cancerous emboli, or parasitic infections (e.g., *Toxoplasma gondii* infection).<sup>2</sup> Extrahepatic cholestasis can be caused by obstruction of the common bile duct by stones, strictures, inflammatory edema, biliary atresia, bile duct injury, tumors, pancreatic tuberculosis and roundworms.<sup>3</sup> It is clinically important to identify the exact cause and location of obstructive jaundice, which affects the targeted treatment planning, and prognosis evaluation. Malignancy and stones in the CBD are common causes of obstruction. Stone disease in fit patients is treated by surgical intervention but in the elderly and unfit cases, other options like transhepatic or endoscopic removal may be tried. In the cases of malignant obstruction, if an early diagnosis is made then curative resection may be possible, otherwise only palliative procedures are performed.<sup>4,5</sup> In inoperable malignant cases endoprosthesis may be used to relieve the obstruction. Percutaneous transhepatic biliary drainage (PTBD) and ERCP play crucial roles in the palliative treatment of malignant obstructive jaundice, biliary decompression, and preoperative drainage, with their efficacy and safety well-established.

Aim of the study is to evaluate the presentation, clinical features and treatment of Obstructive Jaundice cases.

### MATERIALS AND METHODS

The study was carried out in the Upgraded Department of Surgery, DMCH, Laheriasarai.

All patients that were admitted with obstructive jaundice were given symptomatic treatment, adequate hydration, antibiotics and Vitamin K injections.

A total of 24 patients were included in the study. A detailed informed consent was taken from all patients who were included in the study.

Patients that are excluded from the study were those with incomplete clinical data, patient didn't fulfill the diagnostic criteria of obstructive jaundice and lack of a clear etiological diagnosis for obstructive jaundice at discharge.

All patients that were included in the study were initially evaluated with complete history and physical examination. Clinical data about age, sex, clinical manifestation, complication and outcomes were recorded. In anaemic patients blood transfusion was also carried out.

Their diagnosis were made based on history, clinical examination and investigations which included LFTs, Urea Creatinine and Electrolytes, Prothrombin time, Ultrasonography and MRCP. The nature of surgical procedure carried out depended upon the cause and the findings at the time of surgery.

### RESULT

**Table 1: Age and Sex Distribution of the Patients**

| AGE                 | MALE | FEMALE | TOTAL |
|---------------------|------|--------|-------|
| BETWEEN 21-30 years | 2    | 4      | 6     |
| BETWEEN 31-40 years | 1    | 3      | 4     |
| BETWEEN 41-50 years | 1    | 7      | 8     |
| BETWEEN 51-60 years | 3    | 1      | 4     |
| BETWEEN 61-70 years | 0    | 2      | 2     |
| TOTAL               | 7    | 17     | 24    |

**Table 2: Aetiology of Obstructive Jaundice**

| Cause                    | Male | Female | Total |
|--------------------------|------|--------|-------|
| Malignancy               | 2    | 7      | 9     |
| Stone in CBD             | 3    | 9      | 12    |
| Benign Biliary Stricture | 1    | 0      | 1     |
| Hepaticolithiasis        | 0    | 1      | 1     |
| Liver Abscess            | 1    | 0      | 1     |
| Total                    | 7    | 17     | 24    |

**Table 3: Presenting Complain**

| Presenting complain                      | Number of patients |
|------------------------------------------|--------------------|
| Yellowish discolouration of skin and eye | 24                 |
| Dark coloured urine and pale stool       | 23                 |
| Pruritis                                 | 15                 |
| Abdominal pain                           | 24                 |
| Fever with chills                        | 10                 |
| Nausea and vomiting                      | 24                 |
| Loss of appetite and weight              | 19                 |

**Table 4: Management of Patients**

| Cause                   | Surgical Procedure  | Cured | Not improved | Mortality |
|-------------------------|---------------------|-------|--------------|-----------|
| Ca Head of Pancreas (1) | Refused Surgery (1) | -     | -            | -         |

|                              |                                                         |    |   |   |
|------------------------------|---------------------------------------------------------|----|---|---|
| Cholangio-carcinoma (3)      | Hepaticojejunostomy (1)                                 | -  | 1 | 1 |
|                              | Endoscopic Stenting (1)                                 | -  | - | - |
|                              | Referred to hepatobiliary centre (1)                    | -  | - | - |
| Ca gall bladder (5)          | Hepaticojejunostomy (3)                                 | 2  | 1 | 1 |
|                              | Palliative (1)                                          | -  | 1 | 1 |
|                              | Inoperable (1)                                          | -  | - | 1 |
| Benign biliary stricture (1) | Hepaticodudenostomy (1)                                 | 1  | - | - |
| Hepaticolithiasis (1)        | Per cutaneous transhepatic biliary drainage(palliative) | -  | - | - |
| Cholelithiasis (12)          | Cholelithotomy + Cholecystectomy                        | 12 | - | - |
| Amoebic liver abscess (1)    | Drainage of abscess                                     | 1  | - | - |

In the study, there were 24 patients, 7(29%) patients were males and 17(71%) were females. The majority of the patients that were in the study belong to the age groups of 41 to 50 years with male female ratio of 1:2.4. (Table 1)

In the study, 9(37.7%) patients have obstructive jaundice due to malignancy, 12(50%) patients due to stone in CBD, 1(4.1%) patient due to benign biliary stricture, 1(4.1%) patient due to Hepaticolithiasis and 1(4.1%) patient due to liver abscess. (Table 2)

Out of 24 patients, all 24(100%) patients presented with Yellowish discolouration of skin and eye, 23(95.8%) patients presented with Dark coloured urine and pale stools, 15(62.5%) patients presented with Pruritis, 24(100%) patients presented with Abdominal Pain, 10(41.7%) patients presented with Fever with chills, 24(100%) patients presented with Nausea and vomiting and 19(79.2%) patients presented with Loss of appetite and weight. (Table 3)

9 patients that presented with obstructive jaundice went for diagnostic work-up and were diagnosed with malignancy, 1(11.1%) patient had Carcinoma Head of pancreas which had Refused Surgery and lost to follow-up. 3(33.3%) patients had Cholangiocarcinoma out of which 1 patients went for Hepaticojejunostomy which was not improved after surgery and later died due to complications, 1 patient underwent endoscopic stenting and 1 patient was referred to hepatobiliary centre on request. 5(55.5%) patients had Carcinoma gall bladder out of which 3 patients underwent Hepaticojejunostomy, 2 of which was cured completely and discharged and 1 was not improved and later died due to complications, 1 patient went for palliative therapy which was not improved and later died due to complications and 1 patient was found inoperable which later died. Out of 12 patients that were diagnosed with cholelithiasis, all patients underwent for cholelithotomy with Cholecystectomy, all of which were cured and discharged. 1 patient diagnosed with benign biliary stricture, underwent hepaticodudenostomy, which was cured and discharged. 1 patient diagnosed with Hepaticolithiasis was managed palliatively via per-cutaneous transhepatic biliary drainage. 1 patient diagnosed with amoebic liver abscess, abscess was drained via USG guided pigtail catheter insertion which was cured and discharged. (Table 4)

## DISCUSSION

Obstructive Jaundice is a common surgical problem that occurs when there is an obstruction to the passage of conjugated bilirubin from liver cells to intestine. Obstructive jaundice poses diagnostic and therapeutic challenges to general surgeons and contributes significantly to high morbidity and mortality.<sup>6</sup>

The patient population in this study had a female gender (70.8%) majority compared to male gender (29.2%) with male female ratio of 1:2.4. This study's findings are in line with findings from other studies that found that females more frequently presented with obstructive jaundice than males.<sup>7</sup> More than half of the patients 14 (58.3%) were aged 40 and above and patients older than 40 years were found to have the same likelihood of presenting with obstructive jaundice of a malignant aetiology as those younger than 50.

All 24 patients in this study presented with yellowish discolouration of eye and urine, abdominal pain and nausea and vomiting. 23(95.8%) patients presented with dark coloured urine and pale stool. 15(62.5%) patients had Pruritis. 19(79.2%) patients had loss of appetite and

weight loss. 10(41.7%) had fever with chills. Similar clinical pattern was reported in other studies also.<sup>8,9</sup>

The majority of patients in our study was diagnosed with cholelithiasis(50%) followed by malignancy(37.7%), liver abscess(4.1%), benign biliary stricture(4.1%) and Hepaticolithiasis (4.1%). Studies reporting malignancy as the commonest cause for obstructive jaundice but cholelithiasis is most common benign cause of Obstructive jaundice.<sup>6,8,9</sup> In this study 9 patients that presented with obstructive jaundice went for diagnostic work-up and were diagnosed with malignancy, 1(11.1%) patient had Carcinoma Head of pancreas which had Refused Surgery and lost to follow-up. 3(33.3%) patients had Cholangiocarcinoma out of which 1 patients went for Hepaticojejunostomy which was not improved after surgery and later died due to complications, 1 patient underwent endoscopic stenting and 1 patient was referred to hepatobiliary centre on request. 5(55.5%) patients had Carcinoma gall bladder out of which 3 patients underwent Hepaticojejunostomy, 2 of which was cured completely and discharged and 1 was not improved and later died due to complications, 1 patient went for palliative therapy which was not improved and later died due to complications and 1 patient was found inoperable which later died. A couple of published studies on the etiology of Obstructive Jaundice showed that Malignancy is the dominant cause.<sup>10</sup> Contrary to the above studies, our study revealed that cholelithiasis was the predominant cause of Obstructive jaundice.

12 patients that were diagnosed with cholelithiasis, all patients underwent for cholelithotomy with Cholecystectomy, all of which were cured and discharged. CBD stones are the most common benign cause of CBD obstruction.<sup>12</sup>

1 patient diagnosed with benign biliary stricture, underwent hepaticodudenostomy, which was cured and discharged. Aljahlil reported that while the majority of CBD strictures are considered malignant, up to 30% can be benign, presenting a diagnostic and management challenge.<sup>13</sup>

1 patient diagnosed with Hepaticolithiasis was managed palliatively via per-cutaneous transhepatic biliary drainage.

1 patient diagnosed with amoebic liver abscess, abscess was drained via USG guided pigtail catheter insertion which was cured and discharged. The pathophysiology of obstructive jaundice secondary to PLA is likely due to compression and distortion of the biliary tree by the abscesses, causing intrahepatic cholestasis. Multiple and single large amoebic liver abscesses on the inferior surface near the porta hepatitis were seen most often in cases of hepatic duct compression in patients with jaundice.<sup>11</sup>

## CONCLUSION

Post-hepatic obstructive jaundice predominantly affects old adults followed by old-aged patients, with a higher incidence in females. The most common cause of obstructive jaundice was CBD stones followed by CBD stricture, which can be benign or malignant. The most common location for obstructive jaundice was identified as the CBD, particularly its distal part. All adult patients presenting with OJ must be approached with a high index of suspicion for malignancy. Cholecystectomy & exploration of CBD remains the first line of therapy for stone disease of gall bladder and bile ducts. In malignant jaundice, resection is only possible when the diagnosis is made early, otherwise palliation is only alternative.

## REFERENCES

- Chen HL, Wu SH, Hsu SH, Liou BY, Chen HL, Chang MH. Jaundice revisited: recent advances in the diagnosis and treatment of inherited cholestatic liver diseases. *J Biomed Sci*. 2018;25:75. doi: 10.1186/s12929-018-0475-8.
- Vij M, Rela M. Biliary atresia: pathology, etiology and pathogenesis. *Future Sci OA*. 2020;6:FSO466. doi: 10.2144/fsoa-2019-0153.
- Pandya G, Dixit R, Shelat V, Dixit K, Shah N, Shah K. Obstructive jaundice: a manifestation of pancreatic tuberculosis. *J Indian Med Assoc*. 2007;105:133–134, 136.
- Gores GJ. Early detection and treatment of Cholangiocarcinoma. *Liver Transpl* 2000; 6-S: 30-34.
- Khan SA, Davidson BR, Goldin R, et al. Guidelines for the diagnosis and treatment of Cholangiocarcinoma: Consensus document. *Gut* 2002; 51: 1-9.
- Ahmad I, Jan AU, Ahmad R. Obstructive Jaundice. *J Postgrad Med Inst*. 2001;15:194–8.
- Gupta A.K., Singh A., Goel S., Tank R. Profile and pattern of obstructive jaundice cases from a tertiary care teaching hospital of Uttar Pradesh. *Int Surg J*. 2017 Jan 25;4(2):743–746.
- Syed N, Mohammad SA, Umair UI, Shafiq UR. Etiological spectrum of obstructive jaundice. *Medical channel*. 2010;16:299–301.

9. Khurram S, Qasim A, Shirin M, Aiza J, Aisha E, Sarmad L, Asif ZM. Evaluation of the aetiological spectrum of obstructive jaundice. *J Ayub Med Coll Abbottabad*. 2008;20:62–66.
10. Shukla S, Kharat PR, Patbamniya N, et al. Clinicopathological study on patients presenting with obstructive jaundice. *Int Surg J*. 2018;5:705–710.
11. Parasitic liver disease in travelers. Chan WW, Showler A, Boggild AK. *Infect Dis Clin North Am*. 2012;26:755–780.
12. Bhutia K.D., Lachungpa T., Lamtha S.C. Etiology of obstructive jaundice and its correlation with the ethnic population of Sikkim. *J. Family Med. Prim. Care*. 2021;10:4189–4192.
13. Aljahdli E.S. Management of distal malignant biliary obstruction. *Saudi J. Gastroenterol*. 2018;24:71–72.